S. HRG. 108–224

Senate Hearings

Before the Committee on Appropriations

Energy and Water Development Appropriations

Fiscal Year 2004

108*th* CONGRESS, FIRST SESSION

H.R. 2754/S. 1424

DEPARTMENT OF DEFENSE—CIVIL
DEPARTMENT OF ENERGY
DEPARTMENT OF THE INTERIOR
NONDEPARTMENTAL WITNESSES

Energy and Water Development Appropriations, 2004 (H.R. 2754/S. 1424)

S. HRG. 108–224

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2004

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

ON

H.R. 2754/S. 1424

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2004, AND FOR OTHER PURPOSES

Department of Defense—Civil
Department of Energy
Department of the Interior
Nondepartmental witnesses

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2004

WEDNESDAY, MARCH 5, 2003

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

The subcommittee met at 10:03 a.m., in room SD–124, Dirksen Senate Office Building, Hon. Thad Cochran presiding.

Present: Senators Cochran, Stevens, Bennett, Craig, Bond, Reid, Murray, and Dorgan.

DEPARTMENT OF DEFENSE—CIVIL

DEPARTMENT OF THE ARMY

CORPS OF ENGINEERS—CIVIL

STATEMENT OF HON. LES BROWNLEE, UNDER SECRETARY OF THE UNITED STATES ARMY AND ACTING ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

ACCOMPANIED BY:

LIEUTENANT GENERAL ROBERT B. FLOWERS, COMMANDER AND CHIEF OF ENGINEERS, U.S. ARMY CORPS OF ENGINEERS

MAJOR GENERAL ROBERT H. GRIFFIN, DIRECTOR OF CIVIL WORKS

OPENING STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. The committee will please come to order. I have been asked to Chair the hearing by Senator Domenici, and I am happy to do that. I have a statement that he and his staff have prepared and I will ask unanimous consent that it be inserted at this point in the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR PETE V. DOMENICI

The Committee will please come to order.

Today we begin the Energy and Water Subcommittee's fiscal year 2004 budget hearings with the Corps of Engineers and the Bureau of Reclamation. There will be two panels, and as the Subcommittee's tradition dictates, this year we will begin with the Corps of Engineers in the first panel and the Bureau of Reclamation in the second panel.

This Subcommittee has jurisdiction over our country's water resources, under which falls the Corps of Engineers and the Bureau of Reclamation. Both agencies are responsible for managing this precious natural resource in a cost-effective manner while balancing the needs of its diverse users. I believe that the mission of these two agencies will only become more critical over time, as increasing pressure is placed on our water resources.

For fiscal year 2004 the President has requested an effective amount of $4.049 billion, a decrease of $580 million, or 13 percent, from the current year for the Corps of Engineers. For the Bureau of Reclamation, the President has requested $880 million, a decrease of $73 million or 8 percent from the current year. Unfortunately, this is a budget request that only exacerbate problems this Nation faces in addressing our various water resource requirements.

I have had first-hand experience of this over the last year as the state of New Mexico struggled to balance various water users, people, agriculture and endangered species, during a very serious drought. And we will unfortunately continue to struggle as New Mexico is at less than half of our annual snowpack for this year.

That being said, I am concerned that the Administration, in its fiscal year 2004 request, has under-funded the Corps of Engineers to such an extent that I question whether it could effectively carry out its mandated missions next year if this request were enacted in its current form.

An additional concern to me is the Administration's approach to the Corps of Engineer's budget. The Administration's budget documents relating to the Corps of Engineers state:

"While the level of funding can affect the rate at which the size of the backlog changes, the measures taken (or not taken) to limit the number of projects that become eligible for construction ultimately will determine whether we are making progress or are falling further behind."

Unfortunately, this logic does not take into consideration the issue of need. There is a clear role for the Federal Government, through the Corps, to carry out flood control, commercial navigation and ecosystem restoration. These needs do not simply go away because you choose to limit what is constructed.

I think the Administration is missing the point that this country's economic well-being is closely linked to its waterways, be they rivers, harbors, or wetlands. Further, it is in our interest to ensure that we maintain these resources for our continued successful competition within the world marketplace.

This country has an aging water resources infrastructure. For example, approximately 50 percent of the Bureau of Reclamation's dams were built from 1900 to the 1950's, before the current state-of-the-art construction techniques, therefore they require special maintenance measures.

Even though budgets are tight, I am concerned that no one is working to address this longer term problem. An aging infrastructure is one of those problems that we all put off until we absolutely have to, which in the end, will just cost us more and may very well endanger life and property.

More importantly, the budget exercise we go through each year is not an effort to figure out how little we can spend, but one that carefully balances the greatest needs with our limited resources.

I would like to talk today about the impact the proposed fiscal year 2004 budget will have on both agencies and what the Congress can do to ensure that they can continue to effectively manage the country's water resources.

I would like to welcome the members of the first panel from the Corps of Engineers. They are:

—Undersecretary of the Army and Acting Assistant Secretary for Civil Works, Les Brownlee,
—Lieutenant General Flowers, Chief of Engineers,
—Major General Griffin, Director for Civil Works, and
—Rob Vining, Chief, Programs Management Division.

Also here with us today are some of the Corps' Division Commanders. They are:

—Brigadier General Larry Davis, South Pacific Division,
—Brigadier General Bo Temple, North Atlantic Division, and
—Brigadier General David Fastabend, Northwest Division.

Thank you all for being here today and for the work you do for this Nation.

On our second panel will be the Bureau of Reclamation. Appearing before us will be:

—Bennett Raley, Assistant Secretary for Water and Science with the Department of Interior,
—Commissioner of the Bureau of Reclamation, John Keys, and
—Program Director Ronald Johnston from the CUP Office.

Senator COCHRAN. This morning we are hearing from two panels, the Corps of Engineers, Bureau of Reclamation presentation of the budget request for this next fiscal year. We are happy to have as members of the first panel, Secretary or Under Secretary Les

Brownlee of the United States Army. He is accompanied by Lieutenant General Robert B. Flowers of the U.S. Army Corps of Engineers and Major General Robert Griffin, Director of Civil Works. And we appreciate the attendance of Senators.

And without a lot of conversation, let me just say that I have reviewed the highlights of the budget that is being submitted by the administration for the Corps of Engineers, and I am disappointed that there are many important areas that seem to me to be inadequately funded if we were to approve this budget request without any changes.

And some of those, I am sure members of the committee will look at very carefully. And I am also interested just as a matter of introduction in some of the reforms that are being suggested for the Corps of Engineers, and the way projects are evaluated and the process that is followed in determining when construction is appropriate for projects, for flood control projects in particular.

And I will be interested in hearing your views about those reforms and the degree to which you can inform us about the details and how they will really work in practice.

PREPARED STATEMENT

Without a lot of other comments, I will put my statement in the record, and yield to other Senators for any opening comments they would like to make.

[The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, I join you in welcoming the witnesses before the Committee.

I appreciate the hard work the Corps of Engineers does in the state of Mississippi and around the country in carrying out its responsibilities.

While the Corps has taken on the added responsibilities of assessing the national water resources and protecting Civil Works infrastructures from possible terrorist attacks, its core mission remains. Corps levees and floodwalls protect millions of homes, farms, and businesses. Its coastal ports and barge channels carry 2 billion tons of freight annually, and its dams generate one-fourth of this nation's hydroelectric power.

For the individuals in my state who live in areas susceptible to flooding, Corps of Engineers' projects are critical to protecting their homes, businesses, and livelihoods.

I am very concerned that this budget submission shortchanges these programs. I'm sure this committee will try to identify ways to make improvements in this budget for flood control.

I hope that the leadership in the Department of Defense and our witnesses will assist us in determining which projects have the highest priorities and are ripe for funding.

I look forward to hearing the testimony of our witnesses.

Senator COCHRAN. Senator Craig.

STATEMENT OF SENATOR LARRY CRAIG

Senator CRAIG. Thank you very much, Mr. Chairman. Let me echo the same frustration you have with the Army Corps' budget. Clearly there is a lot of work to be done out there, and we hope we will be able to assist them in getting most of it done.

The Army Corps and those of us who live in the Pacific Northwest are very frustrated at this moment at the inability of the Corps to manage the Snake/Columbia River complex in the way necessary to be managed for navigation. We have got a lawsuit we

are working through out there that disallows dredging for the moment. Some judge turned too green on us, and we have got to work our way through it.

We have got fish runs coming back. We have got a river that is being managed extremely well at the moment. Everything is generally looking up on that river, except the inability to effectively manage it as a waterway for very important traffic in the Snake/Columbia River Basin systems.

Everybody wonders why I am interested in the Corps. I do not think a lot of people realize that I have the furthest in-land sea port in the United States in North Idaho, and it is a critical economic link to our State.

Senator REID. What is it, Larry? Which one is it?

Senator CRAIG. Port of Lewiston. It is at the upper end of the slack water systems of the Snake and the Columbia system, and handles a lot of traffic, a lot of forest products, and grain out of Montana and the upper Midwest. So it is a very important link.

And at this time, the Corps is not being allowed to do what they should be doing because of the Ninth Circuit. Once again, we come to the floor frustrated by a dysfunctional court system that decides that they are going to deal politically instead of legally with the world. Anyway, I have said enough. We are anxious to hear from them.

Les, it is great to have you back in your capacity now, your new capacity. You have had great experience here on the Hill. We have enjoyed working with you in the past on a lot of issues. We will enjoy working with you now in your position as Under Secretary, and we will also look forward to the—hearing from the Bureau of Reclamation, another critical agency to western States.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Craig.

Senator Reid.

STATEMENT OF SENATOR HARRY REID

Senator REID. Thank you very much, Senator Cochran. I appreciate your filling in today.

First of all, Larry, Senator Craig, because there were a number of statements made on the floor yesterday about the terrible Ninth Circuit, which as you know, you and I are both—it is our jurisdiction. And 24 judges sat on that rehearing. The opinion was written by a judge appointed by a Republican, the initial opinion. And of the ten dissents, which was something we wanted—of the ten dissents, seven of them were Clinton-appointed judges. If we had had six other judges who had been appointed by the Republicans, who had voted with us, we would have won that.

So I think the Ninth Circuit was certainly all way off base on this, but I would hope that we would stop blaming it on Democratic appointees, because it was——

Senator CRAIG. Well, if you noticed, I did not. I was very generic in talking of the dysfunctionality of the Ninth Circuit. The Supreme Court has already decided long ago that you either fix it or they will just simply rule most of their decisions out.

Senator REID. The problem is, Larry, that they have so many cases that the Supreme Court does not hear all their cases.

Senator CRAIG. Oh, that is the great tragedy for those of us who live in the greater Northwest.

Senator REID. Anyway——

Senator CRAIG. I see Senator Murray here. I think she supports us on a lot of these frustrations.

Senator REID. Senator Domenici and I have worked on this subcommittee for many, many years, and I have enjoyed working with him. He is a very—he is a friend, and does an outstanding job in his capacity in being a Senator.

These hearings are intended to help us prepare our funding proposals. We depend on the open exchange of information we receive in these hearings. Most importantly we will develop our appropriations bill by taking into account the needs of our members and the needs of the American people.

The budget that OMB submitted for the Army Corps is totally inadequate. It continues a recurring theme of trying to mask deficit spending with funding gimmicks. The administration has proposed a fiscal year request for the Army Corps of $4.04 billion. When you exclude proposed funding from the power marketing legislative proposal included in the budget, that is what it amounts to. This is about $600 million less or a 14 percent cut from the amount enacted in 2003.

For the Bureau the proposal is about $58 million less or a 7 percent cut over fiscal year 2003. This reduced amount of funding—or level of funding, I should say, in reclamation, water and related resources account is going to hamper progress on many large projects and programs involving water and power for the West, and also small projects.

The Army Corps general investigation account is taking a tremendous hit. The fiscal year request is $100 million versus $135 million enacted in fiscal year 2003, a 26 percent cut.

The administration is proposing to fund only 19 preconstruction, engineering, and design studies out of 89 funded last year. This means that 70 ongoing studies that have been signed—that have signed cost-sharing agreements with local sponsors must be terminated.

The Army Corps construction general account is proposed at $1.350 billion or $406 million below what we had enacted last year, a 23 percent cut. There are no funds provided for discretionary new construction starts.

The Army Corps operation and maintenance general account is proposed at—I am sorry—$1.939 billion. This assumes $145 million will be received from the Power Marketing Administration for hydropower operation and maintenance.

But when properly accounted, the proposal is an 8 percent cut. The Army Corps' Mississippi River and Tributaries account is proposed at $280 million, a—which is $65 million below last year, a 19 percent cut.

The only major account to see a budget increase for the Army Corps is for general regulatory, a boost of $5 million over last year, an increase of 4 percent.

The administration has proposed two new funding gimmicks this year, and is recycling another one from last year. They are proposing direct financing of the maintenance of the inland waterway

system by using $146 million from the Inland Waterway Trust Fund. Keep in mind, this fund was established to provide the industry cost share for new construction, major rehabilitation, inland navigation projects. The fund is financed by a 20 percent per gallon tax on fuel for vessels operated for commercial waterway transportation.

If the administration's proposal is implemented, it would ensure that the fund either went bankrupt or fuel taxes for the inland waterway system would have to be increased significantly.

The other new proposal is to tap $212 million from the Harbor Maintenance Trust Fund for construction and deep water ports and channels. This fund was established for users to pay maintenance costs of deep water ports and channels.

The fund is financed by cost on the value of cargo shipped to or from U.S. ports. And the requests we get from members, valid important requests every year for these deep water channels, deep water ports and channels is overwhelming. We cannot keep up with it without, in effect, stealing this money for other projects.

While the harbor maintenance trust fund is better financed than the inland waterway trust fund, using it for construction of projects was not envisioned, and it would cause its bankruptcy.

The recycled proposal is for direct funding of operation and maintenance of the Corps, owned and operated hydropower facilities by the Power Marketing Administration. This proposal assumes that it will provide $145 million to the Corps for hydropower operation and maintenance. This proposal was dead on arrival last year, and I see no enthusiasm for it this year.

All three of these proposals would require specific enacting legislation in order for them to become law. However, the administration made no overtures to the Congress to explain how these proposals would be a benefit to the Corps.

It is entirely possible that these overtures have not been made because these proposals benefit neither the Corps or the Nation. In fact, two of the proposals only served a mass deficit spending with the beneficiary being the administration in this budget game.

The budget proposed for the Bureau shows a slight increase. However, this increase is quite deceiving. Many important ongoing projects have received substantially reduced funding levels.

The administration slashed funding for reclamations of rural water and water recycling projects from what has been provided in prior years. The administration's budget says that they will—that while these are important elements in meeting future western water needs, they should be done by someone else. I do not know who that would be.

Most of the rural water projects funded by this subcommittee provide clean drinking water to people that have had only access to water of questionable quality for most of their lives. The cost to our local communities of providing this clean drinking water is well beyond the scope of most communities.

Federal funding for recycled water projects is limited to a 25 percent overall project cost and, in many cases, capped at $20 million. But without these Federal dollars, these projects simply cannot go forward. The Federal dollars provide the necessary leverage for

State and local funds to be able to do something that is meaningful.

The administration budget theme for this year is economic security for our Nation. Based on the proposals submitted by the Army Corps—submitted for the Army Corps and the Bureau of Reclamation, it appears that they have overlooked valuable components of our economic security.

For example, 41 States are served by the Army Corps' ports and waterways. These ports and waterways provide an integrated, efficient and safe system for moving bulk cargo. Two-point-three billion tons of cargo are moved through these ports and waterways each year. This—the value of this cargo to the national economy approaches $700 billion. Navigable waterways generate over 13 million jobs in the national economy, and $150 billion in Federal taxes. Annual damages prevented by the Corps exceed $20 billion. By how much, I am not too sure.

From 1928 to 2000, the cumulative flood damages prevented, when adjusted for inflation, were $709 billion for an investment of only $122 billion. That is nearly a 6:1 return.

The Bureau and the Army Corps water projects, storage projects have a total capacity of 575 million acre feet of storage and provide municipal and industrial water supply to millions of our citizens. Without these infrastructure investments, the tremendous population growth in western America would not have been possible.

The Bureau and the Corps provide about 35 percent of the Nation's hydroelectric power, which amounts to 5 percent of our total electricity. In the West, the percent of—or percentage of hydropower, that power, is much greater.

Both the Corps and the Bureau contribute to our Nation's environmental protection. Over $1 billion or about 25 percent of the Army Corps' appropriation was targeted for environmental activities. Reclamation expended a similar percentage on their budget.

These are only a few of the things that these two agencies contribute to our economy. The administration's proposals are inadequate to fund ongoing projects at anything other than minimal levels. And we are going to have to eliminate lots of them.

In spite of all of the administration's rhetoric about the economy—about economic security and maintaining our abilities to compete in world trade, the administration has again—have produced something that is remarkably shortsighted in this budget.

The administration will not lead in the area of critical infrastructure. But we have to. Congress has to. So I plan to work with the subcommittee, Chairman Stevens, Ranking Member Byrd, and Chairman Domenici to ensure that this subcommittee gets the resources needed to fund these vital organizations properly.

And I would say on a personal note, the employees of these—of the Corps, I appreciate very much for their outstanding service to organizations not only to Nevada, but to our Nation as a whole.

PREPARED STATEMENT

More often than not, your employees do not get the credit they deserve. There is not a single member in either chamber whose State is not impacted positively by the work that these agencies do, the Corps and the Bureau.

So I am sorry to take so much time. And I know you are filling in and wanted to rush through this. I am——

Senator COCHRAN. That is not correct.

Senator REID. That speaks——

Senator COCHRAN. I do not want to rush through it.

I want to carefully address the budget proposal and consider it very carefully.

Senator REID. That speaks well of you. If the roles were reversed, I would want to rush through it, so——

[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 annual spending package.

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

Most importantly, we will develop our appropriations bill by taking into account the needs of our Members and the American people.

Once again, the budget that OMB submitted for the Army Corps is totally inadequate. Further, it continues a recurring theme of this administration of trying to mask deficit spending with funding gimmicks.

The Administration has proposed a fiscal year 2004 request for the Army Corps of $4.049 billion when you exclude proposed funding from the power marketing legislative proposal included in the budget. This is about a $600 million less or 14 percent cut from the amount enacted in fiscal year 2003. For the Bureau of Reclamation, the proposal is about $58 million less or a 7 percent cut over the fiscal year 2003 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 2004 request is $100 million versus $135 million enacted in fiscal year 2003, a 26 percent cut. The Administration is proposing to fund only 19 Preconstruction Engineering and Design Studies out of 89 funded in fiscal year 2003. This means that 70 on-going studies that have signed cost sharing agreements with local sponsors must be terminated if the budget proposal were enacted.

The Army Corps' Construction, General account is proposed at $1,350 billion, $406 million below fiscal year 2003 enacted, a 23 percent cut. There are no funds provided for discretionary new construction starts.

The Army Corps' Operation and Maintenance, General account is proposed at $1,939 billion, however, this assumes $145 million will be received from the Power Marketing Administrations for hydropower operation and maintenance. When properly accounted, the proposal is $1,794 billion, $146 million below the fiscal year 2003 enacted, an 8 percent cut.

The Army Corps' Mississippi River and Tributaries account is proposed at $280 million, $65 million below fiscal year 2003 enacted or about a 19 percent cut.

The only major account to see a budget increase for the Army Corps is for General Regulatory, a boost of $5 million over fiscal year 2003 enacted, or an increase of 4 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.

The Administration has proposed two new funding gimmicks this year and is recycling one from fiscal year 2003.

The Administration is proposing direct financing of the maintenance of the inland waterway system by using $146 million from the Inland Waterway Trust Fund.

This fund was established to provide the industry cost share for new construction and major rehabilitation of inland navigation projects. The fund is financed by a 20 cent per gallon tax on fuel for vessels operated for commercial waterway transportation.

If the Administration proposal is implemented, it would ensure that the fund either went bankrupt or fuel taxes for the inland waterway system would have to be significantly increased.

The other new proposal is to tap $212 million from the Harbor Maintenance Trust Fund for construction of deepwater ports and channels.

This fund was established for users to pay maintenance costs of deep water ports and channels. The fund is financed by a tax on the value of cargo shipped to or from U.S. ports.

While the Harbor Maintenance Trust Fund is better financed than the Inland Waterway Trust Fund, using it for construction of projects was not envisioned and would cause its bankruptcy as well unless the tax rate was increased.

The recycled proposal is for direct funding of operation and maintenance of Corps of Engineers owned and operated hydropower facilities by the Power Marketing Administrations. This proposal assumes that the Power Marketing Administrations will provide $145 million to the Corps of Engineers for hydropower operation and maintenance.

This proposal was dead on arrival last year and I see no enthusiasm among my colleagues for it this year.

All three of these proposals would require specific enacting legislation in order for them to become law. However, the Administration has made no overtures to the Congress to explain how these proposals would be of benefit to Corps of Engineers or the Nation.

It is entirely possible that these overtures have not been made because these proposals benefit neither the Corps of Engineers nor the Nation. In fact, two of the proposals only serve to mask deficit spending with the beneficiary being the Administration in their annual budget game.

The budget proposed for the Bureau of Reclamation shows a slight increase; however, this increase is deceiving. Many important on-going projects have received substantially reduced funding levels.

The Administration has slashed funding for Reclamation's rural water and water recycling projects from what has been provided in fiscal year 2003 and prior years. The Administration's budget says that while these are important elements of meeting future western water needs, they should be done by someone else. The implication is that these are local problems and should be solved by local interests.

Most of the rural water projects funded by this Subcommittee provide clean clear drinking to people that have only had access to water of questionable quality for most of their lives. The cost to local communities of providing this clean drinking water is well beyond the scope of most communities.

Federal funding for recycled water projects is limited to a 25 percent of the overall project cost and in many cases is capped at $20 million. Yet without these Federal dollars many of these projects could not go forward. The Federal dollars provide the necessary leverage to obtain other state and local funds.

The Administration budget theme for this year is 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:

—41 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 though these ports and waterways. The value of this cargo to the national economy approaches $700 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. 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 population growth in our western states would not have been possible.

—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 2003 appropriations was targeted for environmental activities. Reclamation expended a similar percentage of their budget on these important activities.

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. The

Administration proposals are woefully inadequate to fund ongoing projects at anything more than minimal levels.

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 Ranking Member Byrd, Chairman Stevens and Chairman 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.

Senator COCHRAN. Thank you, Senator Reid.

Senator Bond.

STATEMENT OF SENATOR CHRISTOPHER S. BOND

Senator BOND. Thank you very much, Mr. Acting Chairman. And I woke up yesterday morning thinking that serving on 5 committees and 11 subcommittees was leaving me with too much free time, so I jumped at the opportunity to serve on this twelfth subcommittee.

And, Secretary Brownlee, General Flowers, General Griffin, and all of you, I welcome you and the second panel. I join with my colleagues in expressing the frustrations that we all have felt.

I know at this time, gentlemen, particularly those in the—well, all of you, have issues on your plate that are larger than the details of the project feasibility study and environmental impact statements. I know that each of you are no strangers to military combat. Each of you have had to lead troops into combat, and currently the troops are looking to you for leadership. And, once again, on behalf of myself and the people I serve, we express our gratitude for your sacrifice and your commitment to the security of the Nation.

On the issue of domestic water resources, I have expressed myself repeatedly about the continued insufficiency of OMB's budget request. I would only say "Amen," to what has been said before, particularly Senator Reid's statement. I have the pleasure of working with him on the authorizing committee, and we have this problem in other areas.

But, Les, I would urge you, as I urged your predecessor, please do not agree with me publicly, would you?

Inside joke, there.

Historically, given how much Congress is forced to modify the budget request for the Corps, the OMB budget request for the Corps has become about as relevant as a UN resolution is to the French government. But as the acting chairman and Senator Reid have said, your work has put people to work in our country.

You save money by preventing waste associated with delay. You have provided for a cleaner, better environment through your efforts. And you have been true conservationists.

Every year, there is a referendum on the work of the Corps, and it is called an appropriations bill. On a bipartisan basis, we join to add resources to high priority projects, which speaks to the value

of what you do as demanded by the people who pay the taxes and who elect us.

Now, I would also add on the matter, a minor matter that is free of controversy, I encourage your efforts to identify the best resolution to the questions of managing the Missouri River. We do have—we do have an awful drought, and there is going to be pain shared by the people in the upper basin with the people in the lower basin. When water is short, everyone feels cheated. Everyone wants more of it.

Senator Craig, I feel your pain.

The middle Mississippi River, which carries $27 billion in cargo and is the primary avenue for transporting for our agricultural projects, which give us in good years a $30 billion favorable balance in trade, has been closed and restricted.

This is a difficult matter to resolve this. Why, the first Bush Administration did not resolve it. The Clinton Administration studied it for 8 years and kicked the can down the road to this administration.

Past Congresses have given you conflicting mandates. Recent Congresses have given you plenty of rhetoric but very little legislative guidance, despite the efforts of some of us. If it were up to me, Congress would pass legislation establishing priorities for you to follow and let you get on with them. Otherwise, I would just as soon pass legislation giving a President, this one or the next, the authority to make a decision once and for all, without having to struggle with all the conflicting mandates imposed in decades past.

Then we would have a decision. We would have some accountability, and we could move one way or the other and take responsibility for it.

I realize you are victims in a thankless blame game where the States and the agencies are polarized. You are left in the middle with the hard job of balancing priorities, when that job should be the job of Congress.

I look forward to working with the other members of this committee to help you resolve those priorities. And I thank you for your service for the security of this Nation.

Thank you.

Senator COCHRAN. Senator Dorgan.

Senator DORGAN. Mr. Chairman, I would be happy to yield to Senator Murray.

Senator COCHRAN. Senator Murray.

STATEMENT OF SENATOR PATTY MURRAY

Senator MURRAY. Thank you, Senator. I will not take much time. We want to hear from our witnesses today.

Let me just thank you for being here today. I look forward to your testimony. Clearly, there are a lot of critical projects in my State, from transportation obstruction, water, energy, environmental projects that I have a number of questions on. I will save some time.

Let me just thank Senator Reid and the Chairman for their assistance with our energy and water projects in the past though. We have been very grateful for that, and I appreciate that. And I look forward to the testimony this morning.

Senator COCHRAN. Senator——

Senator REID. Mr. Chairman, I would ask unanimous consent that—I have some questions I can submit in writing to the witnesses.

Senator COCHRAN. Without objection, it is so ordered.

Senator Dorgan, you want to——

Senator BOND. I will ask the same.

Senator COCHRAN. Without objection.

Any Senators on the committee may submit questions. And we hope you will respond to them in a timely fashion. Thank you.

Sir.

STATEMENT OF SENATOR BYRON L. DORGAN

Senator DORGAN. Mr. Chairman, I will be brief, but let me say that the comments from my colleagues, Senator Reid and Senator Bond, are right on the mark with respect especially to some of the funding issues.

I note that Senator Bond indicates he is on 12 subcommittees, and my hope is that keeps him busy enough not to be too active on this subcommittee.

We have had some long, spirited and interesting discussions about Missouri River issues. And I know, General Flowers, you will be in the middle of all of that, I am certain.

You started a 6-month process 12 years ago to create a new master manual for the Missouri River. Twelve, 13 years later, of course, we still wait. And Senator Bond and I both have an acute interest in it.

The Bureau's budget for water and related resources, for example, is nearly $43 million less than the amount we appropriated in the recent omnibus bill, so a number of projects will go wanting. There is under-funding of some Corps projects, key Corps projects. I will not go into all of them, but we in the West and Northern Plains are facing increasing drought, and water needs are more acute than ever.

The money that is recommended in the administration's budget is not nearly what is needed to respond to these issues both at the Bureau and the Corps, so I will ask some questions about a number of projects that I am very concerned about.

But I will wait until the question period to talk about them, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Senator Stevens.

STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Well, thank you very much, Mr. Chairman. I am going to have to go to another hearing so I am not going to ask questions. I do want to make a statement, however.

I am sure the witnesses all know Alaska has half the coastline of the United States. We have a very small population, but we are completely dependent in many areas on the Corps of Engineers for their projects.

Now, out at or on Unalaska, at the Dutch Harbor area, Congress authorized a project that was needed. That is the largest fishing port in the United States, and has been consistently now. That har-

bor was delayed because of a dispute between the Fish and Wildlife Service and the Corps of Engineers. It has never been built.

We have another situation there at King Cove, an enormous battle that developed over access to King Cove to the facilities at Cold Bay for transportation of people, particularly in emergencies to the hospital. Congress provided after a long, long debate with the Clinton Administration that King Cove could build a road, and the road would be determined—the location of it would be determined by the communities, where it would go. They owned the property. That road has been delayed also. It has never been built. And even today there—the monies that we provided them to build the road has been used to try to find some way to get it going.

We had money in the Energy and Water Bill 2 years ago for the sewer, the Wrangell projects. OMB took it upon themselves to veto those projects. And we put very strong language in the omnibus package that has just been passed. I hope that will be followed, that the Corps will follow the direction of Congress, which the President agreed to when he signed that bill.

There is also money for False Pass and Seward Harbor. Both of those had to be revisited again in the 2003 bill. And I hope we do not have to do in, Mr. Chairman, in the 2004 bill what we had to do in the omnibus bill to try and get the Corps and the administration to follow the directions of the Congress as agreed to by the President when he signs these bills.

We are in a situation where, now because of the delays in so many other economic activities that those related to fishing and the using—use of our harbors are absolutely essential to our survivor—or survival now. And I really do not understand these continued delays.

I know we are under attack by a whole series of very extreme environmental organizations. They had their day—right to their day in court, but when it is over, it ought to be over.

And I am really very serious, Mr. Chairman, in saying that somehow or other, these projects have to go forward. If it gets to the point where I have to delay this bill until we get an agreement that they—that the Corps will go forward, I will do that. I have never delayed an appropriations bill, since I have been on the committee or have been chairman, but I will do that. And I will refuse to bring this bill up until I get an understanding with the Corps that they are going to comply with the law with regard to these projects, particularly in terms of the Dutch Harbor Unalaska Project, and the basic project for King Cove.

Now, those two projects are humanitarian as well as necessary for the continuation of the economic activities in those areas. And I am very serious. I do not know anything else a Senator can do but finally use his ultimate right to delay a bill until we get an understanding that that is—that those projects are going to be built.

I would be happy to visit with you, Mr. Brownlee, or with you, General Flowers, in any way. And I would be happy to go down and have a meeting with the President of the United States, if you would like. But these projects were authorized and reauthorized by Congress, and they are going to be built. One way or another, they are going to be built.

Thank you very much, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Senator Bennett.

Senator BENNETT. I have no opening statement, Mr. Chairman.

Senator COCHRAN. Mr. Secretary, you may proceed.

Mr. BROWNLEE. Thank you, Mr. Chairman.

Senator STEVENS. Mr. Craig wants to ask unanimous consent to add other projects to my list.

Senator CRAIG. You want to add other projects to Ted's list. Okay.

Senator COCHRAN. Without objection, it is——

Mr. Secretary, you may proceed.

STATEMENT OF LES BROWNLEE

Mr. BROWNLEE. Thank you, sir. If I could just take a moment, sir, to extend my best wishes to Chairman Domenici, who I understand could not be here this morning, and I have certainly grown to admire and respect and have great affection for him, and so I just wanted to send him my very best from here.

Senator COCHRAN. Thank you.

Mr. BROWNLEE. I would thank all of the members of the subcommittee who were able to arrange to meet with me before this hearing and also the courtesies of their staff to do so. If there is any member whom I was not able to meet with, let me just say that I will do so at your convenience to discuss any of these matters. I just want to be sure that it is very clear that I am available to do that.

I come here this morning, sir, with somewhat always mixed emotions when I come back to the place, here, the Senate, where I worked for almost 18 years on the staff of the Senate Armed Services Committee. I have many heroes here in this body and some of them are here this morning, so I appreciate very much the opportunity to come and testify before the subcommittee on the President's fiscal year 2004 budget for the Civil Works Program of the Army Corps of Engineers. I am accompanied this morning by Lieutenant General Robert Flowers, General Bob Griffin, and Rob Vining.

I am going to take just a moment to say something about General Flowers, and the committee already knows this very well, but this is one of the Army's most capable general officers. He provides extraordinary leadership to the Corps of Engineers. It is an honor and a privilege for me to work alongside him in this—on these important matters.

PREPARED STATEMENT

With your permission, Mr. Chairman, I would like to summarize my statement and ask your permission that the complete statement be included in the record.

Senator COCHRAN. Without objection, it will be included in the record.

[The statement follows:]

PREPARED STATEMENT OF LES BROWNLEE

INTRODUCTION

Mr. Chairman and distinguished members of the Subcommittee, thank you for the opportunity to testify before this subcommittee of the Transportation and Infrastructure Committee and to present the President's budget for the Civil Works program of the Army Corps of Engineers for fiscal year 2004. Accompanying me this morning is Lieutenant General Robert B. Flowers, Chief of Engineers.

ARMY CIVIL WORKS PROGRAM FOR FISCAL YEAR 2004

The fiscal year 2004 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 atomic weapons program.

The fiscal year 2004 budget for Army Civil Works includes new discretionary funding requiring appropriations of $4.194 billion and an estimated $4.234 billion in outlays from discretionary funding (see Table 1). These figures are approximately the same as in the fiscal year 2003 budget.

The new discretionary funding includes $812 million from the Harbor Maintenance Trust Fund. Of this amount, $607 million is for harbor operation and maintenance and dredged material disposal facility construction under existing law and $205 million is for harbor construction under a legislative proposal set forth in appropriations language proposed in the budget. The discretionary funding also includes $256 million from the Inland Waterways Trust Fund. Of this amount, $110 million is for construction and rehabilitation on the inland waterways under existing law, and $146 million is for operation and maintenance of the inland waterways under a legislative proposal set forth in appropriations language proposed in the budget. The new uses proposed for these two funds are described in greater detail in the discussion of budget highlights.

The Administration is submitting a legislative proposal for direct funding of hydropower facility operation and maintenance by Federal power marketing administrations. New discretionary funding of $145 million would be derived from direct funding. This proposal also is described in greater detail in the discussion of budget highlights.

Other sources of new discretionary funding include $2.947 billion from the general fund and $34 million from Special Recreation User Fees.

Additional program funding, over and above funding from the sources requiring discretionary appropriations, is estimated at $494 million. This total includes $143 million from the Bonneville Power Administration for operation and maintenance of hydropower facilities in the Pacific Northwest, $278 million contributed by non-Federal interests for their shares of project costs and for project-related work, $58 million from the Coastal Wetlands Restoration Trust Fund, and $16 million from miscellaneous permanent appropriations.

Preparation of this year's budget included a new process for assessments of program performance. These assessments were intended to improve the effectiveness of Civil Works programs and to improve the quality of their management and oversight. These assessments, and how their results are reflected in budget decisions, are described in greater detail in the discussion of budget highlights.

PROGRAM HIGHLIGHTS

Highlights of the fiscal year 2004 budget for Army Civil Works include: an emphasis on priority missions, anti-terrorist facility protection, and emergency preparedness, response, and recovery; an emphasis on continuing construction projects and a de-emphasis on design and initiation of new projects; and legislative proposals for expanded user financing of projects through the Harbor Maintenance Trust Fund, the Inland Waterways Trust Fund, and the Federal power marketing administrations. These highlights are described in greater detail below and are followed by information on proposed studies and management initiatives.

Priority Missions

The budget gives priority to ongoing studies, projects and programs that provide substantial benefits in the primary (or "core") missions of the Civil Works program, which are commercial navigation, aquatic ecosystem restoration, and flood and storm damage reduction.

The budget also provides funding for other areas of Corps involvement, including regulatory protection of waters and wetlands, cleanup of sites contaminated by the Nation's early atomic weapons program, and the management of natural resources and provision of hydroelectric power and recreation services at Federally operated Civil Works projects.

No funds are provided for studies and projects that carry out non-traditional missions that should remain the responsibility of non-Federal interests or other Federal agencies, such as wastewater treatment, irrigation water supply, and municipal and industrial water supply treatment and distribution. Furthermore, the budget does not fund individual studies and projects that are inconsistent with established policies governing the applicable missions.

Anti-Terrorist Facility Protection

Following the events of September 11, 2001, the Corps received appropriations of $174 million to provide facility protection measures (such as guards) that have recurring costs, to perform assessments of threats and consequences at critical facilities, and to design and implement the appropriate "hard" protection at those critical facilities. The Administration is continuing its commitment to facility protection in fiscal year 2004, with a budget of an additional $104 million for facility protection.

In addition, the budget includes a legislative proposal, set forth in appropriations language proposed in the budget, to use funding from the Operation and Maintenance (O&M) account to protect not only operating Civil Works projects that normally are funded from the O&M account, but also administration buildings and facilities and those operating projects that normally are funded from the Flood Control, Mississippi River and Tributaries account. This legislative proposal would also authorize using Civil Works O&M funds to pay for protecting the Washington Aqueduct drinking water plant, which is normally funded from revenues that are generated by selling drinking water and subsequently appropriated in the District of Columbia Appropriations Act each year.

Of the $104 million in the fiscal year 2004 O&M budget for facility protection, $91 million is for O&M-funded projects and $13 million is for other projects and facilities.

Emergency Preparedness, Response, and Recovery

The Flood Control and Coastal Emergencies account finances response and recovery activities for flood, storm, and hurricane events, as well as preparedness for these natural events and for support to the Federal Emergency Management Agency through the Federal Response Plan.

The recent performance assessment of this program concluded that it is moderately effective overall. The fiscal year 2004 budget provides $70 million for this account. This amount is approximately what the Corps spends on emergencies in a typical year. This amount would ensure that there are sufficient funds to respond to major flood and storm emergencies and would reduce the likelihood of having to borrow from other accounts or seek emergency supplemental appropriations for recovery efforts.

Emphasis on Ongoing, Budgeted Construction Projects

The Corps estimates that current backlog (that is, the estimated costs to complete construction projects funded in the budget) exceeds $20 billion. In recent years, these projects have had to compete for funding with numerous new construction starts. To maximize the net benefits of the construction program and realize those benefits more quickly than under current trends, the budget limits funding for the planning and design of new projects, provides funding to complete all of the projects that can be completed in fiscal year 2004, and provides substantial funding for eight projects that we consider to be the highest Civil Works priorities nationwide.

The budget includes funding for continuation of 148 projects and completion of 13 projects. In addition, the budget includes funding across all accounts to continue or complete design of 22 proposed projects. These projects were selected based on their economic and environmental returns and because design is nearing completion. The budget defers work on all lower priority design efforts.

Table 2 (attached) displays benefit/cost information on projects under construction. The table provides information on remaining benefits and remaining costs and is presented for all projects at a discount rate of 7 percent.

Expanded Use of Navigation Trust Funds

The budget includes legislative proposals to expand the authorized uses of the Inland Waterways Trust Fund and the Harbor Maintenance Trust Fund. These proposals would shift some costs now borne by general taxpayers to the commercial users of Federal navigation projects, and would apply the unused balances in these

accounts in fiscal year 2004 for the benefit of navigation. These legislative proposals are included in the proposed appropriations language appearing in the Budget Appendix for fiscal year 2004.

The Inland Waterways Trust Fund would be used to finance 25 to 50 percent of operation and maintenance costs for inland waterways, in addition to the currently authorized financing for 50 percent of construction costs. Inland waterways with average commercial traffic of more than 5 billion ton-miles per year would be financed 25 percent. All other inland waterways would be financed 50 percent.

The 5 billion ton-mile criterion was selected to distinguish between high commercial-traffic projects that would be funded 75 percent from the general fund and 25 percent from the Inland Waterways Trust Fund and those projects with lower commercial traffic that would be funded 50 percent from each source. This criterion was used because the projects with commercial tonnage above the criterion are those that provide a greater return to the Nation and, consequently, are suitable for a higher level of support from general taxpayers.

The Harbor Maintenance Trust Fund would be used to finance the Federal share of harbor construction costs, in addition to the currently authorized financing for the Federal share of harbor operation and maintenance costs and for the Federal share of the costs of confined dredged material disposal facilities.

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 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 (BPA) has directly financed the costs of operating and maintaining the Corps' hydroelectric facilities from which it receives power. BPA has been providing operation and maintenance funds in this manner each year, beginning in fiscal year 1999, and all parties agree that this financing arrangement is working well.

Each year, Corps facilities experience unplanned outages around 3 percent of the time. 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.

To address this problem, the budget proposes that the Southeastern Power Administration, the Southwestern Power Administration, and the Western Area Power Administration finance hydropower operation and maintenance costs directly, in a manner similar to the mechanism used by Bonneville. The budget contemplates that these power marketing administrations would 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 would decline over time to levels comparable to the industry average. The Administration is submitting this legislative proposal for consideration as part of proposed authorizing legislation for the Department of Energy and related agencies.

PROPOSED STUDIES AND MANAGEMENT INITIATIVES

The fiscal year 2004 budget for Civil Works includes a limited number of new studies, as well as a number of management initiatives. These proposals are designed to support the Administration's priorities, to improve program effectiveness, and to improve the quality and objectivity of project planning and review.

The budget includes a number of proposals that, taken together, represent a strong commitment to improving the quality and objectivity of planning and review for new projects. The budget includes $3 million to initiate the independent review of complex, costly, or controversial project proposals. The budget also includes $2 million for a new, one-time "ex-post-facto" economic analysis of completed projects, to assess whether Corps projects are delivering the benefits that were anticipated when they were planned. This study will help the Corps to see where it was right and where it was wrong, and to understand the reasons for its successes and failures in its process for estimating benefits, in order to improve future analyses. In addition, the budget contemplates realigning Corps planning expertise to ensure that this capability is used to best advantage. Concurrently, the Corps is improving planner training and streamlining and standardizing its business processes, and my office has established a project planning and review group to oversee project development.

The budget includes $1 million to initiate a new study of long-term options for the operation and maintenance of existing low-use harbors and waterways. The study would characterize the low-use facilities and would include economic analyses supporting the options.

Five programs within Civil Works were assessed during development of the fiscal year 2004 budget: the hydropower program; the flood damage reduction program; the inland waterway navigation program; the Flood Control and Coastal Emergencies program; and wetlands-related activities other than the Regulatory Program. In addition, the effectiveness and cost of wetlands and flood damage reduction activities were compared with other agencies. In response to the Flood Control and Coastal Emergencies program evaluation, the budget allocates significant funding to this program. After reviewing the evaluation of the flood damage reduction program, we increased funding for our two highest priority projects and identified them for the first time in the budget. The reviews also helped in developing the financing proposals for inland waterways and hydropower, described above.

The Army Civil Works program is continuing its efforts to integrate strategic and performance planning with budgeting, which is part of the President's Management Agenda and is required by the Government Performance and Results Act. A draft Strategic Plan for the Army Civil Works program is being reviewed. In addition, draft performance plans for the Army Civil Works program are under review. After completion of Administration review, all of these plans will be transmitted to Congress.

There are four other elements of the President's Management Agenda. For the human capital initiative, the Corps of Engineers has prepared and is carrying out a strategic human capital plan. The Corps is reviewing its current organization and management in an effort to improve the quality and objectivity of project planning work. For the financial management initiative, the Corps is working with the Department of Defense Inspector General to resolve audit issues and obtain an unqualified audit opinion on its financial statements for future fiscal years. For electronic government and information technology, the Corps has upgraded its capital planning and control processes and prepared business cases for most of its key systems. For competitive sourcing of commercial functions, the Corps has prepared a draft competition plan, which is under review. The Corps is also responding to the Army's "third wave" initiative supporting Army transformation, the war on terrorism, and the competitive sourcing initiative.

APPROPRIATION ACCOUNTS

General Investigations

The budget for the General Investigations program is $100 million. Within this amount, $10 million is to continue or complete preconstruction engineering and design of 19 projects. The funding levels proposed for this account—and the way that we have proposed to allocate that funding—are key elements for our strategy to address the construction backlog. They reflect an emphasis on completing policy-consistent projects that are already budgeted in the Construction account, rather than continuing to plan, design, and initiate new work.

The remaining funding would be used to continue policy-consistent reconnaissance and feasibility studies, coordination, technical assistance, and research and development, as well as to initiate 5 reconnaissance studies and the independent review and ex post facto analysis studies described above. The budget includes funding for 5 new reconnaissance studies that exemplify the watershed-based approach to solving water problems and would enable the Corps to test holistic methods for planning sustainable watershed development. (After the fiscal year 2004 budget was released, the Congress provided funding to initiate one of the studies in fiscal year 2003.)

Construction

The fiscal year 2004 budget for the Construction program is $1.35 billion. Of that total, $110 million would be derived from the Inland Waterways Trust Fund to fund 50 percent of the costs of construction and major rehabilitation of inland waterway projects, and $7 million would be derived from the Harbor Maintenance Trust Fund to fund the Federal share of dredged material disposal facilities at operating coastal harbor projects. In addition, under the Administration's legislative proposal, $205 million would be derived from the Harbor Maintenance Trust Fund to fund the Federal share of construction costs for coastal harbor projects.

With three exceptions, funding is included in this account only for projects that meet the following criteria: the project has been funded in this account in a previous budget request; physical construction of the project has started by fiscal year 2003; the project has been actively under physical construction in at least one of the last

3 years; and the Executive Branch has completed a review and made a determination that the project supports priority missions and is consistent with established policies.

The three exceptions include one project proposed in the fiscal year 2004 budget as a construction new start, the Chief Joseph Dam Gas Abatement Project, Washington, which is necessary in order to satisfy the requirements of Biological Opinions for the Columbia River Basin. (After the fiscal year 2004 budget was released, the Congress provided funding to initiate construction of this project in fiscal year 2003.) The other two exceptions involve preconstruction work at two projects, namely, design of the dam safety improvement project at Success Dam, California, and continuing analysis and coordination for the Delaware River Main Channel Deepening Project, New Jersey, Pennsylvania, and Delaware.

In addition to funding the completion of 13 projects in fiscal year 2004, the budget provides substantial funding for our eight highest priority projects. These high priority projects are the New York and New Jersey Harbor deepening project ($115 million); the Olmsted Locks and Dam, Illinois and Kentucky, project ($73 million); projects to restore the Florida Everglades ($145 million) and the side channels of the Upper Mississippi River system ($33 million); projects to provide flood damage reduction to urban areas, namely, the Sims Bayou, Houston, Texas, project ($12 million) and the West Bank and Vicinity, New Orleans, Louisiana, project ($35 million); and projects to meet environmental requirements in the Columbia River Basin ($98 million) and the Missouri River basin ($22 million). The Everglades work actually is comprised of three distinct projects, as is the Columbia River Basin work.

The budget provides $80 million for 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 continuing program for beneficial uses of dredged material is being expanded to encompass additional types of beneficial uses at operating projects. In addition to restoring aquatic resources pursuant to section 204 of the Water Resources Development Act (WRDA) of 1990, the program also would be used for shore protection with dredged material pursuant to section 145 of WRDA 76, as amended by section 933 of WRDA 86, and for other beneficial uses with dredged material pursuant to section 207 of WRDA 96.

Flood Control, Mississippi River and Tributaries

The budget includes $280 million for the Mississippi River and Tributaries program. 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. 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.

The budget includes funding for preconstruction engineering and design for the Morganza to the Gulf, Louisiana, project. This project numbers among the 22 projects program-wide that are funded for continuing preconstruction engineering and design.

Operation and Maintenance

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 budget proposes that this account fund anti-terrorist facility protection across all of these purposes and at Civil Works projects and facilities normally funded from this and other accounts, as explained earlier.

The overall budget for the Operation and Maintenance account is $1.939 billion. Of this amount, $600 million would be derived from the Harbor Maintenance Trust Fund for coastal harbor maintenance and $34 million would be derived from Special Recreation User Fees. Under the Administration's legislative proposals, $146 million would be derived from the Inland Waterways Trust Fund to finance 25 to 50 percent of the operation and maintenance costs for the inland waterways, and $145 million would be derived from direct funding by three Federal power marketing administrations to finance hydropower operation and maintenance costs. In addition to this funding, Bonneville Power Administration would provide $143 million to directly fund the costs of operating and maintaining hydropower facilities in the Pacific Northwest.

The navigation maintenance portion of the budget continues the past policy of focusing resources on harbors and waterways that have high volumes of commercial traffic or that support Federal or subsistence usage. No funds are provided for purely recreational harbors, and the budget limits funding for shallow draft harbors and for low commercial-use waterways. The budget provides: $620 million for deep draft harbors (harbors with authorized depths of greater than 14 feet); $40 million for shallow draft harbors; $311 million for inland waterways with commercial traffic of more than 1 billion ton-miles per year; and $71 million for waterways with less commercial traffic, with priority given to those operation and maintenance activities that provide the highest return to the Nation.

The new study of long-term options for low-use harbors and waterways reflects an effort to reach agreement on how to address the needs of these harbors and waterways.

Regulatory Program

The budget for the Regulatory Program is $144 million. These funds would be used for permit evaluation, enforcement, oversight of mitigation efforts, administrative appeals, watershed studies, special area management plans, and environmental impact statements. This funding supports continued efforts to reduce the average review time for individual permit applications, to improve protection of aquatic resources, and to strengthen protection of regulated wetlands through watershed approaches.

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 cleanups at contaminated sites. This year's budget is $140 million.

General Expenses

Funding budgeted for the General Expenses program is $171 million. These funds would be used for executive direction and management activities of the Corps of Engineers headquarters, the Corps division offices, and related support organizations. Within the budgeted amount, $9 million is for activities funded for the first time from this account: $2 million is to compete commercial functions between the Federal government and private sources; and $7 million is to audit the Civil Works financial statements, a function formerly carried out by the Army Audit Agency using its own funding. After adjusting for these two items, the amount of our request is $8 million above the fiscal year 2003 enacted level. We would use the $8 million to finance increases in labor costs and efforts to improve planning and management capabilities.

Flood Control and Coastal Emergencies

As discussed above, the budget includes $70 million for this account to ensure that the Corps has adequate funding available for emergency preparedness and response to actual emergency events.

CONCLUSION

I believe the President's fiscal year 2004 budget for the Army Civil Works program is balanced and will make productive contributions to the economic and environmental well-being of the Nation. The budget continues support to ongoing work, emphasizes primary missions, and applies resources to areas likely to have the greatest national benefit. Providing the requested funding for the Army Civil Works program is a wise investment in the Nation's future.

Thank you.

TABLE 1.—DEPARTMENT OF THE ARMY CORPS OF ENGINEERS—CIVIL WORKS FISCAL YEAR 2004 BUDGET

	Amount
Requested Funding:	
General Investigations	$100,000,000
Construction	1,350,000,000
Operation and Maintenance	1,939,000,000
Regulatory Program	144,000,000
Flood Control, Mississippi River and Tributaries	280,000,000

TABLE 1.—DEPARTMENT OF THE ARMY CORPS OF ENGINEERS—CIVIL WORKS FISCAL YEAR 2004 BUDGET—Continued

	Amount
General Expenses	171,000,000
Flood Control and Coastal Emergencies	70,000,000
Formerly Utilized Sites Remedial Action Program	140,000,000
TOTAL	4,194,000,000
Sources of Funding:	
General Fund	2,947,000,000
Harbor Maintenance Trust Fund	812,000,000
(O&M)	(600,000,000)
(Construction—Disposal Facilities)	(7,000,000)
(Construction—Legislative Proposal)	(205,000,000)
Inland Waterways Trust Fund	256,000,000
(Construction)	(110,000,000)
(O&M—Legislative Proposal)	(146,000,000)
Special Recreation User Fees—O&M	34,000,000
Power Marketing Admin.—O&M Leg. Proposal	145,000,000
TOTAL	4,194,000,000
Additional New Resources:	
Rivers and Harbors Contributed Funds	278,000,000
Bonneville Power Administration	143,205,000
Coastal Wetlands Restoration Trust Fund	57,680,000
Permanent Appropriations	15,605,000
TOTAL	494,490,000
Total Program Funding	4,688,490,000

TABLE 2.—CONSTRUCTION, GENERAL[1]—FISCAL YEAR 2004 BUDGETED PROJECTS WITH BENEFIT-COST DATA SHOWN AT 7 PERCENT

[In thousands of dollars]

DIV	NAME	7 PERCENT RATE						NO INFL TOT FED COST	PRES BUD FISCAL YEAR 2004	NO INFL FED BAL TO COMPLETE	NO INFL TOTAL N–FED COST	NO INFL BAL TO COMPL
		AVG ANN REM BEN	AVG ANN REM COST	7 PERCENT RB/RC[2]	AVG ANN CUR BEN	AVG ANN CUR COST	NET BENE/ ANN COST[3]					
LR	INDIANA HARBOR (CONFINED DISPOSAL FACILITY), IN	21,669	5,500	3.10	21,669	6,987	2.10	40,000	5,700	18,837	38,000	24,691
LR	INDIANAPOLIS, WHITE RIVER (NORTH), IN	3,445	704	4.89	3,445	1,349	1.55	12,857	2,600	5,865	4,286	1,366
LR	KENTUCKY LOCK AND DAM, TENNESSEE RIVER, KY	66,509	26,753	2.49	66,509	41,741	.59	579,050	24,866	439,878	.....	.....
LR	LITTLE CALUMET RIVER, IN	10,074	5,130	1.96	18,578	11,722	.58	139,000	3,800	47,327	51,000	15,198
LR	LOCKS AND DAMS 2, 3 AND 4, MONONGAHELA RIVER, PA	157,204	60,486	2.60	157,204	82,303	.91	702,966	35,000	424,488	.....	.....
LR	MARMET LOCK, KANAWHA RIVER, WV	66,109	11,400	5.80	66,109	18,900	2.50	324,706	52,154	186,764	.....	.....
LR	MCALPINE LOCKS AND DAM, OHIO RIVER, KY & IN	53,957	20,102	2.68	53,957	31,808	.70	324,000	26,100	209,304	.....	.....
LR	MCCOOK AND THORNTON RESERVOIRS, IL	109,912	57,336	1.92	109,912	61,715	.78	572,000	18,000	499,294	164,000	47,064
LR	METROPOLITAN LOUISVILLE, BEARGRASS CREEK, KY	2,652	263	10.08	2,652	977	1.71	7,895	1,400	1,847	4,251	196
LR	METROPOLITAN LOUISVILLE, POND CREEK, KY	4,527	480	9.43	4,763	2,349	1.03	13,414	2,500	641	5,772	889
LR	METROPOLITAN REGION OF CINCINNATI, DUCK CREEK, OH	3,821	2,376	1.61	4,198	3,681	.14	31,743	8,500	13,823	4,200	814
LR	MILL CREEK, OH	51,544	53,043	.97	52,550	82,743	−0.36	154,156	3,900	45,952	215,000	127,270
LR	OHIO RIVER GREENWAY PUBLIC ACCESS, IN	7,401	3,082	2.40	7,401	3,761	.97	16,900	1,000	12,535	16,900	15,280
LR	OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY	719,817	46,737	15.40	720,430	144,109	4.00	1,003,000	73,000	287,536	.....	.....
LR	ROBERT C BYRD LOCKS AND DAM, OHIO RIVER, WV & OH	307,716	2,164	142.20	307,716	18,686	15.47	380,626	2,500	11,916	.....	.....
LR	WEST COLUMBUS, OH	24,050	1,211	19.86	24,050	13,376	.80	96,937	1,800	3,330	36,200	3,800
LR	WINFIELD LOCKS AND DAM, KANAWHA RIVER, WV	103,734	2,491	41.64	103,734	7,239	13.33	235,462	2,000	5,538	.....	.....
MV	CHAIN OF ROCKS CANAL, MISSISSIPPI RIVER, IL (DEF CORR)	2,647	1,000	2.18	2,647	1,213	1.18	30,861	2,300	21,309	.....	.....
MV	COMITE RIVER, LA	24,904	13,202	1.89	24,904	15,033	.66	103,000	2,000	85,639	42,000	18,392
MV	CROOKSTON, MN	769	89	8.64	1,118	739	.51	6,830	1,043	.....	3,670	.....
MV	EAST ST LOUIS, IL	22,778	920	21.51	22,778	1,059	20.51	54,638	965	22,319	16,000	4,441
MV	GRAND FORKS, ND—EAST GRAND FORKS, MN	32,627	18,322	1.78	32,627	32,400	.01	202,700	23,496	90,263	193,300	89,856

MV	INNER HARBOR NAVIGATION CANAL LOCK, LA	110,800	54,317	2.04	110,800	60,115	.84	625,000	7,000	530,851	60,000	48,876
MV	J BENNETT JOHNSTON WATERWAY, LA	53,351	7,213	7.40	133,284	137,854	−0.03	1,917,456	13,700	140,633	93,832	45,538
MV	LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION)	14,512	4,540	3.20	95,771	68,669	.39	515,000	3,000	72,353	200,000	42,038
MV	LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)	1,453	69	21.06	4,146	2,172	.91	80,300	461	1,905	34,700	1,416
MV	LOVES PARK, IL	765	345	2.22	3,056	2,161	.41	23,625	5,785	.....	8,669	.....
MV	MERAMEC RIVER BASIN, VALLEY PARK LEVEE, MO	2,773	1,001	2.54	2,773	1,091	1.54	44,966	2,000	23,504	11,233	.....
MV	MISS RIVER BTWN THE OHIO AND MO RIVERS (REG WORKS), MO & IL	261,809	7,225	21.42	261,809	12,225	20.42	257,038	1,700	50,462	.....	.....
MV	MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA	972,000	59,000	16.47	1,350,000	145,000	8.31	175,000	196	147,042	404,000	387,727
MV	NEW ORLEANS TO VENICE, LA (HURRICANE PROTECTION)	2,435	1,152	2.11	14,999	14,143	.06	174,000	2,000	22,844	70,000	27,282
MV	SHEYENNE RIVER, ND	6,412	253	25.34	22,684	2,375	8.55	35,900	3,367	.....	13,300	.....
MV	SOUTHEAST LOUISIANA, LA	54,877	14,738	3.72	54,877	17,957	2.06	508,000	16,500	157,869	172,000	59,909
MV	WEST BANK AND VICINITY, NEW ORLEANS, LA	71,282	9,516	7.49	98,682	19,465	4.07	190,000	35,000	77,213	102,500	49,529
NA	AIWW BRIDGE AT GREAT BRIDGE, VA	4,084	2,329	1.75	4,084	3,832	.07	37,243	9,706	9,217	8,875	4,524
NA	DELAWARE RIVER MAIN CHANNEL, NJ, PA & DE	24,659	22,000	1.01	24,659	24,393	.01	155,825	300	137,653	88,980	71,011
NA	NEW YORK AND NEW JERSEY HARBOR, NY & NJ	709,196	243,880	2.91	709,196	263,760	1.69	1,679,700	115,000	1,113,561	1,524,100	1,242,079
NA	PASSAIC RIVER PRESERVATION OF NATURAL STORAGE AREAS, NJ	1,461	1,135	1.29	1,826	1,418	.29	19,500	1,000	8,159	1,700	1,700
NA	RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ	43,553	21,075	2.07	43,553	31,419	.39	304,400	6,488	249,873	102,500	82,409
NA	WYOMING VALLEY, PA (LEVEE RAISING)	27,143	3,877	7.00	27,143	12,832	1.12	129,422	10,021	24,271	43,602	5,952
NW	BIG SIOUX RIVER, SIOUX FALLS, SD	3,822	1,877	2.04	3,822	3,296	.16	30,869	6,000	13,280	10,404	2,238
NW	BLUE RIVER BASIN, KANSAS CITY, MO	2,564	1,108	2.31	2,564	1,237	1.07	11,821	2,000	7,330	6,505	197
NW	BLUE RIVER CHANNEL, KANSAS CITY, MO	16,697	3,062	5.45	43,519	14,981	1.90	215,724	6,000	22,506	32,500	.....
NW	ELK CREEK LAKE, OR	3,606	4,689	.77	3,606	14,715	−0.75	179,400	500	67,188	.....	.....
NW	PERRY CREEK, IA	2,430	1,514	1.60	7,791	6,918	.13	58,638	2,200	17,658	38,232	3,051
NW	PIERRE, SD	2,099	1,004	2.09	6,264	2,996	1.09	35,000	4,300	6,555	.....	.....
NW	WOOD RIVER, GRAND ISLAND, NE	2,177	68	31.85	2,177	1,013	1.15	9,006	1,082	.....	3,713	.....
PO	KIKIAOLA SMALL BOAT HARBOR, KAUAI, HI	631	172	3.67	631	453	.39	5,934	3,633	632	760	70
PO	MAALAEA HARBOR, MAUI, HI	2,407	740	3.25	2,407	1,025	1.35	14,212	191	9,565	1,589	1,570
PO	NOME HARBOR IMPROVEMENTS, AK	3,608	3,000	1.20	3,608	3,098	.16	42,673	6,000	31,611	4,482	1,378
PO	ST PAUL HARBOR, AK	2,613	2,030	1.29	2,613	4,157	−0.37	47,944	3,826	19,962	10,501	.....
SA	ARECIBO RIVER, PR	5,807	1,382	4.20	6,112	1,454	3.20	14,877	1,000	5,404	11,520	3,847

TABLE 2.—CONSTRUCTION, GENERAL[1]—FISCAL YEAR 2004 BUDGETED PROJECTS WITH BENEFIT-COST DATA SHOWN AT 7 PERCENT—Continued

[In thousands of dollars]

DIV	NAME	7 PERCENT RATE						NO INFL TOT FED COST	PRES BUD FISCAL YEAR 2004	NO INFL FED BAL TO COMPLETE	NO INFL TOTAL N–FED COST	NO INFL BAL TO COMPL
		AVG ANN REM BEN	AVG ANN REM COST	7 PERCENT RB/RC[2]	AVG ANN CUR BEN	AVG ANN CUR COST	NET BENE/ ANN COST[3]					
SA	BRUNSWICK HARBOR, GA	6,757	2,081	3.25	6,797	3,597	.89	55,200	4,500	36,974	23,700	9,792
SA	CANAVERAL HARBOR, FL	5,186	3,123	1.66	7,304	4,398	.66	85,301	2,000	47,054	4,968	8
SA	CHARLESTON HARBOR, SC (DEEPENING & WIDENING)	12,158	3,672	3.31	22,995	11,775	.95	98,200	5,000	4,556	40,100	5,043
SA	JACKSONVILLE HARBOR, FL	1,012	1,269	.80	3,080	2,255	.37	19,620	2,000	3,959	27,457	1,512
SA	MIAMI HARBOR CHANNEL, FL	6,497	4,706	1.38	8,779	6,358	.38	55,771	2,700	15,823	36,246	10,670
SA	MOBILE HARBOR, AL	105,308	65,587	1.61	105,308	64,337	.64	315,000	2,003	283,085	260,000	249,673
SA	OATES CREEK, RICHMOND COUNTY, GA (DEF CORR)	190	62	3.06	190	167	.14	11,094	500	.....	3,699	.....
SA	PASCAGOULA HARBOR, MS	2,572	600	4.29	2,572	3,000	– 0.14	37,678	2,989	.....	19,000	1,698
SA	PORTUGUES AND BUCANA RIVERS, PR	7,040	1,359	5.18	46,934	9,060	4.18	430,232	5,200	24,201	144,757	24,139
SA	RICHARD B RUSSELL DAM AND LAKE, GA & SC	5,480	597	9.18	126,165	43,319	1.91	619,210	4,328	5,275	3,260	1,360
SA	RIO DE LA PLATA, PR	9,490	6,024	1.58	10,204	6,450	.58	58,713	1,100	50,697	33,148	13,145
SA	RIO PUERTO NUEVO, PR	45,686	18,208	2.51	60,915	24,277	1.51	293,383	16,500	185,878	101,813	40,243
SA	ROANOKE RIVER UPPER BASIN, HEADWATERS AREA, VA	4,632	2,760	1.68	4,632	3,843	.21	42,000	2,000	30,097	22,000	15,349
SA	WILMINGTON HARBOR, NC	14,468	6,124	2.36	39,292	26,532	.48	290,000	9,650	115,583	141,000	33,655
SP	ALAMOGORDO, NM	8,327	1,928	4.32	8,327	3,625	1.30	38,100	3,500	18,942	12,700	5,740
SP	AMERICAN RIVER WATERSHED (FOLSOM DAM MODIFICATIONS), CA	30,700	14,420	2.13	30,700	17,453	.76	119,700	4,000	95,883	64,400	51,517
SP	AMERICAN RIVER WATERSHED, CA	42,300	6,890	6.14	42,300	18,439	1.29	90,100	4,000	.....	29,990	.....
SP	EL PASO, TX	6,366	1,065	5.98	10,873	10,569	.03	122,800	2,800	1,538	39,690	295
SP	GUADALUPE RIVER, CA	25,785	5,829	4.42	25,785	14,808	.74	127,950	13,000	17,611	98,920	15,665
SP	KAWEAH RIVER, CA	3,954	692	5.71	3,954	3,638	.09	27,800	8,400	.....	21,700	.....
SP	MARYSVILLE/YUBA CITY LEVEE RECONSTRUCTION, CA	25,530	90	283.67	25,530	4,326	4.90	37,100	500	300	12,400	.....
SP	MID-VALLEY AREA LEVEE RECONSTRUCTION, CA	4,126	1,662	2.48	4,126	2,487	.66	24,400	500	9,516	8,100	3,402
SP	NAPA RIVER, CA	15,761	7,992	1.97	15,761	15,347	.03	122,200	7,500	82,648	123,200	20,663
SP	OAKLAND HARBOR (50 FOOT PROJECT), CA	185,000	23,012	8.04	185,000	23,580	6.85	133,300	7,000	108,594	129,600	107,305
SP	PETALUMA RIVER, CA	230	145	1.59	2,275	2,252	.01	20,100	2,000	1,742	11,700	.....
SP	SANTA ANA RIVER MAINSTEM, CA	113,409	28,016	4.05	114,822	89,367	.28	992,000	15,700	247,497	451,000	140,308

SP	SOUTH SACRAMENTO COUNTY STREAMS, CA	20,266	4,532	4.47	20,266	5,405	2.75	45,600	2,100	40,023	24,700	9,230
SP	TROPICANA AND FLAMINGO WASHES, NV	18,934	2,686	7.05	22,276	19,854	.12	212,900	23,300	17,518	75,100	6,540
SP	TULE RIVER, CA	2,112	1,728	1.22	2,112	1,970	.07	16,300	1,600	13,540	8,000	1,300
SP	UPPER SACRAMENTO AREA LEVEE RECONSTRUCTION, CA	1,300	174	7.47	1,300	883	.47	7,600	1,000	1,650	22,600	.....
SW	ARKANSAS CITY, KS	7,980	482	16.56	7,980	2,402	2.32	23,477	2,600	2,192	7,892	589
SW	BRAYS BAYOU, HOUSTON, TX	73,514	25,687	2.86	88,892	26,885	2.31	284,479	4,700	262,268	160,720	126,719
SW	CHANNEL TO VICTORIA, TX	5,587	479	11.67	5,587	2,672	1.09	31,686	2,966	.....	6,530	.....
SW	HOUSTON-GALVESTON NAVIGATION CHANNELS, TX	87,232	20,041	4.35	87,232	44,464	.96	433,988	18,726	225,720	148,210	70,251
SW	JOHNSON CREEK, UPPER TRINITY BASIN, ARLINGTON, TX	1,119	550	1.87	1,119	598	.87	18,800	2,200	2,187	8,240	.....
SW	MONTGOMERY POINT LOCK AND DAM, AR	20,035	14,000	1.10	20,068	18,145	.11	261,500	20,000	30,056	.....	.....
SW	NECHES RIVER AND TRIBUTARIES SALTWATER BARRIER, TX	8,559	401	21.34	22,647	4,567	3.96	43,080	4,108	.....	14,360	.....
SW	SIMS BAYOU, HOUSTON, TX	121,160	8,075	15.00	220,290	24,827	7.87	230,000	12,000	87,268	111,617	37,369
	TOTAL	5,264,654	1,093,850	4.81	6,271,796	2,028,045	2.09	18,447,576	789,250	7,473,381	6,307,293	3,434,778

NOTE: EC, EC 11-2-183, Page B-2-37 states: "For beach erosion control projects where the initial fill has been completed and only periodic nourishment remains to be accomplished, enter: Not applicable because initial construction has been completed." This statement is used because the initial construction of the project is "essentially complete" and we are just "maintaining" it with the periodic renourishment. Benefit/cost data are also not required for Dam safety projects, Deficiency Correction projects, Major Rehabilitation or Environmental projects.

[1] Excludes MR&T projects.

[2] This column shows the Remaining benefit/Remaining Cost for each project calculated at a 7 percent discount rate.

[3] This column shows the Net Benefit-Cost ratio, i.e. the annual benefits less the annual costs divided by the annual costs, for each project calculated at a 7 percent discount rate.

Mr. BROWNLEE. I want to take one more moment, sir. As most of you know, about a year ago, I was appointed as the Acting Assistant Secretary of the Army for Civil Works in addition to my duties as the Under Secretary of the Army. And I have to tell you I anticipated that with some dread when I heard it was coming, because this is probably the part of the Army that I knew the least about, and the issues were some in which I quite frankly did not have a strong interest.

But after almost 1 year in this capacity, I just want to tell the committee that it has been an absolute pleasure for me to work on even these difficult and very important issues because of the opportunity to work with the people in the Corps of Engineers and in the Civil Works secretariat.

I have over 40 years of uninterrupted military and government service, and I have never met people that are more dedicated and capable than these folks in the Corps of Engineers. They serve the Nation very, very well, both at home and abroad. I have seen the results of their efforts and I just could not appear here without telling you how very proud I am to represent them in some capacity, to tell you that the American people and you can take great pride in what they do. They serve the Army and the Nation exceedingly well, and so it is a pleasure for me and it is with a great deal of pride that I am here this morning.

And with that, Mr. Chairman, I am here to report that the total Civil Works budget for fiscal year 2004 is $4.2 billion. This is approximately the same amount as the total Civil Works budget for 2003.

The budget places priority on ongoing studies and projects, and the Corps' primary mission areas of commercial navigation, flood, and storm damage reduction, and aquatic ecosystem restoration. The budget emphasizes completing the ongoing construction projects that have completed the executive branch review process, and are economically justified, environmentally acceptable, technically sound, and consistent with cost-sharing policies.

The budget provides sufficient funding for 13 projects that can be physically completed in fiscal year 2004, and for eight other ongoing projects that are high priorities of the administration as well as substantial funding for the flood protection projects on the main stem of the Mississippi River. Consistent with the focus on projects that already are under construction, the budget limits funding to plan, design or initiate new projects.

However, the budget does provide funding for 22 ongoing design efforts that are estimated to provide substantial economic and environmental returns and that are nearing completion.

The budget includes a number of studies and management initiatives that are designed to support the administration's priorities, to improve program effectiveness, and to improve the quality and objectivity of project planning and review.

The budget includes funding for reconnaissance studies that exemplify the watershed-based approach to solving water problems. In addition, the budget includes $2 million for an analysis of whether completed Corps projects are delivering benefits as planned.

Further, the budget includes $3 million to institute an independent review of proposed projects that are likely to be costly, controversial, or complex.

The budget focuses navigation, operation and maintenance funding on harbors and waterways with high volumes of commercial traffic. The budget limits operations and maintenance funding for those shallow draft harbors and inland waterways that have little commercial use and includes $1 million to study long-term options for operation and maintenance of those projects.

The budget emphasizes anti-terrorist protection of Civil Works projects and facilities, and includes $104 million to improve the protection of facilities where the consequences of an attack would be great.

The budget for the regulatory program will enable continued improvements in protection of the Nation's wetlands and in the efficiency of permit reviews and decision making. The budget provides $70 million for the Flood Control and Coastal Emergencies account. This amount will enable us to respond to major emergency and to finance most, if not all, recovery costs.

The budget includes legislative proposals to expand the uses of the Inland Waterways Trust Fund and the Harbor Maintenance Trust Fund. The budget also includes a legislative proposal for Federal power marketing administrations to directly finance the specific operation and maintenance costs of Corps of Engineers hydropower facilities.

The Civil Works program is separately accountable to the President for implementing the President's management agenda. We are making progress on improving performance planning, financial management, human capital planning, competition planning and E-government.

In summary, I believe the fiscal year 2004 Civil Works budget is balanced in accordance with the Nation's priorities and will make productive contributions to the economic and environmental well-being of our Nation.

I look forward to working with this subcommittee on these important issues and appreciate your continuing support. Thank you.

Senator COCHRAN. Thank you, Mr. Secretary. General Flowers, do you have a statement?

General FLOWERS. Yes, sir.

STATEMENT OF LIEUTENANT GENERAL ROBERT B. FLOWERS

General FLOWERS. Mr. Chairman and distinguished members of the subcommittee, I am again honored to be testifying before you, along with Under Secretary Brownlee on the President's fiscal year 2004 budget for the Army's Civil Works Program.

Today, thanks to this subcommittee's strong support, the Civil Works program is balanced, responsive and highly productive. And I look forward to your continued partnership in this important program that is so broadly beneficial to the Nation.

My complete statement covers more details on the fiscal year 2004 program, the backlog, future water challenges, transforming the Corps, our business management system, and the overall value of the Corps to the Nation's economy and its national defense. With your permission, I will summarize some of these major points.

First, a word about the President's budget and the value of Civil Works to the Nation's economy and the environment: We will work aggressively to make the most efficient use possible of the fiscal year 2004 President's budget for the Army Corps of Engineers. The budget funds the critical water resources infrastructure that has improved the quality of our citizens' lives and provided a foundation for the economic growth and development of this country.

Our projects for navigation, flood protection, ecosystem restoration, hydropower generation and recreation directly contribute to the national economic might. The stream of benefits realized is reduced transportation costs, avoided flood and storm damages and improvements in environmental value are considerable.

Just a few numbers in which you may be interested: The navigation program you fund enables 2.4 billion tons of commerce to move on the navigable waterways. The U.S. Department of Transportation estimates that these cargo movements have created jobs for 13 million people.

Another fact: Corps flood damage reduction structures save taxpayers $21 billion in damages every year in addition to the lives they save. And another: Private industry contractors carry out virtually all of our construction work and over 50 percent of our civil, planning and engineering, money that goes directly into the economy.

This budget also includes funding to support watershed studies. These studies will allow us to work collaboratively with many stakeholders. With the complexity of water problems today, we believe this is the direction we must take to develop the best, most comprehensive solutions.

Moving now to our backlogs, we estimate it will cost more than $21 billion to complete the construction projects in the Construction, General, Program funded in the fiscal year 2004 budget.

On the maintenance backlog, we continue to be challenged as well. You can see from the numbers that I just cited on the value of Corps projects that our infrastructure is a critical element in a strong economy. Sustaining this level of service becomes more of a challenge, as our infrastructure ages.

The funding required at the end of fiscal year 2004 to complete the high priority maintenance work in the Operation and Maintenance account is slightly over $1 billion. Now, that represents an increase of about $127 million over last year. I can assure that I will continue to do all that I can to make these programs as cost effective as possible.

Next I would like to talk briefly about future water challenges and a few thoughts about a need for a national water policy. Last fall, the American Water Resources Association sponsored a seminar on the need for a more comprehensive water policy in the Nation. Conflicting demands for water are increasing across the country and exist in almost every major watershed.

Solutions to these complex problems will not be easy without significant changes in our evolving national water policy. Development of such policy will, in turn, require a collaboration of many government organizations at all levels.

You have my assurance that the Corps stands ready to assist you and the administration in this effort.

Turning now to the issue of Corps transformation: There are many interested in transforming the Corps, inside and outside of the organization. Some may have the larger goal of changes in current water policy in mind. Others may want us to operate more efficiently and effectively. We are listening to all of these good ideas. And I have met with individuals, industry groups and interest groups to hear what they have to say.

I have issued communications principles to ensure that all within the Corps are practicing open, effective, and timely two-way communication with the entire community of water resources interests.

And let me assure you, I am committed to working with you and all who are interested and to do all in my power to transform the Corps to meet the Nation's needs.

And finally, a subject dear to my heart, the value of the Civil Works program to national defense: All of you can be proud that the Civil Works program is a valuable asset in support of the National Security Strategy in many ways. For instance, we have a trained engineering workforce, with world-class expertise, capable of responding to a variety of situations across the spectrum of national defense. In fact, skills developed in managing Corps projects transfer to most tactical engineering-related operations.

As an example, to date, 250 civilian members of our byproduct Civil Works Program team have volunteered for deployment in support of Operation Enduring Freedom, providing engineering, construction, and real estate support. They wear uniforms like those of active duty military personnel and, by civilian standards, live under spartan conditions. Nevertheless, they are inspired by knowledge that they are participating in an important mission.

PREPARED STATEMENTS

In summary, the Corps is committed to staying at the leading edge in providing service to the Nation. And I truly appreciate your continued support to this end.

Thank you, sir, and members of the committee. This concludes my statement.

[The statements follow:]

PREPARED STATEMENT OF LIEUTENANT GENERAL ROBERT B. FLOWERS

INTRODUCTION

Mr. Chairman and Distinguished Members of the Subcommittee: I am honored to be testifying before your subcommittee today, along with the Acting Assistant Secretary of the Army for Civil Works, the Honorable Les Brownlee, on the President's Fiscal Year 2004 Budget for the United States Army Corps of Engineers' Civil Works Program.

My statement covers the following 6 topics:

—Summary of Fiscal Year 2004 Program Budget,
—Civil Works Program Backlogs,
—Future Water Challenges,
—Civil Works Program Transformation,
—Need for a More Robust Business Management System, and
—Other Thoughts.

SUMMARY OF FISCAL YEAR 2004 PROGRAM BUDGET

Introduction

This is a good budget. New funding for the Civil Works Program, including the Direct and Reimbursed programs, is expected to approach $5.410 billion.

As shown in Table 1, Direct Program funding, including discretionary and mandatory funding appropriated directly to the Corps, totals $4.688 billion. Discretionary funding, including amounts ultimately replaced by mandatory funding, totals $4.194 billion; additional mandatory funding totals $494 million.

Reimbursed Program funding is projected to be $722 million.

Direct Program

The proposed budget reflects the Administration's commitment to continued sound development and management of the Nation's water and related land resources. It provides for continued efficient operation of the Nation's navigation, flood protection, and other water resource management infrastructure, fair regulation of the Nation's wetlands, and restoration of the Nation's important environmental resources, such as the Florida Everglades.

The budget provides for continued funding of nearly all policy-consistent studies and projects underway. It also provides for funding of 5 new reconnaissance studies under the General Investigations (GI) program.

Reimbursed Program

Through the Interagency and Intergovernmental Support Program we help non-DOD Federal agencies, State, and other countries with timely, cost-effective implementation of their programs, while maintaining and enhancing capabilities for execution of our Civil and Military Program missions. These customers rely on our extensive capabilities, experience, and successful track record. The work is principally technical oversight and management of engineering, environmental, and construction contracts performed by private sector firms, and is fully funded by the customers.

Currently, we provide reimbursable support for about 60 other Federal agencies and several State and local governments. Total reimbursement for such work in fiscal year 2004 is projected to be $722 million. The largest share—nearly $165 million—is expected from the Environmental Protection Agency (EPA) for cleanup of wastes at numerous sites under its Superfund program. Ninety percent of Reimbursed Program funding is provided by other Federal agencies.

Staffing

Total staffing for the Civil Works Program for fiscal year 2004 is 24,800 FTEs, unchanged from fiscal year 2003. Of the total, 23,700 FTEs are for the Direct Program and 1,100 FTEs are for the Reimbursed Program. Total staffing is allocated 90.6 percent to districts, 4.9 percent to laboratories and other separate field operating agencies, 2.7 percent to division offices, and 1.8 percent to headquarters.

CIVIL WORKS PROGRAM BACKLOGS

Introduction

In the broadest sense, "backlog" is unfunded work. For the Civil Works Program, it is defined more specifically, as the Federal share of unfunded continuing and future work at some point in time, e.g., the beginning of some funding period, such as fiscal year 2004. This definition can be further variously qualified. Such continuing and future work could include, for example, only work that is currently programmed on projects now actively under physical construction, while excluding such work where a project has not yet begun physical construction or where physical construction has been suspended for more than a year.

Construction Program

At the end of fiscal year 2004, it will cost more than $21 billion to complete the construction projects of the Construction, General, Program funded in the fiscal year 2004 budget, which represents essentially no change from last year. The fiscal year 2004 budget focuses resources on these projects as part of a comprehensive strategy that would deliver benefits more quickly to the many Americans who rely on worthy projects already underway, while increasing the net return from the Nation's investment in the Civil Works program.

If one were to add the costs of other conceivable work on construction projects not supported in the budget; on proposed projects that are in the planning stage or undergoing pre-construction engineering and design, and potential projects that already have advocates but are not yet officially on the drawing board, the total costs would mount quickly.

Maintenance Program

Water and related land resource management facilities of the Civil Works Program are vast. As stewards of this infrastructure, we are challenged to ensure that

it continues to provide an appropriate level of service to the nation. Sustaining such service, and the resultant flows of benefits, through proper operation and maintenance projects, is becoming increasingly more difficult because the costs of these efforts are growing as our infrastructure ages.

To facilitate sensible budgeting, the maintenance backlog is prioritized into two parts—high and lower priority work. The high priority work includes maintenance would ensure attainment of performance goals—specifically, providing continued levels of service—in the budget year. Delay in accomplishment of this work could result in more extensive and costly repairs or an increased risk of falling short of performance goals. The lower priority work is less urgent. It includes routine maintenance, major repairs, replacement of outdated or worn facilities, management improvement studies, and correction of environmental deficiencies.

At the end of fiscal year 2004, it will cost more than $1 billion to complete the high priority maintenance work of the Operation and Maintenance, General, Program funded in the fiscal year 2004 budget, which represents an increase of $127 million over last year. More than half of this work is for navigation facilities, which consists largely of dredging and repair of structures such as locks, dams, breakwaters, and jetties. The balance of the high priority backlog in the Operation and Maintenance account is for flood damage reduction, recreation, and environmental stewardship, and hydropower generation facilities. It consists of work such as spillway repairs, seepage control, embankment toe protection, access road and recreation facility repairs, and environmental compliance actions.

In our effort to reduce the maintenance backlog, we are looking closely at how we determine the appropriate level of service and are searching for ways to reduce costs and thereby accomplish more with available resources.

FUTURE WATER CHALLENGES

The Nation is facing important water and related land resources management challenges with potentially serious implications. I would like to offer the following observations and interpretations:

—As the world's climate changes, the prospect of changing hydrology and water distribution and, in turn, environmental and socioeconomic conditions, requires us to do a better job of anticipating the need for changes in water and related land resources management facilities, systems, and practices, and to improve our methods for effecting such changes.

—As global markets expand, international commerce will demand more efficient domestic ports and harbors, and improved vessel and intermodal cargo handling facilities.

—With many properties and major populations located in the Nation's floodplains, flooding will continue to be of concern. Moreover, if current trends continue, flood-prone lands and natural flood management systems will be compromised, and the threat of flood damage will increase.

—Ongoing migration of the Nation's population to coastal plains and coasts, and attendant property development, will increase risks of loss from coastal storms and hurricanes.

—The ongoing migration to coastal plains and coasts will put increasing pressure on coastal habitat, especially wetlands, and other fish and wildlife ecosystems.

—Through Water Resources Development Acts of 1996 and 1999 (WRDA 96 and WRDA 99), the American public placed the health of natural ecosystems in the forefront of the Corps of Engineers' priorities. These acts, providing additional authorities to the Corps for aquatic ecosystem restoration, wetlands management, and nonstructural floodplain management.

—As the Nation's water and related land management infrastructure ages, it must be rehabilitated, modified, replaced, or removed.

—As the Nation's population grows, there will be growing conflicts among multiple interests within watersheds wanting to use available water and related lands for diverse needs.

—The American public has a strong and growing interest in downsizing the Federal Government and, in turn, its workforce. In light of this, ongoing outsourcing and privatizing for accomplishment of government work, including engineering, will increase. An implication of this is that the nonfederal sector, including state and private interests, will have to share greater responsibility in water and related land resources management.

Policy for Complex Solutions

Our current and future water resources challenges are complex, involving competing and conflicting demands on use of the Nation's limited water and related land resources. They require, and should lead to, significant further changes in our

evolving national policy. Development of such policy will require collaboration of many government organizations, at all levels, working for the collective good of the Nation.

CIVIL WORKS PROGRAM TRANSFORMATION

Throughout its long and distinguished history, the Civil Works Program has continually changed in response to then-relevant factors, including advances in science, methods, and processes, changing public values and priorities, and laws. For our program to remain a viable contributor to national welfare, we must remain sensitive to such factors, and continue to reorient, rescope, and refocus the program in light of them. To that end, I'm committed to reforming the Civil Works Program to meet the Nation's current water and related land resource management needs.

Advising me in my effort to reform the Civil Works Program is the newly formed Corps Reform Network, comprising all parties interested in improving our program. On 9 February 2003 the Steering Committee for the Corps Reform Network met at Corps headquarters in Washington, D.C. to further the effort.

Let me tell you about some of the major steps we've already taken:

—Last year I issued the Corps' Environmental Operating Principles—a clear commitment to accomplishing our work in environmentally sustainable ways—with the express purpose of instilling the principles as individual values in all members of the Corps team.

—We've developed a rigorous training curriculum to improve our planning capability. This will ensure that the best science is applied in project development and that our planners will integrate economics and ecology in developing Corps projects. We're cooperating with major universities and have begun to sponsor graduate education in water resources planning. We've re-instituted our very successful Planning Associates Program.

Our Fiscal Year 2004 Budget for the Research and Development (R&D) Program includes funding to improve economic models; one of our principal efforts will be to develop the Navigation Economic Technologies program, focusing on economic methods and tools for navigation evaluations designed to address, update, and improve specific models, and to address modeling issues raised by the Corps and others. We need to make substantial modeling advances to support decision making on proposed major investments.

—We've redoubled our efforts to engage Federal, State, and local agencies, stakeholders, and the public in meaningful dialogue.

—The Corps and ASA (CW) have allocated additional resources to improve our internal review capability, and are considering other measures to further improve such capability.

Let me also tell you about the major steps we'll be taking in the months ahead:

—A report of the National Academy of Science (NAS) came out strongly in support of an independent review process. We have proposed $3 million in our fiscal year 2004 budget to initiate selected independent reviews.

—We have proposed an ex-post-facto study of a sample of Corps projects in order to determine how well the projects are delivering anticipated benefits and to apply lessons learned to improve our current planning process. The fiscal year 2004 Budget includes $2 million for this important effort.

—We'll be implementing every appropriate recommendation from the NAS study on planning methodologies that Congress requested in WRDA 2000.

—We'll be working with the Administration and Congress to establish one or more national centers of expertise, staffed with some of our best engineers, scientists, and economists, that will be responsible for studies of projects that are likely to be costly, complex, or controversial.

We're committed to change that leads to open and transparent modernization of the Civil Works Program for the 21st Century. To this end, we're committed to continuing the dialogue with you and the Corps Reform Network Steering Committee. Additionally, I have issued communication principles to ensure open, effective, and timely two-way communication with the entire community of water resources interests. We know well that we must continue to listen and communicate effectively in order to remain relevant.

NEED FOR A MORE ROBUST BUSINESS MANAGEMENT SYSTEM

Introduction

We have a reputation as the world's premier public engineering organization, which we aim to keep. Our challenge, to this end, is to "stay at the leading edge" in service to the Army, Federal Government, and Nation. The degree to which we will succeed will depend largely upon improved business operations. To enable pro-

viding service of highest relevance, we must improve our operations for more expeditious and productive performance. In recognition of this, I have been engaged, throughout my tenure as Chief, in an effort, initiated by my predecessor, to reengineer the organizations and business operations of the Corps of Engineers Civil Works and Military Programs. In that effort we have selected the project management way of doing business, or "modus operandi," as the basis for developing a business management system and attendant organizations and operations. Accordingly, we have come to call our effort the Project Management Business Process (PMBP) Initiative.

Project Management Business Process Initiative

Rationale for Selection

Our philosophy is that everything we do is a project, and every employee is a member of some one or more project teams. Selection of the project management modus operandi as the basis for developing a business management system is consistent with this philosophy. Furthermore, the Corps has used project management principles and methods in accomplishment of much of its business throughout its existence, providing seamless, flexible, efficient, and effective service for its customers. Applying this highly successful model to all of our business was eminently logical.

Purpose

In order that our 41 districts, 8 laboratories, 2 centers, and 8 divisions to work together as one United States Army Corps of Engineers (UCSACE), we must establish common business practices that transcend organizational and geographic boundaries. Accordingly, the purpose of our PMBP Initiative is to develop, implement, and sustain a set of modern, standardized business processes, based on industry's best business practices, and an automated information system (AIS) to facilitate use of the PMBP throughout USACE.

Implementation

The PMBP Initiative focuses on the business relationships between and among people, including customers and stakeholders; process, and communication. To create and sustain the PMBP we must examine and define, to the PMBP system, how we do our work. In the process, we are transforming ourselves into a customer-focused, team-based, learning organization. Implementation of PMBP will be accomplished in four steps, described below, under the aegis of subject matter experts from all functions and echelons of the Corps.

Policy and Doctrine

We started this initiative with development of the Engineer Regulation ER 5–1–11, entitled "USACE Business Process," to set forth policy and doctrine on how we will do business. It outlines goals, objectives, and strategy for using teams to accomplish projects, with customers as members of such teams. The regulation outlines seven major imperatives which apply to all work of all the Corps, specifically, that

—for any project there is one team and one project manager,
—plan for success and keep commitments,
—the project delivery team is responsible for project success,
—measure quality with the goals and expectations in the Project Management Business Process (PMBP),
—manage all work with the PMBP Manual, using corporate automated information systems,
—build effective communications into all activities, and
—use best practices and seek continuous improvement.

This regulation is the foundation for the PMBP system. It emphasizes transformation of the Corps team into project-focused teams sharing resources Corps-wide, as necessary, to deliver quality projects on schedule.

Business Process Manual

The PMBP Manual provides guidance for achieving our policy and doctrine. It establishes standard business processes for Corps-wide application that:

—ensure consistency in program and project execution,
—focus on meeting customer expectations,
—set parameters for means to measure progress across the entire organization, and
—enhance our ability to function both regionally and virtually with efficient management of diverse resources.

These standard business processes are used to accomplish project delivery and provide services. They enable sharing workforce resources throughout the Corps to

complete projects. If a project delivery team needs someone with a particular skill to accomplish work on its project, it can borrow service of whomever may be available with that skill in any Corps office. The processes enable effective management of projects in all lines of business in our Civil Works and Military Programs. The processes are open for continuous improvement, giving all team members opportunity to change them for the better. This will lead to addressment of concerns of project managers, technical experts, and customers to assure improvements in quality, project performance, and customer satisfaction.

Automated Information System

Management of projects in accordance with the PMBP will be facilitated through use of "P2"—an automated information system. This system, expanding upon and replacing PROMIS, will be used by the Corps team for project delivery in all lines of work. It comprises commercial-off-the-shelf (COTS) software configured with templates of our standard business processes to assist project delivery teams in managing their projects. The manufactures of this software—Oracle, Primavera, and Project Partners—are assisting the Corps in configuring the software to provide the templates.

P2 software employs state-of-the-art technology embracing program and project management best-practices. It will become the principal tool of Corps project and technical managers in collecting, manipulating and storing program and project data. It will provide a single source of all project-related information for all programs and projects managed by field commands, and will interface with other modernized systems to assure single-source data entry. It will enable streamlined project and resource management, affording wider availability and Web interfaces. And, finally, because of lower costs to maintain and upgrade COTS software in future years, P2 will be more cost-effective than PROMIS.

PMBP Training

We have developed a training curriculum to promote PBBP as our new way of conducting business within the Corps and to guide individuals and organizations in the progressive development of skills for using PMBP. The curriculum promotes cultural change through individual self-paced compact-disk courses followed by small group discussions on the courses. Each individual covers the material and shares his/her interpretation with others in facilitated small group discussions. This process promotes common understanding of PMBP, its purpose, the roles of individuals, and the means to develop projects though teamwork.

Summary

In summary, the PMBP system, including P2, is being implemented Corps-wide to manage all Corps projects more efficiently and effectively. Supporting policy and doctrine, definitions of our business processes, and curriculum are in now in place Corps-wide. The P2 part of the system will be completed and fully tested by the end of fiscal year 2003; however, to avoid disruption of fiscal year 2003 financial close-out, we won't deploy P2 until mid-October. Once fully deployed, the PMBP system will greatly enhance our ability to better support the Army, other Federal agencies, and the Nation.

OTHER THOUGHTS

The National Welfare

Water resources management infrastructure has improved the quality of our citizens' lives and provided a foundation for the economic growth and development of this country. Our systems for navigation, flood and storm damage reduction projects, and efforts to restore aquatic ecosystems contribute to our national welfare. The stream of benefits, realized as reduced transportation costs, avoided flood and storm damages, and improvements in environmental value can be considerable.

Research and Development

Civil Works Program research and development provides the Nation with innovative engineering products, some of which can have applications in both civil and military infrastructure spheres. By creating products that improve the efficiency and competitiveness of the Nation's engineering and construction industry and providing more cost-effective ways to operate and maintain infrastructure, Civil Works Program research and development contributes to the national economy.

The National Defense

The Civil Works Program is a valuable asset in support of the National Security Strategy in that it provides a way to maintain a trained engineering workforce, with

world-class expertise, capable of responding to a variety of situations across the spectrum of national defense. This force is familiar with the Army culture and responsive to the chain of command. Skills developed in managing large water and land resource management projects transfer to most tactical engineering-related operations. As a byproduct, Army Engineer officers assigned to the Civil Works Program receive valuable training, in contracting and managing large projects.

Additionally, the Civil Works Program has provided, and continues to provide water and related land resources infrastructure critical to national defense. Likewise, it has accomplished and continues to accomplish research and development that support our homeland security and war-fighting capability.

Homeland Security

The Corps is also a key member of the Federal Response Plan team with proven experience in support of FEMA's response to both natural disasters and events such as World Trade Center disaster (9/11).

Following 9/11 we completed 306 security reviews and assessments of our inventory of locks, dams, hydropower projects and other facilities to determine vulnerability to terrorist threat and potential consequences of such an attack. We improved our security engineering capability and identified and prioritized critical infrastructure. Utilizing supplemental appropriations provided in fiscal year 2002 (Public Law 107–117, $139M), we have initiated the design and implementation of security improvements on 85 of our current list of 306 critical facilities. We have also initiated security improvements at administrative facilities to reduce risks to our employees.

One hundred four million dollars of the Operations and Maintenance funds provided in this budget are targeted for facility security. We will direct funding to those priority projects at which there is potential for catastrophic consequences resulting in loss of lives or economic consequences of greater than $200 million, and continue security improvements at our administrative facilities. The vulnerability assessments produce a recommended system of improvements targeted to reduce risks associated with potential threats to facilities. Elements of the proposed systems can include cameras, lighting, fencing, structure hardening, and access control devices designed to improve detection and delay at each facility.

Support to War-fighting Efforts

When the Army goes to war, personnel of the Civil Works Program provide vital information to the battlefield. Their knowledge of beach dynamics helps determine the sites for shore landings. Their expertise in soil mechanics determines the best routes for armored vehicles. Their experience in work on winter navigation helps the Army negotiate frozen rivers. And commanders at all levels make use of topographic products and satellite based navigation systems developed by the Corps.

CONCLUSION

The President's fiscal year 2004 Budget for the Civil Works Program is a good one. However, we must continue to find ways to reduce our costs and shift more of those remaining 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.

Under both our Civil Works and Military Programs, we are committed to staying at the leading edge in service to the Nation. In support of that, we are working with others to transform our Civil Works Program. We're committed to change that leads to open and transparent modernization of the Civil Works Program for the 21st Century. We also are strengthening our business management capability for best performance of both programs Corp-wide.

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

PREPARED STATEMENT OF MAJOR GENERAL ROBERT H. GRIFFIN

Mr. Chairman and members of the Subcommittee, I am honored to testify before you as Director of Civil Works.

I would like to note some highlights of the fiscal year 2004 budget for Remaining Items, which include the Army Corps of Engineers (Corps) nationwide programs and activities. These include the General Expenses appropriation, which provides for executive direction and management of the Civil Works program at the Corps Headquarters and the Division Offices.

ACTIVITIES UNDER THE GENERAL INVESTIGATIONS APPROPRIATION

Special Studies

National Shoreline.—The budget includes the special study for fiscal year 2004. The National Shoreline study is an interagency effort to determine the extent and cause of shoreline erosion on all the coasts of the United States and to assess the economic and environmental impacts of that erosion. The study will analyze the appropriate levels of Federal and non-Federal participation and the advisability of using a systems approach to sediment management for linking the management of all projects in the coastal zone so as to conserve and efficiently manage the flow of sediment within littoral systems.

Ex Post Facto.—The budget also includes the special study effort for fiscal year 2004, Ex Post Facto Benefit-Cost Studies of 15 to 25 completed projects. The purpose of this study is to estimate benefit to cost ratios for projects as they were built and as the actual project outputs and services were delivered.

Independent Review.—The activities of this program are to design and implement a review process that assures the proper level of review in accordance with the scope and complexity of the studies; to identify and secure a pool of highly qualified experts in each area of analysis to conduct the reviews; to facilitate the review; and to facilitate the resolution of issues and concerns identified during the review process.

Coordination with Other Federal Agencies, States, and Non-Federal Interests

The budget for Coordination with Other Federal Agencies, States, and Non-Federal Interests is $10.9 million. Following is a comparison of the fiscal year 2003 appropriation and the fiscal year 2004 budget for activities under this program.

Activity	Fiscal Year 2004 Budget
Planning Assistance to States	$6,000,000
Special Investigations	2,200,000
Gulf of Mexico Program	100,000
Chesapeake Bay Program	100,000
Pacific Northwest Forest Case Study	100,000
Interagency Water Resources Development	1,100,000
Interagency and International Support	150,000
Inventory of Dams	300,000
National Estuary Program	100,000
North American Waterfowl Management Plan	100,000
Estuary Habitat Restoration Program	100,000
Coordination with Other Water Resources	300,000
CALFED	100,000
Lake Tahoe	100,000

Estuary Programs.—The budget is $100,000 to continue cooperation with Federal and State agencies in the U.S. Environmental Protection Agency's National Estuary Program. In addition, the budget is $100,000 for the Estuary Habitat Restoration Program. Funds for this initiative would be utilized to support the interagency council established in the Estuary Restoration Act of 2000. The council has responsibilities to develop a national strategy for restoration of estuary habitat and soliciting, reviewing and evaluating project proposals.

Planning Assistance to States.—The budget of $6 million is a major portion of the Coordination with Other Federal Agencies, States, and Non-Federal Interests program. The fiscal year 2004 budget would enable the Corps to provide much needed planning and technical assistance for a variety of water resource efforts to States, territories, and Federally recognized Indian Tribes. The assistance is in the form of 50 percent Federal, 50 percent non-Federal cost-shared reconnaissance level studies which provide information and guidance to help the non-Federal sponsors become more active and effective working partners with the Federal government in resolving water resource problems. The studies may address a wide variety of water resource issues including environmental conservation/restoration, wetlands evaluation, flood damage reduction, coastal zone management, and dam safety. In fiscal year 2001, 160 studies were performed for 43 States, as well as seven studies for Federally-recognized Indian tribes.

Special Investigations.—Another major portion of the fiscal year 2004 budget is $2.2 million for Special Investigations. This program provides for the increasing interests in Corps capabilities and the continued growth in requests for investigations of nominal scope. The activities of this program include: special investigations and

reports of nominal scope prepared pursuant to Congressional and other requests from outside the Corps of Engineers for information relative to projects or activities which have no funds; review of reports and environmental impact statements of other agencies; and review of applications referred to us by the Federal Energy Regulatory Commission for permits or licenses for non-Federal hydropower developments at, or affecting, Corps water resource projects.

Interagency Water Resources Development.—The budget is $1.1 million to conduct district activities, not otherwise funded, which require coordination effort with non-Federal interests. These activities include items such as meeting with City, County, and State officials to help solve water resources problems or to determine whether Corps programs are available and may be used to address the problems. This budget also provides $200,000 for two American Heritage River Navigators who are supported by the Corps of Engineers. These River Navigators provide direct support to the Community Partners for the New River, which flows through NC, VA, and WV; and for the Upper Mississippi River above St. Louis, MO.

Gulf of Mexico Program.—The budget of $100,000 allows the Corps to continue involvement in this U.S. Environmental Protection Agency (EPA)-initiated program, which blends programs and resources of Federal, State, and local governments with the resources and commitments of business, industry, citizens groups and academia. The Gulf of Mexico Program is formulating and implementing creative solutions to economic and environmental issues with Gulf-wide and national implications. Hypoxia/nutrient enrichment and nonindigenous species are focus areas, which are linked to authorized Corps missions in the five-State program area.

Chesapeake Bay Program.—The budget of $100,000 enables the Corps to continue participation in the EPA-initiated interagency program for the protection and restoration of the bay's natural resources. These natural resources have tremendous environmental and economic significance to the northeast region and to the Nation.

Pacific Northwest Forest Case Study.—The budget of $100,000 is for the Corps to continue participation in the interagency program initiated by the White House's Council of Environmental Quality for ecosystem management of the public lands in the Pacific Northwest within the range of the Northern Spotted Owl.

Interagency and International Support.—The $150,000 budget allows the Corps of Engineers to participate with other Federal agencies and international organizations to address problems of national significance to the United States. The Corps of Engineers has widely recognized expertise and experience in water resources, infrastructure planning and development, and environmental protection and restoration. In fiscal year 2002 and 2003, program funding included support to the State Department on Middle East and African infrastructure and water issues, the World Water Council, and the National Park Service and Environmental Protection Agency on homeland security.

Inventory of Dams.—The $300,000 budget is for the continued maintenance and publication of the National Dam Inventory. This ongoing inventory maintenance and publishing effort is a coordinated effort involving data for the Federal and non-Federal Dam Safety community in cooperation with the Interagency Committee of Dam Safety. This inventory is now required for use by the Director of Federal Emergency Management Agency (FEMA) and the National Dam Safety Review Board in the allocation of dam safety program assistance funds to the various States.

CALFED.—The budget of $100,000 allows the Corps to continue to play a role in the CALFED Bay-Delta process in fiscal year 2004. The CALFED Bay-Delta Program is a three-phased solution process for the development of a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. This program is a joint effort between local land management agencies, the State of California, and the Federal Government.

Lake Tahoe.—The budget of $100,000 is to allow the Corps to continue the coordination efforts to protect the natural, recreational and ecological resources in the Lake Tahoe Region associated with the Presidential Executive Order "Federal Actions in the Lake Tahoe Region".

The budget is $300,000 for Coordination with Other Water Resource Agencies, including the Department of Agriculture and Regional Planning Commissions and Committees, and $100,000 to continue cooperation with Federal and State agencies and non-Federal interests in support of the North America Waterfowl Management Plan administered by the U.S. Fish and Wildlife Service.

Collection and Study of Basic Data

The fiscal year 2004 budget for Collection and Study of Basic Data activities is $13.25 million. Following is a comparison of the fiscal year 2003 appropriation and the fiscal year 2004 budget for activities under this program:

Activity	Fiscal Year 2004 Budget
Flood Plain Management Services	$7,500,000
Stream Gaging (U.S. Geological Survey)	500,000
Precipitation Studies (National Weather Service)	300,000
International Water Studies	400,000
Hydrologic Studies	400,000
Scientific and Technical Information Centers	100,000
Coastal Field Data Collection	2,500,000
Transportation Systems	500,000
Environmental Data Studies	100,000
Remote Sensing/Geographic Information System Support	200,000
Automated Information System Support—Tri-Service CADD/GIS Technology Center	450,000
Flood Damage Data	300,000

Flood Plain Management Services.—The largest portion of the Collection and Study of Basic Data program fiscal year 2004 budget is $7.5 million for the Flood Plain Management Services program. This program continues to be one of the most prevalent non-project services that the Corps provides for Federally recognized Indian Tribes, States, and local governments. By working together with State, local, and tribal land management decision makers, we are able to alert them to various flood hazards, promote prudent use of the flood plains, and help mitigate future losses to life and property. The active involvement of land management decision makers is the key to sound flood plain management in the United States. Significant flood events over the past several years have raised public awareness and increased the demand for information and assistance for mitigating flood losses. The funding will provide flood plain management services to State, regional, local governments, Indian Tribes, and other non-Federal public agencies who, in turn, invest their own funds to avoid flood hazards and make good use of the flood plains. This not only mitigates future losses to life and property but also reduces the need for costly Federal flood control works as well as the demand for other Federal, State, and local services such as providing major disaster assistance before, during, and after floods. Under this program, we also participate with the FEMA, the National Weather Service, and local governments in conducting critical pre-disaster hurricane evacuation and preparedness studies for mobilizing local community responsiveness to natural disasters in high hazard coastal areas of States and counties along the Atlantic Ocean and the Gulf of Mexico.

Coastal Field Data Collection.—The fiscal year 2004 budget for this activity is $2.5 million to systematically acquire and assemble long-term baseline data for coastal regions. These data are necessary for adequate assessment of technical, economic, and environmental feasibility for a variety of Corps projects, including projects for coastal navigation, storm damage reduction, and mitigation of harbor entrance impacts on adjacent shores. Cost-effective mission accomplishment requires long-term and system/regional data that encompass winds, waves, currents, water levels, bottom configuration, sediment characteristics, and geomorphology. With 800 navigation projects to maintain and repair (25 percent are more than 50 years old), the costs attributable to having no data or poor data would be significant. Data to be collected either are unavailable in existing archives, are of uncertain or poor quality, or are too sparsely distributed temporally and/or spatially to have statistical value. The required data are regional in nature and not properly chargeable to authorized projects. It also takes many years of data to establish a statistically significant baseline to use in project studies. The value of program data and project-related data is maximized through the use of Corps-wide standards, routine updating of available data, utilization of a centralized data library on the world wide web, and dissemination over the Internet.

Automated Information System Support—Tri-Service CADD/GIS Technology Center.—The fiscal year 2004 budget of $450,000 for the Tri-Service CADD/GIS Technology Center represents the Civil Works share of the total $3.341 million required to operate and maintain this important center of expertise. The bulk of the remainder of the total requirement is provided by OMA, the Navy, the Air Force, and the Marines, in accordance with a 1992 agreement, establishing a Tri-Service center in order to minimize duplication of effort of the services. All phases of Corps work, including planning, real estate, design, construction, operations, maintenance and readiness benefit from CADD/GIS technologies.

Scientific and Technical Information Centers.—Public Law 99–802, Federal Technology Transfer Act of 1986, requires technology transfer from Federal agencies to the private sector. The fiscal year 2004 budget will be utilized to acquire, examine,

evaluate, summarize, and disseminate newly published scientific and technical information generated within the Corps and other activities within the United States and abroad.

Flood Damage Data Collection.—The fiscal year 2004 budget includes $300,000 to continue a program to improve the technical accuracy and quality of flood damage data including the relationship of flood characteristics to property damage. This program facilitates the timely collection of data when a damaging event occurs and the development of a national flood damage database to support local, State and Federal studies and research. Additionally, the program currently is developing generic flood damage and property valuation relationships that could be used Corps-wide. This will result in shorter, less-costly flood damage reduction studies.

Research and Development

The fiscal year 2004 budget for Research and Development (R&D) under General Investigations is $22 million. The Civil Works R&D program is formulated to directly support the established business programs and strategic directions of the Civil Works Program including: Flood Damage Reduction, Inland and Coastal Navigation, Environment Restoration, Hydropower, Emergency Management, Water Supply and Regulatory. The Civil Works R&D requirements are primarily user driven and the effort is essentially a problem-solving process by which the Corps systematically examines new ideas, approaches, and techniques, with a view toward improving the efficiency of its planning, design, construction, operations and maintenance activities.

Results of this R&D effort are directly incorporated into practice within the Civil Works Program through the Civil Works Guidance Maintenance Program involving revisions or additions to Engineer Regulations, Engineer Manuals, Technical Guidance Manuals, Engineer Technical Letters, or Guide Specifications. Numerous other means of technology transfer are also used such as formal training courses, workshops, INTERNET and technical publications. The Corps Civil Works R&D Program continues to provide practical end products and a high return on investment for the Corps and the Nation.

In order to most effectively use the limited R&D resources and to avoid unnecessary duplication of research effort, the Civil Works R&D Program maintains aggressive external technical exchange and technology transfer programs with other Federal agencies and State and local governments including the TVA, Bureau of Reclamation, Bonneville Power Administration, Western Power Administration, the Soil Conservation Service, EPA, the Fish and Wildlife Service, NOAA, USGS, DOT, the Navy. The Corps also participates extensively with the Transportation Research Board, the Water Science and Technology Board, the National Research Council, the National Oceanographic Partnership Program, and the Federal Acid Mine Drainage Technology Institution in coordinating and leveraging research activities.

The strategic emphases of the proposed fiscal year 2004 GI R&D program include:

—Regional Sediment Management (RSM)

—Systems-Wide Modeling, Assessment & Restoration Technologies (SMART)

—Technologies and Operational Innovations for Urban Watershed Networks (TOWNS)

—Common Delivery Framework (CDF)

—Navigation Economic Technologies (NETS)

Improved sediment management at navigation and flood damage reduction projects offers tremendous potential for future project cost reduction. Research in this area is focused on sedimentation prediction and control techniques, optimizing channel depths and dimensions including more cost-effective deep-draft channel design criteria to safely and efficiently accommodate future international shipping requirements, reduced dredging costs, increased navigation channel safety and reliability, and increased options and opportunities for beneficial uses of dredged sediment. Close coordination will be essential between this research area and the SMART research program discussed below.

The Systems-Wide Modeling, Assessment & Restoration Technologies (SMART) Research Program addresses the Corps water resources needs at the system/watershed level. The objective of this research effort is to design state-of-the-science, user-oriented methods and procedures to restore and manage natural resources with application toward the total ecosystem/watershed. Research is also focused on environmental restoration technologies for a wide range of water resources management needs. The focus of this research enables the Corps to meet the legal requirements of the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA), while supporting critical technology needs of the major civil works business programs of Environmental Restoration, Navigation, and Flood Damage Reduction.

The Technologies and Operational Innovations for Urban Watershed Networks (TOWNS) research will include the following major thrust areas: integrated decision support tools and forecasting methodologies for use in flood damage reduction that incorporate changing urban settings, climate changes and extreme events; technologies for sustainable urban flood damage reduction (structural and non-structural); real-time surveys and system monitoring for improved condition assessment; and expedient and cost-effective flood fighting and related emergency operations.

The objective of the Common Delivery Framework (CDF) research is to develop a new framework approach to managing software guidance, capabilities and resources for model/application developers in a consistent and corporate context that enables the Corps to reduce costs for developing and applying science and technology (S&T) products. The initial work will investigate geospatial S&T development in the areas of information security, metadata, interoperability, enterprise GIS, visualization, and informatics.

The objective of the Navigation Economic Technologies (NETS) research program is to enhance and standardize evaluation tools and methods for shallow and deep draft navigation project life-cycle analysis. The NETS R&D program will develop peer-reviewed procedures and tools that will be used throughout the Corps by concentrating on the following areas: (a) expanded and improved capabilities to forecast navigation traffic in ports and on waterways; (b) improved tools and approaches to evaluate and perform calculations of transportation economic benefits and costs; (c) integration of tools and approaches for systems evaluation and management; (d) improved capabilities to integrate economic, environmental, and other factors for navigation system investment and management; (e) procedures for integrating uncertain variables within the economic evaluation of navigation; (f) extension of benefit evaluation to include congestion, air quality and other externalities; and (g) improved methods and data support for all modes of transportation of commodities from production site to ultimate consumption.

Research and Development Cross-Cut.—The conference report, House Report number 102–177, accompanying the fiscal year 1992 Energy and Water Development Appropriations Act stated the conferees' concern with the trend of spreading research related programs throughout several appropriation accounts in the Civil Works budget, and directed the Corps to work with the committees to address this issue. In response to this interest by the committees, the following table has been developed to provide a consolidated display of all Civil Works research and development activities for which there is funding in the fiscal year 2004 budget.

Account and Activity	Fiscal Year 2004 Budget
GENERAL INVESTIGATIONS:	
Research and Development	$22,000,000
CONSTRUCTION, GENERAL:	
Aquatic Plant Control	3,000,000
Shoreline Erosion Control Development and Demonstration Program	6,000,000
OPERATION & MAINTENANCE, GENERAL:	
Coastal Inlet Research	2,750,000
Dredging Operations & Environmental Research	6,755,000
Aquatic Nuisance Control Research (formerly Zebra Mussel Control)	725,000
GRAND TOTAL	35,230,000

ACTIVITIES UNDER THE CONSTRUCTION, GENERAL APPROPRIATION

Continuing Authorities

The fiscal year 2004 budget for the nine Continuing Authorities funded under Construction, General is $64.5 million. This is a decrease of $13.5 million from the fiscal year 2003 budget. The budget covers funding of planning, design, and construction to continue ongoing projects that provide solutions to flood control and emergency streambank erosion problems under the Section 205 and Section 14 programs, navigation problems under the Section 107 program, shoreline damage problems under the Section 103 and Section 111 programs, clearing and snagging problems under the Section 208 program, and environmental problems under Sections 204/207/933. Under our Continuing Authorities Program, projects are accomplished expeditiously and result in a high level of customer satisfaction. Continuing Authorities projects continue to be an important segment of our total water resources infrastructure investment program. No funds are requested for new starts.

Inland Waterways Users Board

Funds are budgeted for fiscal year 2004 in the amount of $230,000 for the Inland Waterways Users Board activity. Section 302 of WRDA 86 created this 11-member advisory board of inland waterway users and shippers to make recommendations to the Secretary of the Army and the Congress regarding construction and rehabilitation priorities and spending levels for commercial waterway improvements. The Board members were initially appointed in late Spring of 1987. The Board has held 43 meetings since it was created. The Board's recommendations are a valuable addition to our program and budget development process. We appreciate the contribution of the Board's chairman and its members to the efficient management and modernization of our inland waterways. We believe the Board provides an important advisory function to both the Secretary of the Army and the Congress.

Shoreline Erosion Control Development and Demonstration Program

The fiscal year 2004 budget includes $6,000,000 to plan, design, construct, and monitor projects to demonstrate and evaluate new shoreline protection technologies. To date, over $10,000,000 has been used to develop program goals, establish criteria for selecting technologies and techniques to be tested, select sites and initiate construction of the first demonstration site at Cape May Point, New Jersey. The techniques developed under this program are expected to yield up to $150,000,000 of savings in future budgets by reducing erosion and/or lengthening the time between renourishments.

Dam Safety and Seepage/Stability Correction Program

Funds are budgeted for fiscal year 2004 in the amount of $8 million to continue ongoing Dam Safety and Seepage/Stability projects that were approved prior to fiscal year 2004. This is an increase of $3 million from the fiscal year 2003 budget. The Dam Safety and Seepage/Stability Correction Program provides for modification of completed Corps of Engineers dam projects. While no Corps dams are in imminent danger of failure, some may have a higher dam-safety risk than originally anticipated based on new data or the likelihood of extremely large floods and seismic events. Seepage problems at Corps' dams are usually related to increased reservoir levels above the previous pool of record at a project. Static instability generally involves movement that starts at a slow rate and could result in massive displacement of large volumes of material if not corrected. Dam modification work is proceeding under existing authorities on projects where cost-effective risk reduction measures have been identified and approved.

Aquatic Plant Control Program

The fiscal year 2004 budget includes funds in the amount of $3 million for the Aquatic Plant Control Program authorized by Section 104 of the Rivers and Harbors Act of 1958, as amended. This is the same as the fiscal year 2003 budget. These funds will be used to continue research efforts for aquatic plant control technologies to support operation and maintenance of Corps Water Resources projects. Primary research efforts are focused on the non-indigenous submersed species, hydrilla and Eurasian watermilfoil, with emphasis on development of biological control agents.

Dredged Material Disposal Facilities Program

Funds in the amount of $7 million are budgeted for fiscal year 2004 for ongoing projects in the Dredged Material Disposal Facilities Program. This is a decrease of $2 million from the fiscal year 2003 budget. Section 101 of WRDA 86, as amended by Section 201 of WRDA 96, established consistent cost sharing for construction of dredged material disposal facilities associated with Federal navigation projects, including disposal facilities for Federal project maintenance. These funds will be used for the Federal share of construction of applicable dredged material disposal facilities required for maintenance of existing projects or fee payments to private entities for the use of privately owned dredged material disposal facilities if such a facility is the least cost alternative to dispose of dredged material. All Federal costs for dredged material disposal facilities associated with project maintenance will be financed from the Harbor Maintenance Trust Fund.

Employees' Compensation

The fiscal year 2004 budget includes $19.13 million for transfer to the Department of Labor to repay the Employees' Compensation Fund for costs charged during the period July 1, 2000 through June 30, 2002 and for investigation of fraudulent claims for workers compensation benefits. This is a decrease from the fiscal year 2003 budget. The transfer to the Department of Labor is for payment of benefits and claims due to injury or death of persons under the jurisdiction of the Corps of Engineers civil functions.

ACTIVITIES UNDER THE OPERATION AND MAINTENANCE, GENERAL (O&M) APPROPRIATION

Aquatic Nuisance Control Research (Formerly Zebra Mussel Research Program)

The Corps Fiscal Year 2004 Operation and Maintenance, General, appropriation budget includes $725,000 for the Aquatic Nuisance Control Research Program which is a redefinition of the previously funded Zebra Mussel Research Program (ZMRP). The program now addresses all invasive species except for aquatic plants. Invasive species cost the public over $137 billion annually. Authorized by the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (Public Law 101–646) this effort includes the only Federally funded R&D program directed at control of zebra mussels and their effects on public facilities. The development of strategies to apply control methods involves engineering design, operations, and maintenance of facilities and structures. Control strategies are being developed for (a) navigation structures; (b) hydropower and other utilities; (c) vessels and dredges; and (d) water treatment, irrigation, and other control structures.

Proposed activities for fiscal year 2004 include expansion of as many as possible of the technologies developed under the ZMRP to address all invasive species. This will include continued research efforts to examine a number of different technologies other than pulse power to eradicate zebra mussels from structures and research on new coatings to evaluate their ability to stop the settlement of zebra mussels and other invasive species on various surfaces. Research efforts will examine how current ballast water regulations can be modified to reduce the potential for introductions of aquatic nuisance species and the Aquatic Nuisance Species Information System will be expanded into a WEB-based system, and invasive species engineering guides will be incorporated into the system. The mechanisms that allow invasive species to disperse through the Nation's waterways will continue to be examined or determined. Investigations will also be conducted to identify proactive procedures that will assist in limiting new distributions. Scientists will visit projects where mosquitoes are a problem to develop abatement programs and meet with local community representatives to discus control technologies.

In cooperation with State and Federal agencies, scientists will investigate methods to control invasion and of snakehead fish in Corps Reservoirs and eradication methods once they are there. In addition, a comprehensive database will be developed on zebra mussel densities, molluscivore (fish that consume mussels) densities and growth, water quality, and other pertinent habitat attributes. Information from database will be used to construct models to predict the effects of molluscivores on zebra mussel infestations and subsequent changes in habitat quality. These models will quantify the beneficial aspects of predation on zebra mussels, assist in impact prediction, and aid in allocation of control efforts, and the formulation of control strategies.

Automated Budget System

The Civil Works Operation and Maintenance Automated Budget System (ABS), is an automated system used to enable Districts and Divisions to prepare, review and submit their Operations And Maintenance programs consistent with policy guidelines and priorities. The program is continuously evaluated for effectiveness to identify areas that require change in order to meet the needs of the overall Civil Works Operations and Maintenance program. It provides extraction of standard reports to support Division and Headquarters review and development of the Civil Works O&M program recommendation. ABS reports provide cost breakouts by business process, benefit codes, States, field units, navigation fee codes, joint cost percentages and numerous other groupings to support analysis, distribution, updates and performance monitoring. This system is available to all managers at all Corps of Engineer levels who have Operation and Maintenance management responsibilities. The fiscal year 2004 Budget includes $285,000 for this item.

Coastal Inlets Research Program

The fiscal year 2004 budget includes $2.75 million to fund the Coastal Inlets Research Program to increase Corps capabilities to cost-effectively design and maintain the over 150 inlet projects, which comprise the bulk of coastal O&M expenditures. Because of their complex nature, the behavior of inlets is poorly understood. This has resulted in the Corps spending a large portion of its O&M allocations to maintain inlet projects. The Coastal Inlets Research Program studies functional aspects of inlets such as their short- and long-term behavior and their response to waves, tides, currents, and engineering modifications, given their regional geologic and oceanographic setting. As inlet behavior and the consequences of navigation projects are becoming better understood, sophisticated tools for management of inlets for navigation projects, such as models and empirical relationships, are becom-

ing available. These new tools are leading to more efficient, cost-effective designs that have been shown to reduce O&M requirements and, consequently, costs.

With our fiscal year 2004 allocations for this program we will begin a major R&D effort to implement state-of-the art predictive formulas for sediment transport under waves and currents based on models developed previously in this program; collect data and validate the Inlet Modeling System, scour model, and morphology change models at deep-draft channels and collect data and model channel and bypassing processes at sites of opportunity in collaboration with Corps Districts; perform physical and numerical modeling studies on innovative jetty and channel-control designs to reduce dredging costs, improve bypassing, and improve navigation reliability at inlet entrance channels; begin creation of web-based Navigation Channel Resource Center to house data on inlet channel surveys, performance, and dredging which will serve as a resource for all analytical work in the Coastal Inlets Research Program and provide the Corps with a central location for channel data; continue adding to the inlets database encompassing all Federally maintained and major non-Federal inlets; extend the long-term morphology modeling system newly developed in the Coastal Inlets Research Program to include the adjacent beaches, navigation channel, and flood shoal together with the ebb shoal and validate and release the model to the public; acquire field data at inlet jetties to understand the beach and jetty interaction through rip currents, developing a quantitative predictive method for rip current sediment transport and; develop educational materials about coastal processes, inlet processes, and dredging for the public and schools at all levels.

Cultural Resources (NAGPRA/Curation)

The fiscal year 2004 budget includes $1.545 million to fund the Cultural Resources (NAGPRA/Curation) Program. Enacted on 16 November 1990, the Native American Graves Protection and Repatriation Act (NAGPRA) is a complex act that addresses the recovery, treatment, and repatriation of Native American and Native Hawaiian cultural items by Federal agencies and museums. As defined by the Act, cultural items are human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony. In fiscal year 1994, the Corps of Engineers began the process of inventorying human remains and associated funerary objects and completing summaries as mandated by the legislation. In addition, the Corps is responsible for curation of cultural resource materials collected from its flood control projects. These collections are extensive and are located at a variety of curation facilities across the Nation. The costs of the program are to accomplish NAGPRA work and to fund centralized curation support to the districts. Curation of these materials, which have the largest volume among all Federal agencies responsible for this activity, is required by a number of public laws.

In fiscal year 2004 the Corps will continue the process of inventorying Native American and Native Hawaiian human remains and associated funerary objects and complete summaries of unassociated funerary objects, sacred objects, and objects of cultural patrimony as mandated by the legislation. Information will be made available to interested individuals and groups through notices in the Federal Register. Districts will continue to be engaged in formal consultation with tribes and organizations for the legislated purpose of repatriating cultural objects for which there are legitimate claims. We will continue in the pivotal role of assisting in the development and implementation of an agency-wide, long-term plan for the curation of Corps archeological collections (heritage assets). We will continue to fulfill our charter activities to include an inventory of all DOD and Corps heritage assets and participate in the development of standards and guidelines for archeological collection rehabilitation. Work will continue on the development and implementation of final guidelines and procedures for field collection of archeological materials and the long-term treatment of those collections. Finally, leadership will be provided in the development of a training curriculum on the treatment of heritage assets and working in consultation with all stakeholders, take initial steps to make this training available to appropriate managers and decision makers.

Dredge Wheeler Ready Reserve

The fiscal year 2004 budget includes $8 million to cover the cost of keeping the dredge WHEELER fully operational in fiscal year 2003 while in Ready Reserve status in accordance with Section 237 of the Water Resources Development Act of 1996 (WRDA 96). Section 237 contains a provision requiring the Corps hopper dredge to be placed in a ready reserve status. The section requires that no individual project funds may be used to fund the dredge in its ready reserve status unless the dredge is specifically used in conjunction with a project. In fiscal year 1998, the WHEELER was placed in a ready reserve status as required by WRDA 96. The hopper dredge WHEELER, in a ready reserve status, is required to be able to perform emergency

dredging work, but may not be assigned any scheduled hopper dredging work. The dredge may be placed in an active status in order to perform work that private industry fails to submit a responsive or responsible bid for advertised dredging, or where industry has failed to perform under an existing contract. In light of this criteria, the WHEELER is being kept at the dock, with sufficient crew to respond to any unforeseen requirement within 72 hours, and be able to work for approximately 3 weeks. The dredge is being maintained in a fully operational state and periodically will perform routine dredging operations to test equipment and keep the crew trained and prepared. In all but one year since put into ready reserve, the WHEELER was called out of ready reserve status to perform urgent dredging to assist industry dredges in restoring navigation channels and waterways.

Dredging Data and Lock Performance Monitoring System

The Dredging Data and Lock Performance Monitoring System budget of $1.18 million supports a continuing nationwide collection and analysis program of dredging data essential for the Corps efficient and effective management of the Nation's deep and shallow draft navigation projects. These efforts are necessary to provide data for efficient management of Congressionally authorized navigation projects, as well as to respond to specific public laws, including Public Law 96–269 (Minimum Dredge Fleet) and Public Law 100–656 (Small Business Set-Aside).

Data include dredging costs and quantities, equipment used, and disposal site documentation. This data facilitates nationwide and regional analysis and management for Corps performed and contracted dredging for both channel deepening and maintenance categories of work. The program also supports assessments on the technological changes of vessels within the world fleet, which is necessary for estimating the Nation's future maintenance dredging requirements. Up-to-date information on world fleets, commodity flows, vessel routing through Corps channels and assessment of underkeel clearances all contribute to the identification of U.S. channels with the greatest safety and piloting problems. The lock monitoring provides managers at 230 lock sites and their regional and national offices with nationally consistent operational and management data. Collectively, these data systems support continuing evaluation of local conditions and performance measures throughout the navigation system and, in-turn, facilitate nationwide control and critical management decisions. These data are critical for effectively monitoring and executing the overall navigation program.

Dredging Operations and Environmental Research Program (DOER)

The fiscal year 2004 budget includes $6.755 million for the Dredging Operations and Environmental Research Program (DOER). The DOER program is an extremely important effort that combines engineering, operational and environmental components of waterway management to address issues impacting our ability to maintain a safe, reliable, environmentally sustainable, and economically efficient navigation system. The DOER Program is an integral and highly beneficial component of the Corps navigation dredging and environmental protection missions. Dredging and disposal must be accomplished within a climate of increased dredging workload, fewer placement sites, environmental constraints, and decreasing fiscal and manpower resources. Balancing environmental protection with critical economic needs while accomplishing dredging activities is a major challenge. Major features of DOER include, innovative technologies research, environmental resource protection, dredged material management, and (4) risk research.

As part of these features in fiscal year 2004, the DOER program will: (1) Transfer technology to a wide body of stakeholders that addresses operational, economic, and environmental components of the Corps dredging program in full coordination and cooperation with other appropriate agencies and offices such as: Environmental Protection Agency, National Marine Fisheries Service, U.S. Fish and Wildlife Service, American Association of Port Authorities (AAPA) and State natural resource managers. Aggressive technology transfer through multiple media and rapid technology application ensures that research products are integrated into decision making at Corps projects and made available to port authorities and other navigation project stakeholders.; (2) Identify, evaluate and develop innovative tools, databases and software, equipment, and technology to improve the design, operation, and management of Corps maintained navigation projects. It will address problematic environmental resource issues, such as environmental windows or threatened and endangered species, using a combination of innovative engineering and scientific approaches; (3) Develop dredged material handling, transport, and placement options which are operationally efficient, environmentally sound and cost effective and; (4) Apply a comparative risk-based framework in the assessment and management of

contaminated dredged material and to develop logical decision support tools that quantify uncertainty and facilitate efficient decision making.

Dredging Operations Technical Support (DOTS) Program

The fiscal year 2004 budget includes $1.545 million for continuation of the Dredging Operations Technical Support (DOTS) Program. The DOTS program fosters the one-door-to-the-Corps concept through providing comprehensive and interdisciplinary technology transfer, technology application, and necessary engineering, operational and environmental training of all stakeholders for all Corps navigation dredging projects. DOTS houses the Corps' technology and information database and is managed from a centralized program to maximize cost effectiveness and implement National policies, laws, and complex technical requirements on a consistent basis. The DOTS is fully accessible through the Internet and has received thousands of visits from navigation stakeholders. The DOTS Program is a storehouse focusing on application of state-of-the-art technology and research results to field problems. Emerging scientific approaches sometimes cause uncertainty in administration of the Corps navigation dredging program. As such, DOTS provides a consistent technology base and ready response, and training on technical issues through a readily accessible technology transfer capability and generic technology application to other projects with similar problems. Short-term work efforts to solve generic Corps-wide technical problems for maintaining navigable waterways are major features of the DOTS Program. Technology transfer of new and emerging techniques for application at Corps and stakeholder navigation maintenance projects is an important DOTS activity. In response to new research results and continuing staff reductions the DOTS program will continue to expand to provide technology transfer to all O&M navigation projects and be fully responsive to stakeholder needs.

Special emphasis is placed on transfer of technology developed by the Corps and others to include proven international technology that deal with maintenance and management of navigation structures and navigable waterways. Typical technology transfer and training includes management of contaminated dredged material, application of innovative risk-based technologies to contaminated dredged material, maintenance of coastal inlets and adjacent shorelines, shoreline stabilization and river training activities, assessment and management protocols for beneficial uses of dredged material, channel realignments, protection of endangered species, equipment selection, rational application of dredging windows, lock and dam maintenance needs, channel and harbor maintenance activities and ship simulation activities.

A key feature of the program includes effective annual face-to-face and internet on-line training of Corps staff, navigation stakeholders, and others who have regulatory authority over Corps navigation maintenance activities on the latest environmental and engineering techniques associated with maintaining navigable waterways. The program also supports joint Corps and United States Environmental Protection Agency activities dealing with environmental aspects of the national navigation program.

Earthquake Hazards Reduction Program for Buildings and Lifelines

The Earthquake Hazards Reduction Program is included in the fiscal year 2004 budget in the amount of $300,000 to respond to the requirements of Public Law 101–614, National Earthquake Hazards Reduction Program (NEHRP) and Executive Order (EO) 12941, Seismic Safety of Existing Federal Buildings. The objective of Public Law 101–614 is to establish and initiate for buildings and lifelines a systematic approach to reducing loss of life, injuries, and economic costs resulting from earthquakes in the United States. The EO directs all Federal departments and agencies to develop an inventory of their owned and leased buildings and an estimate of the cost of mitigating unacceptable seismic risks in their buildings. Lifelines are defined as public works and utility systems.

We are legally responsible to develop a plan to mitigate these vulnerabilities. In addition, FEMA is pursuing the possibility of requiring agencies to develop mitigation plans for their deficient buildings. The funds requested will be used to help finalize the details of the Corps mitigation plan and provide the tools for implementation of the program, provide assistance to districts in the development of mitigation concepts and designs, provide support to Corps Headquarters in oversight and management of the mitigation program, provide technical support to Corps HQ, maintain technical seismic expertise, develop guidance for additional lifeline systems not previously covered in commercially available standards or existing Corps guidance, develop guidance for operations personnel, develop a mitigation plan for the Corps lifelines, and update and maintain the database. The development and updating of guidance for the seismic evaluation and risk mitigation of lifeline facilities will continue as well.

Facility Protection

On 11 September 2001, our Nation suffered a loss of unimaginable proportions, with terror attacks in New York, Washington and the skies over rural Pennsylvania. These events have emphasized the resolve of terrorists to weaken our Nation by inflicting massive casualties and destroying vital elements of our infrastructure. The scope of Corps of Engineers water resources assets considered highly vulnerable to future terrorist attacks include 75 hydroelectric power projects, 383 major lakes and reservoirs with 376 million annual visitors, 8,500 miles of levees, 276 locks, 4,340 recreation areas, 11.7 million acres of public land, 25,000 miles of commercially navigational channels, 926 shallow and deep draft harbors, and $1.2 billion in research and development facilities.

In response to the attacks of September 11, 2001, the Corps compiled a list of critical public assets in accordance with Presidential Decision Directive number 63. In 2001, the Corps initiated vulnerability assessments (RAM–D) of critical water resources infrastructure to determine vulnerability to terrorist attacks. A clear need exists for improved security and protection at vital Corps water resources and administrative facilities supporting our missions. The protection of Corps critical infrastructures incorporates the elements of detection, protection, and response. The Corps is addressing these elements by increasing surveillance and awareness and initiating crime watch programs, continuing implementation of protection measures and coordinating the response by local law enforcement support and local guard forces. The assessments of Corps facilities have identified key research areas, including waterborne threats, rapid recovery and emergency response, vulnerability and damage assessment tools, structural hardening.

The Corps will complete implementation of facility protection standards at Mississippi River and Tributaries facilities, and will continue Force Protection Standards for Corps Offices, interfacing with other Federal, State and local government offices and private industry, and will continue ongoing research efforts funded in fiscal year 2004.

The fiscal year 2004 budget includes $13 million to continue the Corps of Engineers Civil Works Facility Protection effort, including continuation of existing security levels and maintaining guard positions and electronic monitoring systems at critical facilities.

Great Lakes Sediment Transport Modeling

The Great Lakes Sediment Transport Modeling Program is included in the fiscal year 2004 budget in the amount of $1.0 million. Section 516(e) of the Water Resources Development Act of 1996 authorizes development of sediment transport models for tributaries to the Great Lakes that discharge to Federal navigation channels or Areas of Concern (AOCs). The Great Lakes Sediment Transport Modeling program is intended to use sediment transport models to target areas for preventive measures to control sediment movement to navigation projects and AOCs. These models are being developed to assist State and local resource agencies evaluating alternatives for soil conservation and nonpoint source pollution prevention in the tributary watersheds. The ultimate goal is to support State and local measures that will reduce the loading of sediments and pollutants to navigation channels and AOCs, and thereby reduce the costs for navigation maintenance and sediment remediation.

Fiscal year 2004 funds will be used to complete development of models at four tributaries (Genesee River, New York; Black River, Ohio; St. Joseph River, Michigan; and, Burns Waterway, Indiana), initiate model development at four tributaries (St. Louis River, Minnesota/Wisconsin; Oswego River, New York; Cuyahoga River, Ohio, and; River Raisin, Michigan), and conduct scoping and coordination for future model development at the next set of priority tributaries (Eighteen Mile Creek, New York; East River, Wisconsin; Grand River, Michigan; Sandusky River, Ohio). State and local partners will use models developed under this program to reduce loadings of sediments and contaminants to Great Lakes tributaries, thereby reducing future dredging requirements at Federal navigation channels and promoting the restoration of beneficial uses at Great Lakes Areas of Concern.

Harbor Maintenance Fee Data Collection

Public Law 103–182 authorizes up to $5 million to be used annually for the administration of the Harbor Maintenance Trust Fund. The Corps fiscal year 2004 budget includes $675,000 for this activity. The Corps is required to collect data on domestic and foreign shippers of waterborne commerce subject to the Harbor Maintenance Tax (HMT) and provide it to Customs for enforcement. Analysis of HMT revenues and transfers is required to validate the adequacy of the HMTF in light of the uncertainty over the legal and international challenges to the HMT, and to

document the operation of the trust fund in the Annual Report to Congress. Analysis of waterborne commerce shipments and vessel movement data is also needed to respond to legal questions to the HMT; to analyze alternative funding options; and to assess the economic and competitiveness impacts of other potential funding sources. Therefore the Corps requires a portion of the administrative funding. The recent transfer of the Foreign Waterborne Transportation Statistics Program to the Corps requires the data processing system to be expanded to include validation of users engaged in foreign trade, in addition to domestic users. The budgeted amount will be needed in fiscal year 2004 to operate and enhance the system to analyze, enforce, collect and validate harbor usage information required by the Customs Service for auditing HMT collections.

Inland Waterway Navigation Charts

The fiscal year 2004 budget includes $4,120,000 for Inland Waterway Navigation Charts. In 1994, a barge on the inland water struck a bridge pier in poor visibility caused an AMTRAK derailment accident near Mobile, Alabama. Consequently, the National Transportation Safety Board recommended that the Chief of Engineers begin to promote use of electronic charts for safety of navigation on inland waterways. The first part of that recommendation was to extend the coastal Differential Global Positioning System (DGPS) into the inland waterways. That work is now about 90 percent complete. The second part is this effort to provide accurate and current electronic navigation chart (ENC) data necessary to allow the commercial system to be used to improve safety and efficiency. The American Waterway Operators have also stated a need for consistent Corps channel data for inland waterway electronic charts, and the recent Marine Transportation System study recommended that electronic chart coverage be extended into inland waterways and the addition of hydrographic survey information. National Oceanographic Atmospheric Administration (NOAA) is also developing ENC products for their coastal charts, which require use of source data—including Corps channel information. The Water Resources Development Act, 2000, Section 558, requires Corps of Engineers districts to provide digital hydrographic survey data to the NOAA in an agreed upon format not later than 60 days after completion of a survey. The U.S. Coast Guard also has plans for implementation of vessel traffic systems (VTS) in New Orleans and other areas and merging of its Aids to Navigation into the ENC datasets provided by other Federal agencies such as the Corps and NOAA is necessary. VTS data could be extremely useful to vessels using the waterway, although an electronic chart is needed for display of the information.

This effort provides ENC for all inland waterways and other Federal navigation channels maintained by the Corps of Engineers to be used by commercial Electronic Chart Systems (ECS), which, when combined with the existing DGPS, will improve the safety and efficiency of marine navigation in both inland and coastal waterways of the United States. On inland waterways, the Corps will collect more accurate survey and mapping data than is currently on its paper charts. Accuracies of about 2 meters are necessary to match the positional accuracy of the DGPS signal, which when combined in the commercial ECS will greatly improve the safety and efficiency of navigation. This will allow safe navigation through bridge openings during fog and other bad weather conditions as well as during heavy traffic situations.

As part of this program, the Corps coordinated standards and requirements with the National Oceanic and Atmospheric Administration (NOAA), U.S. Coast Guard, American Waterway Operators (AWO), the Inland Waterways User Board (IWUB); developed initial IENCs for most of the Mississippi River, and all of the Ohio, Black Warrior, Tombigbee, and Red Rivers; developed the plans, procedures and guidelines necessary for standardization of inland waterway chart data products; developed the internet web site for data dissemination; began new highly accurate baseline surveys on the inland waterways of features needed in the IENC data; and began coastal product development in two districts.

The Corps will continue coordination of standards and requirements with the National Oceanic and Atmospheric Administration (NOAA), U.S. Coast Guard, American Waterway Operators (AWO), and the Inland Waterways Users Board (IWUB); complete IENCs for most of the Mississippi River and all of the Ohio, Black Warrior, Tombigbee, and Red Rivers; begin update program for completed IENCs; complete coastal product development in two districts and begin development in new districts; and continue baseline surveys of waterway features.

Long Term Option Assessement for Low Use Navigation

Operation and Maintenance funds for navigation are increasingly constrained, necessitating project prioritization and the consideration of long-term management strategies. The Budget continues to give priority to maintaining inland waterway

segments and coastal harbors that have utilization, while also funding the operation and maintenance of shallow draft harbors that support commercial or subsistence fishing or Federal Government activities. This study will identify data needs and methodologies to assess lower use inland waterways and harbors, examine the level of continued Federal interest in these projects, and provide an assessment of possible long-term management options for projects with diminishing NED benefits. Such options will include transfer to another public or private entity, privatization, divestiture, and alternate O&M funding mechanisms.

Monitoring of Completed Navigation Projects

The fiscal year 2004 budget includes $1.750 million for the Monitoring of Completed Navigation Projects (MCNP). This continuing program monitors project performance, evaluates the performance against pre-construction projections, and transfers the lessons learned into guidance for Districts. Sediment transport patterns, water depths, currents, waves, flushing characteristics, tidal stages, and other hydrodynamic phenomena together with associated environmental impacts are changed by the construction of navigation projects. Information gained from monitoring navigation projects, including the magnitude and rate of these changes, is required to verify design expectations, determine benefits, and evaluate operational and maintenance efficiencies. Information collected from monitored navigation projects will be used by the local Districts to improve project performance. Additionally, this information will be collected and analyzed on a national basis to document successful designs, disseminate lessons learned on projects with problems, and provide upgraded field guidance that will help reduce life-cycle costs on a national scale.

National Dam Safety Program (NDSP)

The National Dam Safety Program Act (Public Law 92–367 as amended) designates FEMA as lead agency in all efforts to enhance national dam safety. The National Dam Safety Program is coordinated through the Interagency Committee of Dam Safety (ICODS). The Chief, Engineering Division, Directorate of Civil Works, represents the Department of Defense as a member of ICODS. The Corps and FEMA signed a Memorandum of Understanding for the purpose of establishing responsibilities for management and administration assistance in the implementation of the National Dam Safety Program. FEMA acting through ICODS will provide support in development of Federal guidelines for dam safety, promotion of public awareness programs, publications, training materials, the National Performance of Dams Program, and workshops. The budget includes $45,000 to continue this participation in fiscal year 2004.

National Dam Security Program

The budget includes $30,000 for the National Dam Security program in fiscal year 2004. The Interagency Committee on Dam Safety (ICODS) has recognized terrorism as one of the major threats to dams in the United States. Of all the agency members of ICODS, the Department of Defense acting through the Corps has the most unique and in depth knowledge in the area of antiterrorism program development and execution. This program uses the Army's experience in antiterrorism planning and building design as the basis for developing a program for safeguarding Corps dams and for export to the other Federal agencies through ICODS. Training under this program is designed for the dam operator and field manager in order to improve their awareness of the potential threat and to establish lines of communications to minimize damage if and when a threat is received. The program also provides for the exchange of information on threats received and the establishment of a database to review trends in the pattern of threats. The Corps and other Federal agencies established a task group to study the extent of the problem of internal terrorism against dams and other natural resource facilities and to determine the proper level of security awareness required for these facilities.

National Emergency Preparedness Program (NEPP)

The fiscal year 2004 budget of $6 million will enable the Corps of Engineers to be prepared to accomplish its continuity of operations and continuity of government responsibilities during national/regional crises. This entails support of civil government through coordinated execution of Federal agency plans and the planning/conducting of exercises to test readiness to provide such support. This includes responsibility for development of comprehensive national level preparedness plans and guidance for response to all regional/national emergencies, whether caused by natural phenomena or acts of man, plans for response(s) to acts of terrorism, and the local preparedness necessary to support Corps continuity of operations. The Corps provides engineering and construction support to State and local governments in re-

sponse to catastrophic natural/technological disasters. Rapid response to disasters of a regional/national magnitude requires that extensive pre-emergency planning and preparedness activities be conducted to assure the availability of a work force capable of shifting from routine missions to crisis operations and the organizational command and control structure(s) necessary to provide a coordinated and comprehensive response in the critical early stages of a catastrophic disaster.

The fiscal year 2004 program will provide for continuing the implementation of the National Emergency Preparedness Program. The fiscal year 2004 program will continue the process of catastrophic disaster planning and exercising to enable the Corps to rapidly respond to a broad spectrum of emergencies, with emphasis on natural disaster and terrorists events that have regional and national implications. An effort will be made to satisfy increasing demands on the program to support multi-agency (Federal, State, and local government) requests to exercise plans focusing on regional catastrophic natural and man made disasters. Increasingly, Federal, State and local agencies are looking to the Corps to take the lead in this area.

National Lewis and Clark Commemoration Coordinator

With a fiscal year 2004 Budget of $310,000, we plan to continue coordination of all Corps of Engineer activities relating to Lewis and Clark Commemoration. The bicentennial commemoration of the Lewis and Clark Expedition will begin in 2003 and will continue through 2006. A National Bicentennial Council has been established, and Federal, State, Tribal, and local governmental entities are planning the roles they will play in the commemoration. By virtue of its role as administrator of large stretches of public land along the trail route and of the Army heritage of exploring and mapping of the western United States, the Corps will play a significant leadership role in the observance of the Bicentennial. The nature of this event will involve large numbers of the public traveling through numerous Corps local jurisdictions. The Lewis and Clark Coordinator is responsible for ensuring consistent agency wide information on safety, traversing navigation structures (locks), historic facts, and the geographic location of the Expedition's route. The Coordinator is also responsible for a consistent agency position in coordination activities with the large number of States, local communities and tribes planning local events either on or in close proximity to Corps projects.

These funds with provide the means to develop partnerships, maintain contacts (BIA and Tribal government designees, State Governor's committees, state recreation and tourism departments), improve facilities and interpretation and to implement plans for Bicentennial activities by coordinating with commercial entities and volunteer efforts.

Performance Based Budgeting Support Program (PBBSP)

The Government Performance and Results Act of 1993 (GPRA) requires that the Corps, implement performance based budgeting for the Civil Works Operation and Maintenance, General Program. The Performance Based Budgeting Support Program (PBBSP) addresses this requirement by seeking new methods for linking performance to annual budget requests and for analyzing the potential economic impact of budget requests on business processes.

With an fiscal year 2004 budget of $815,000, efforts will center on further refinement of corporate performance principles and program and project level performance measures that focus on anticipated performance and output at different levels of funding, in accordance with the revised finance and accounting cost codes that now align with the five O&M business processes—navigation, hydropower, flood damage reduction, recreation and environmental stewardship. These measurements, at different organizational levels, provide the analytical basis to make adjustments in priorities both at the program and project levels concerning efficiency of facilities or services. Comparison of measurements among projects at all levels helps focus management attention on corrections of program or project deficiencies.

Protecting, Clearing and Straightening Channels

Section 3 of the 1945 River and Harbor Act (as amended by Section 915(g) of the 1986 Water Resources Development Act) provides continuing authority for limited emergency clearing of navigation channels not specifically authorized by Congress. A limit per project is not specified; however, in any given year, a maximum of $1,000,000 may be used nationwide. Work pursuant to this authority is undertaken as emergency measures to clear or remove unreasonable obstructions to navigation in navigable portions of rivers, harbors and other waterways of the United States, or tributaries thereof, in order to provide existing traffic with immediate and significant benefit. The fiscal year 2004 budget of $50,000 is an estimate based on historical experience. If actual requirements are more than estimated, funds will be reprogrammed to meet demonstrated needs.

Recreation Management Support Program (RMSP)

The fiscal year 2004 budget for the Recreation Management Support Program (RMSP) is $1.545 million. This program supports the Corps recreation business program by funding activities of the Recreation Leadership Advisory Team (RLAT).

The RLAT is composed of representatives from the division, district and project levels of the Corps natural resources management program. It meets on a regular basis and provides input, advice and support to the Corps strategic planning activities for the recreation business program. The RMSP, under the leadership of the RLAT, serves to identify Corps national recreation program priorities and address those priorities through valid management studies, management support, and information transfer.

In fiscal year 2004, the RMSP will study the benefits of recreation, meeting the outdoor recreation needs of various ethnic groups, and customer satisfaction with Corps operated recreation sites and facilities. It will track recreation trends and support various tools to provide information to local managers to assist in operating the recreation program at their projects. Information obtained through RMSP and RLAT activities is critical to the Corps recreation business program strategic planning.

Regional Sediment Management Demonstration Program

Authorized by Section 516 of WRDA 96, the Regional Sediment Management Demonstration Program (RSM) is included in our fiscal year 2004 budget amount of $1.545 million. The goal of this program is to demonstrate that, by managing our O&M navigation channel maintenance dredging, construction of shore protection projects and environmental restoration and beneficial uses of dredged material in tandem, we can reduce the total costs of all the projects within a given coastal system and ultimately increase the economic and environmental benefits throughout the Nation's coastal navigation system.

Our accomplishments to date include completion of a 3-year RSM demonstration projects with an estimated cost savings of $9.4 Mill at Mobile District. A demonstration at East Pass was completed in fiscal year 2002 with collaboration with the United States Air Force. Many more demonstration projects are underway. The cooperation among Federal agencies and the collaboration among the three levels of government have been the greatest accomplishments to date.

Reliability Models Program for Major Rehabilitation

Our fiscal year 2004 budget includes $675,000 for the Reliability Models Program For Major Rehabilitation. The purpose of this program is to respond to yearly needs of Districts and Divisions, which are preparing Major Rehabilitation reports for the upcoming fiscal year. The objective is to provide reliability models for project features or components that are being considered for Major Rehabilitation, or to provide procedures to consider the impact of various chemical, environmental or physical processes in a reliability analysis.

The fiscal year 2004 funds will be used to prepare reliability models and collect data for reliability analyses anticipated to be required by several Districts. Reliability models and/or data are anticipated to be needed for the following: Completion of a reliability model for seepage through embankment dams and levees will continue; Completion of a screening level tool for the districts to use to prioritize major rehabilitation and dam safety projects; Evaluation of data collected on performance of dam gates, to determine performance modes and verify load cycles used in reliability analyses, and electrical/mechanical systems model for locks and dams. Provide reliability analysis procedures for selected hydropower equipment. It is also anticipated that two rehabilitation workshops would be conducted. The makeup of these units is subject to the needs of the respective Districts and Divisions.

In prior year, reliability models and other analytical tools have been provided in support of Major Rehabilitation reports on numerous navigation and hydropower projects. In addition, 18 rehabilitation workshops have been conducted in the last 10 years to provide assistance to the Districts as they prepare their reports. These workshops offer guidance in conducting reliability and risk analyses, and provide the opportunity for interdisciplinary teams from the Districts to discuss their particular project with HQUSACE and other Districts personnel.

Removal of Sunken Vessels

Removal of sunken vessels, or other similar obstructions, is governed by Sections 15, 19, and 20 of the River and Harbor Act of 1899, as amended. Primary responsibility for removal belongs to the owner, operator, or lessee. If the obstruction is a hazard to navigation and removal is not undertaken promptly and diligently, the Corps may obtain a court judgement requiring removal, or remove the wreck and

seek reimbursement for the full cost of removal and disposal. Determinations of hazards to navigation and Federal marking and removal actions are coordinated with the Coast Guard in accordance with a memorandum of understanding between the two agencies dated 16 October 1985. Removal procedures are outlined in 33 CFR 245. The fiscal year 2004 budget includes $500,000 for this program. If removal requirements are more than estimated, funds will be reprogrammed to meet actual needs.

Water Operations Technical Support (WOTS) Program

The Corps fiscal year 2004 budget includes $725,000 for the Water Operations Technical Support (WOTS) Program. The WOTS Program provides effective environmental and water quality engineering technology to address a wide range of water resource management problems at Corps reservoir and waterway projects, and in the river systems affected by project operations nationwide. WOTS provides technical support to the Corps' mission related project responsibilities, with special emphasis on the transfer of technology. The program ensures that the technologies developed by the Corps and other Federal agencies are current and readily available to all Corps field offices. The effective use of technologies is secured through rapid direct technical assistance; field demonstrations; specialty workshops; publication of information exchange bulletins, technical notes, executive notes, technical reports, miscellaneous papers, instruction reports, videos, meetings, seminars; and briefings at field offices.

Since its inception in fiscal year 1985, WOTS has provided environmental and water quality technological solutions to over 1,3000 problems identified at projects from every Corps District. The program annually publishes and distributes numerous copies of manuals, bulletins, notes, and reports. WOTS annually conducts specialty workshops, training personnel on the latest environmental and water quality management techniques. In fiscal year 2003, the WOTS program successfully responded to 80 direct technical assistance requests from 31 Corps Districts, conducted six technology demonstration efforts to verify management strategies and techniques, four training workshops on environmental and water quality management techniques, and prepared 12 technical publications for distribution to the field.

Waterborne Commerce Statistics

The Corps of Engineers serves as the Federal Central Collection Agency, and is the sole U.S. Government source, for U.S. domestic and foreign waterborne commerce and vessel statistics in conformance with the River and Harbor Act of 1922 as amended. Activities supporting this national statistics mission include: (a) collecting and reporting of water transportation statistical data; (b) automated systems development and operation, processing, compiling, and publishing statistical data and information on waterborne commerce and vessels moving on the internal U.S. waterways, the Great Lakes, and through all U.S. ocean channels and ports; and (c) compiling and publishing the official U.S. documentation of U.S. vessels engaged in commerce, and their principal trades and zones of operation. The data provide essential information for navigation project investment analyses, including accurate benefit-cost analyses; for annual funding prioritization for operation and maintenance of existing projects; for computation of performance measures; for input into the U.S. National Accounts; and for regulatory and emergency management decisions. The budget includes $4.745 million for fiscal year 2004.

Activities Under the Regulatory Program Appropriation

The fiscal year 2004 budget amount of $144 million is comparable to the fiscal year 2003 request, which was also $144 million. With the requested funds, the Corps will continue to work toward reducing the average review time for standard permits to 120 days. Standard permits are the most complex and controversial of the Corps permit actions and involve significant aquatic resources and large-scale projects with major economic impacts. Standard permits generally involve intense coordination efforts between the applicant and other Federal/State agencies over difficult issues that may include endangered species, historic properties, and water quality issues. While they only account for approximately 5 percent of all permit actions, standard permits demand a enormous resource commitment. Since fiscal year 2001, the average review time for standard permits has increased from 150 days to 160 days. We are working diligently to reduce processing times on these and less complex permit actions to reduce overall processing time. Challenges to permit decisions are also increasing, resulting in more documentation for the project manager on every permit. The Corps administrative appeals program, however, is giving applicants the ability to challenge regulatory decisions without resorting to litigation.

Overall, the Corps is continuing to do an impressive job managing its permit workload. Out of 82,000 permit actions, including standard permits, 88 percent were

handled within 60 days in fiscal year 2002. This is largely due to continued emphasis and improvements to the nationwide permit program. In January 2002, the Corps issued revisions to its nationwide permit program. These changes not only increased environmental protection for activities authorized through nationwide permits, but also streamlined the approval process for some activities. Although we are generally maintaining review times for these actions, authorization requirements for nationwide permits are becoming more complex than in the past and many nationwide permits now may involve mitigation. In addition to permit decisions, in fiscal year 2002 the Corps made almost 70,000 jurisdictional determinations, many of these for single-family homeowners. This was an all time high. Many such determinations are not associated with specific permits as the public makes requests to learn if they are subject to Federal jurisdiction.

One area we are working to improve is the inspection of completed permit actions and mitigation projects to ensure compliance with permit conditions and mitigation requirements. A 2001 report on wetland losses by the National Research Council of the National Academy of Sciences concluded that the Corps needed to improve its oversight of wetlands compensatory mitigation activities.

In December 2002, the Corps issued a Regulatory Guidance letter (RGL) and initiated implementation of a National Wetlands Mitigation Action Plan. The RGL and mitigation action plan were developed with the Environmental Protection Agency and other Federal partners. The mitigation action plan complements the RGL and is intended to be complete within three years. It is designed to address outstanding concerns and to improve compensatory mitigation associated with wetland impacts of projects permitted under the Clean Water Act. The RGL and mitigation plan emphasize wetlands functions and a more holistic watershed approach in determining impacts and mitigation. This effort will involve considerable resources both at headquarters and the districts as the Corps and EPA work to complete the plan within three years.

The Regulatory Program is effectively implementing the watershed approach to evaluate impacts and ensure effective compensatory mitigation. Additional resources will be devoted to studies of watersheds and similar sensitive environmental areas. Wherever comprehensive reviews of individual watersheds can be undertaken, the Corps is better able to manage and predict direct, indirect, and cumulative impacts of proposed projects. This leads to better and more rapid evaluation of future permit applications that will result in expedited permit processing and potential workload reductions.

As a follow-on to the mitigation plan, the Corps Regulatory Program will be instituting a new database system designed to track additional permit and mitigation statistics, as well as introduce a system for the general public to submit and track permit applications on-line. The system will supplement the Corps program to provide more information to the public through the Internet regarding the Regulatory Program and permit actions. This system has been designed to improve regulatory business processes and will be installed in the first district in August of 2003.

In January 2003, the Corps and EPA issued an advance notice of proposed rulemaking to develop regulations focusing on isolated waters. A 2002 Supreme Court decision (SWANCC) limiting Corps authority in intra-State, non-navigable waters created a need to better clarify Corps jurisdiction in these waters. Both public and Federal uncertainty in wetland policy has resulted in more Corps time being devoted to jurisdictional determinations. Development of policy and jurisdiction definitions will be a substantial work effort that is expected to carry into 2004. It will include public input, data collection, and evaluation by Corps districts, especially those with large areas of isolated waters.

ACTIVITIES UNDER THE FLOOD CONTROL AND COASTAL EMERGENCIES APPROPRIATION

The Corps continues to provide leadership in response to natural disasters and, therefore, must maintain a preparedness program that meets the needs of the Nation. In order to execute an effective fiscal year 2004 continued response-planning program and all-hazards preparedness activities in support of the Federal Response Plan, funds in the amount of $70 million are requested.

The Corps responsibility for emergency response requires that its engineering, construction, and emergency operations capabilities be maintained. When a disaster strikes, people's lives, livelihood and property are at stake. Therefore, the level of funding requested is the minimum sufficient to support an organization capable of responding to all natural disasters: hurricanes, floods, earthquakes, and other disasters, such as contaminated public water supplies.

In addition to the preparedness program, the account funds emergency activities in response to natural disasters, as authorized by Public Law 84–99. Since we can-

not predict the timing and magnitude of disasters, emergency transfers may be made from other flood control related appropriations amounts and supplemental appropriations will be requested when the need arises.

Activities under this appropriation include: the review and updating of response plans to maintain readiness; training to ensure our capability to respond under adverse circumstances; procurement and pre-positioning of critical equipment and supplies such as sandbags and pumps, which are not likely to be available during initial stages of a response; periodic exercises to test and evaluate plans, personnel and adequacy of training; emergency facilities needed for rapid, effective response to disaster areas; inspection of non-Federal flood control projects to ensure their viability to provide flood protection; emergency operations (flood response and post-flood response); emergency repair and restoration of flood control works which are threatened, damaged or destroyed by flood; emergency protection of existing Federal hurricane and shore protection works; the repair or restoration of Federal hurricane or shore protective structures damaged or destroyed by wind, wave or water action of other than ordinary nature; preventive work performed prior to unusual flooding that poses a threat to life or property; providing emergency supplies of clean water to any locality confronted with a source of contaminated water causing or likely to cause a substantial threat to public health and welfare; and provision of water supplies to drought-distressed areas by reimbursable well drilling or transportation of water at Federal cost.

Work continues on comprehensive interagency response planning activities. These activities support, under the Stafford Act, the Federal Response Plan by providing engineering and construction support following major disasters such as flooding in South Central Texas, and Virginia/West Virginia; Typhoons Chataan and Pongsona in the Western Pacific Ocean; Arizona wildfires; Tropical Storm Isidore, Louisiana; and Hurricane Lili, Louisiana. Mission assignments in support of FEMA's disaster response and recovery activities have included: emergency debris removal; temporary housing; emergency water; restoration of infrastructure; temporary power; construction management; and other support which uses Corps engineering, contracting, and construction expertise.

ACTIVITIES UNDER THE FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

The Corps has completed remediation at 4 sites, 2 of which were transferred to the Department of Energy for long-term stewardship activities per the 1999 memorandum of understanding between the two agencies, issued 6 records of decision, and completed 6 interim removal actions through the end of fiscal year 2002. The Corps expects to issue 2 records of decision and an Action Memorandum for one new removal action in fiscal year 2003, and issue 6 records of decision in fiscal year 2004 and complete two removal actions. The FUSRAP budget for fiscal year 2004 will fund work at 21 sites in the States of Connecticut, Iowa, Maryland, Massachusetts, Missouri, New Jersey, New York, Ohio and Pennsylvania.

ACTIVITIES UNDER THE GENERAL EXPENSES APPROPRIATION

The General Expenses (GE) appropriation supports the executive direction and management (ED&M) functions of the overall Civil Works program performed by the Corps Headquarters and the regional Division Offices. The primary purpose of the GE account is to provide definitive policy guidance, program management, regional and national interface, and quality assurance and oversight for all Corps activities toward execution of a comprehensive Civil Works program. The fiscal year 2004 budget for the GE account is $171 million, approximately 3.9 percent of the Corps budget. This supports a projected staffing level of 1,095 full time equivalents (FTE).

The fiscal year 2004 program of $171 million consists of approximately 70 percent labor, 10 percent fixed costs such as rent, utilities, communications, and the Plant Replacement and Improvement Program (PRIP) paybacks, 6 percent for such discretionary costs, as travel, training, supplies, and equipment and 12 percent for other Civil Works programmatic type contracts, such as P2/PMBP, Planning Capability Improvement Program, Workforce Planning, implementation of Competitive Sourcing, CFO audit of civil works financial statements, E-government initiative for outgrants and leasing requests, USACE University, Leadership Development and the CWD-IM Support/Information Assurance Program.

In fiscal year 2002, the Corps completed a 5-year draw down of the strength in the GE account. The Corps downsizing efforts reflected reductions realized through focusing on appropriate roles and missions, elimination of duplication of effort, reducing the number of regional division offices from 11 to 8, and continual process

reviews to achieve additional savings through efficiencies. Overall, this realized a savings of 256 FTE or a 19 percent reduction. The staffing for the Headquarters will be 420 FTE in fiscal year 2004. This staffing level is the same as fiscal year 2003 and makes up less than 2 percent of the total Civil Works workforce.

In fiscal year 2004, the average size of a division office will be 76 FTE performing ED&M. This is up by one from 75 FTE in fiscal year 2002 due to the civilianization of the Provost Marshall positions. The size of the Pacific Ocean Division office is 20 ED&M FTE based on the size of its Civil Works workload. The regional division offices make up less than 3 percent of the total Civil Works workforce with a staffing level of 553 FTE.

The GE account also funds staffing at the Humphreys Engineer Center Support Activity (HECSA), which provides administrative support to the Headquarters and the Humphreys Engineer Center at Ft. Belvoir; the Institute for Water Resources, which provides water resource support functions, such as conducting and managing national studies, special studies, data collection and distribution, and technical support to other Corps offices on water resource management matters; the Engineer Research and Development Center (ERDC), which provides support to the Coastal Engineering Research Board (CERB); and the Corps of Engineers Financial Center, which provides centralized finance and accounting activities Corps-wide. These activities represent 122 FTE.

PLANT PLACEMENT AND IMPROVEMENT PROGRAM

The fiscal year 2004 Plant Replacement and Improvement Program (PRIP) obligations under the Revolving Fund for items designed to improve productivity, increase efficiency, modernize, improve the Corps equipment and operational capabilities, and increase safety are estimated at $84.1 million. This amount includes estimated fiscal year 2004 obligations of $33.6 million for 13 new major items and $33.4 million for 42 continuing major items. Major items are those assets costing more than $700,000.

SUPPORT FOR OTHERS

In fiscal year 2004, the Corps will provide reimbursable engineering, environmental remediation, construction management, emergency response and other technical support to more than 60 Federal agencies. The estimated dollar value of the Corps efforts is $900 million. The program size depends on several factors: the requesting agency's appropriation (which often is not known until after the fiscal year has begun), the requesting agency's final decisions on how their program will be executed, and the number, nature and magnitude of national and international emergencies which the Corps will be requested to respond.

CONCLUSION

This concludes the detailed statement of Major General Robert H. Griffin on Remaining Items of the fiscal year 2004 Civil Works Budget.

Senator COCHRAN. Thank you very much, General Flowers. General Griffin, do you have a statement?

General GRIFFIN. No, sir.

Senator COCHRAN. Let me, again, welcome you to the committee hearing. We appreciate your attendance.

And as I say, I am pinch hitting for Senator Domenici, and he has not only a full statement on the subject before us today, but a number of questions, which I will submit at this point and which have to be answered by our witnesses.

For my part, let me remind you that one of the most important projects the Corps has under its jurisdiction is the Mississippi River and Tributaries Project. I was reminded of that earlier this year—or maybe it was last year. I went to Enid Dam in the northern part of our State and spoke at the 50th anniversary of the construction of one of the large projects that is a part of that project.

Not only is there a levy system that contains the Mississippi River that was authorized by Congress as a result of the huge devastation caused by the flood of 1927, but a number of other spinoff

projects all along the trail of the—the length of the river have been authorized and funded by Congress to try to help protect the lives and property of people who live in the lower Mississippi River Valley.

And by and large, it has been an enormously successful undertaking although very costly, and it has taken a long time to complete the project. As a matter of fact there are still some parts of that project that have not yet been completed. Some are still in the design phase and planning phase. Others are still under construction.

I would like for you to take a minute for me and let me know what your reaction is to the budget submission as it relates to the Mississippi River and Tributaries Project, and in particular the protection of the main stem levy system. A lot of work is being done, I know, along the river.

I have reviewed some of the projects in my State, Issaquena County, and in Sharkey County in particular this year to see how work is being done, the environmental sensitivity of some of the work, the effort to take advantage of new technologies and the like.

Could you assess for me what your view is of how that work is proceeding? And is this budget submission sufficient to see that that is continued so that the purpose for the original authorization of that project is met?

General FLOWERS. Sir, let me begin. The President's fiscal year 2004 budget provides $280 million for the MR&T. And that money is sufficient to take care of projects on the main stem of the Mississippi.

It is a very tough year with the global war on terrorism, and some pretty tough calls have to be made, and I think this was probably one of those tough calls. We have—as a former president of the Mississippi River Commission, I understand the great concern that you have, sir, and we will do everything we can to make whatever money is afforded to us as effective as possible in protecting the valley. And I do not know if Mr.——

Mr. BROWNLEE. Mr. Chairman, I would add that the flood protection along the main stem Mississippi River, as I understand, is a priority of the administration and has received funding in accordance with that priority, so it was recognized within the administration as a priority.

Senator COCHRAN. Thank you. There have been a number of suggestions for reforms in the way projects are planned and the construction process as approved. In looking at some of these suggestions, it makes me wonder whether these are really attempts to delay the planning and construction of projects in the Civil Works budget of the Corps of Engineers.

I think the ultimate result is going to be that those projects that are approved and undertaken are going to be a lot more costly than they would have been otherwise.

What are your observations about these proposals? Do you have any views about the proposals that we ought to take seriously, and those that we might view with some skepticism? What is the Corps' position on the reforms that are being suggested?

Mr. BROWNLEE. Mr. Chairman, if I might just comment for a moment on the intent of these measures, and then I will let others who know more detail about the actual impact of it raise that.

But the intent, of course, was to focus the funding, which is modest, in accordance with the other priorities the Nation faces to try to complete work on those projects that are ongoing; to reduce the number of projects that are being designed so as not to build up a backlog of projects that are designed that we cannot afford to proceed with construction; and, therefore, to try to get the highest payoff by getting projects completed instead of spreading the money over so many projects that they all move forward just a little bit. That was the intent of the program. And I will defer to General Flowers for——

Senator COCHRAN. Thank you, sir.

General FLOWERS. Sir, the Corps' planning process is one that has been recognized by such bodies as the National Academy of Sciences as a very sound one. And we have prided ourselves on a very—on a process that has always been very open and very public.

Now, having said that, it is also a process that takes a lot of time and at times costs a lot of money. And so we are looking for ways to transform the Corps to provide better service to the Nation. And we have listened to a lot of input on ways to do that, and on many we are already taking action. We are within the Corps instituting a new project, management business process that will go across the organization that will hopefully make us more efficient.

We are becoming a learning organization so that we will take advantage of all of our experiences, both good and bad. We have established some environmental operating principles which speak to sustainable development, to always take those into consideration, and communications principles for being a much more open and communicative agency.

And I would say specifically to the Civil Works program, that we are working very hard to improve our planning capability. And with us in the room today are four members of our first new class of planning associates. They have been in Washington this week. If you would, just please raise your hands.

They are here—one from each of our Corps divisions, and they represent our planning associates program and will, at the conclusion of their program, receive Masters' in water resources planning. We have been working very hard to reestablish and strengthen that capability.

We are sponsoring the navigation economic modeling symposium in April, I believe, to look at the status of the science of economics and prediction. We are working with a strategic plan, and our Civil Works are way ahead. And that has been broadly circulated, talked about.

We have done some independent project review internally to the organization. We have funded it. We have asked firms with national recognition to come in and review some of the work that we have done as a way of checking our work.

We have asked for funds in the fiscal year 2004 budget to conduct a look-back study to determine, on projects that have already been completed, if they are delivering the benefits that we had calculated they should derive.

And we have asked for funding to $3 million in the fiscal year 2004 budget to conduct an independent review of some of our projects. And so I think we have heard what people have said, and we are working to make the organization—or transform the organization into an organization that will provide better service to the Nation.

Does that mean we are finished? No. We look forward to working with this committee, with the Congress, with the stakeholders, and with all who have provided input to do a better job.

Senator COCHRAN. Thank you, General.

Thank you, Mr. Secretary.

Senator Craig.

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

I guess I have one question, General. It is more of an elaborate-if-you-would-please. Did I hear you talk about the "need for a national water policy" or "a national water policy"?

General FLOWERS. Sir, what we see as—what I have seen as I have traveled around the country are growing debates on the uses to which we can put a very precious resource. And my belief is that in this 21st Century, water will become what to the 20th Century oil was.

And so I think as a way to resolve these competing interests, there is a need to dialogue about what will be important to the Nation as we move to the future, and I—there was a very important event last September. One of the members of the committee came and spoke on the need for—and we had a very healthy debate on the seminar with interests representing the spectrum.

And I think we concluded that there were probably about 18 uses that you could put water to that were beneficial, but oftentimes in competition with each other. And so there probably needs to be a debate leading to hopefully some consensus on how we should move forward.

I do know that in the areas in which we are involved that would be very helpful if we could take a more holistic approach to water issues. And what I am suggesting, sir, would be a watershed wide approach that would, I think, enable the Congress and the agencies that provide input to make sounder recommendations on how to take care of those precious resources.

Senator CRAIG. Well, I thank you for that observation. I think those of us who grew up in the arid West understand the criticality of water.

We also understand who ought to control it and who ought to manage it. West of the Mississippi we have something called the Western Water Law that this Congress determined a long time ago ought to be the prerogative of the State and State governments and State capitals.

And, of course, you have worked cooperatively over the years with that relationship and understanding. East of the Mississippi they have just always had a lot, never worried too much. Actually, they worried more about managing too much than not enough. And, of course, we have seen that change here just in this area where we have just gone through a drought.

I do not disagree with you about the finite resource we are dealing with and its character and how it will be seen and how it must

be handled in the future, but I would suggest that caution be directed at actions you might take or efforts you might want to stimulate as it relates to who calls the shots. It is a national debate, and that is valuable. But if Western States are considered secondary in that debate and not primary, you are going to have difficulty.

I do not want this capital city to determine the allocation of that resource for my State. That is the job of my capital city. And that is the way it will stay as long as I serve.

Clearly, we must understand the value of the region and all of those of us participating, but we have formed river commissions before. We have formed a consortium amongst our States that live in the arid West to effectively manage. And at times the Federal Government has, in part, stepped in as an arbiter. But all I can suggest to you in this impending debate—and it will be there. My guess is it will not reach its peak until you and I are long gone.

I am simply going to have to remain and will be, for obvious reasons, a pretty outspoken advocate that that debate occur at least for the West, the Pacific Northwest, in Olympia, Washington, or Boise, Idaho, or Salem, Oregon, and not in Washington, DC. Thank you.

General FLOWERS. Yes, sir.

Senator CRAIG. Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator.

Senator Murray.

Senator MURRAY. Thank you, Mr. Chairman.

General Flowers, the 2003 check-in date for the Columbia/Snake River biological opinion is fast approaching and some have questioned whether the Federal caucus is adequately implementing that biological opinion.

As I look at your Corps budget, it seems to contain a commitment to that effort, the Columbia estuaries, a new start in fiscal year 2003 and included in the budget upcoming, 2004.

The Columbia River fish mitigation program was short of full funding in the 2003 appropriation bill, but the budget is $95 million in the 2004 budget. And significantly, thanks to the efforts of this committee, the subcommittee jump-started the Chief Joseph Dam gas abatement project by including funding in 2003, and I trust will do more in 2004.

Can you just take a minute and give me your view on how the Corps is doing in meeting its obligations for the biological opinion, and is there more that we can be doing?

General FLOWERS. Ma'am, I think we are working very hard at meeting all of the aspects of the Bi-Op. And I think as you stated, the budget for fiscal year 2004 reflects a commitment to do just that. So within the organization, we see ourselves meeting all of the requirements of the biological opinion, and we will continue working.

Senator MURRAY. Is there more that we can be doing?

General FLOWERS. I do not know what that would be, ma'am. I think you are doing a great job.

Senator MURRAY. Well, I will keep pushing the committee.

General FLOWERS. All right.

Senator MURRAY. Well, thank you. Let me ask you about the John Day Lock and Dam. As you know, we have significant problems there, and both upstream and downstream locks are experiencing problems that are causing navigation of the locks to take twice as long. The dam is experiencing leakage under the foundation. And I guess I am kind of surprised that we are facing an operation and maintenance issue of this scale, and that it really appears to be unexpected.

So I would like to understand: Were we, in fact, unaware of the deteriorating condition of that lock and dam? And what is the outlook for repairs?

General FLOWERS. Let me defer that to General Griffin, please.

General GRIFFIN. Senator Murray, General Griffin.

We have—the seepage—first, I will address the dam in general. It was built in the 1960's. It was built on fractured rock, and because of that you get seepage, and over time there has been increased seepage.

So we were not surprised by this. We are surprised by the amount of increased seepage, so we—ma'am, we were not surprised by that. You know, there are really two issues there, as I know you are aware. One is a monolith that leaks is part of this foundation issue. And on the monolith itself, that was built in the 1960's. Repairs to the monolith will be complete in September 2003. That will be done at a cost of $3.8 million.

The lock itself have—the failure to the gate itself, John Day Gate, the preliminary analysis, as we have not completed our review, but it is a cable operated gate, as you know, with a counterweight and what happened is we believe there was a binding there and the cable snapped.

As a result of that, we have extended lockages by an hour and 10 minutes. The good news is, ma'am, that even though the lock gate failed, we were able to bring in a floating bulkhead and resume operations the next day. And so that we expect to award in April. It is going to cost $3.7 million. We will have that fixed by the end of June.

And so I know one of the other concerns was: Will we have to shut the lock down in order to repair the monolith? And the answer is no. We will have to go to 12-hours-on/12-hours-off for 7 weeks, but we will not close the system during those repairs.

Senator MURRAY. Okay. Thank you very much.

General GRIFFIN. Yes, ma'am. Yes.

Senator MURRAY. I appreciate that. And, you know, John Day is just one example in the Northwest of a significant backlog of O & M funding needs. You have got the jetties at the mouth of the Columbia and Coos Bay is edging towards failure as well.

And it seems like every lock and dam on the Columbia and Snake system could use an increase of O & M funding right now. And I know we have this funding shortfall for O & M, and it makes it hard to move forward on new start projects like the deepening of the Columbia River channel, which my ports feel is really essential for ports, farmers, and exporters as we compete in a global market.

So when I talk to people in the Northwest, they tell me that they are concerned that O & M funding is being undercut because we are having to address the security needs at the Corps facilities.

General, if you could, just talk to us about the security budget. Is it inadequate? Is it taking money from O & M? Is that a concern, and how do we address that?

General FLOWERS. Well, this year in fiscal year 2004, we intend to take $104 million to put in place projects to better secure our critical infrastructure, and that does come out of our O & M account.

Senator MURRAY. That comes out of the O & M. So it is a concern?

General FLOWERS. Yes, ma'am.

Senator MURRAY. And that will impact our ability to do a lot of our current O & M needs, as well as any new starts?

General FLOWERS. There will be an impact, and based on the 2004 budget that is proposed, our backlog of high priority maintenance will exceed $1 billion.

Senator MURRAY. Well, I think that is a real concern for this committee that we need to be aware of.

Senator COCHRAN. Thank you, Senator.

Senator MURRAY. Thank you, Mr. Chairman.

Senator COCHRAN. Senator Dorgan.

Senator DORGAN. General, let me talk about a couple of things. And, Assistant Secretary, welcome to all of you.

The Grand Forks flood control project, which I know you are involved in, the flood that virtually everyone remembers that caused the evacuation of the entire city of Grand Forks precipitated the requirement to build a new flood control project.

The President's budget recommends a cut of nearly $10 million. We appropriated $35 million in the omnibus bill this year. The President recommends $23.4 million. Will that keep us on schedule to complete this flood control project by the end of 2004, or will it throw us off schedule?

General FLOWERS. Sir, this budget, the 2004 budget reflects fully funded projects that can be completed in fiscal year 2004, and keeping eight other high priority projects on a most efficient schedule. The remainder of the projects will be continued, but their duration will have to be stretched out, and this is one of those projects. Yes, sir.

Senator DORGAN. You are aware that FEMA will be remapping there and creating the new flood plain, and when that happens before the completion of the flood control project, 90 percent of the people living in both of those cities on both sides of the river, Grand Forks and East Grand Forks, will be required to spend $10 million to $15 million in the interim for flood insurance. The expectation was to try to move to complete this project concurrent with the remapping so that we did not have that problem.

You are saying that the President's recommendation slides the completion date of this project at this point, huh?

General FLOWERS. Yes, sir.

Senator DORGAN. And how far does it slide it?

General FLOWERS. Sir, we will have to take that for the record, if we could. But I believe it to be about 6 months to a year.

[The information follows:]

With $23 million for fiscal year 2004 and a similar amount for out-years, the project would stretch out to fiscal year 2008. With a total appropriation of $60 million in both fiscal year 2004 and fiscal year 2005, critical features could be substantially completed by December 2005, and with follow-on appropriations of $1,811,000 in fiscal year 2006 the project would be physically completed by June 2006.

Senator DORGAN. Well, that is a major disappointment, obviously, to the people of Grand Forks. I think it is the only significant size city that was completely evacuated since the Civil War in this country. It was quite a sight to see.

The Congress provided enormous help to the region as a result of that dramatic Red River Valley flooding, which I think was a 400- or 500-year flood. But the need to complete this flood control project is urgent, and I am really disappointed to see the President's recommendation. We will try, of course, to build some of that back, which is, I am sure, going to be very difficult.

Let me ask you about the Devils Lake issue. That is a flood that has come and stayed, and you have announced a—the need for an outlet, and that a potential wet cycle and the devastation of having the water cascade naturally from the east side of the lake when it reaches that overflow area would produce pretty dramatic results downstream. And we have to stop that. And so you have announced the need for an outlet. You have actually announced a preferred outlet, is that correct?

General FLOWERS. Yes, sir. We have released a final environmental impact statement with the constructed outlet as the preferred alternative. And that will be going out shortly for comment.

The—in my time as chief of engineers, and in probably my time as an engineer, this was one of the most difficult problems that I have been associated with, in that Devils Lake is a closed basin and depends on essentially evaporation to remove whatever water collects inside that closed basin. And we know that geologically about every 800 to 1,200 years that basin will overtop and spill into the Sheyenne River, or the Red River of the North.

And we have been maintaining data for about an 80-or-so-year period. And so we really do not know where we stand in that geologic cycle. We do not know whether we are close to the 800- or 1,200-year time when it may overtop. And what we have seen in the last few years has really pushed us out of the predictive—our ability to really predict what might happen.

And so by choosing that as a preferred alternative, I was reflecting my recommendation that the Nation not accept the risk associated with ignoring this and using the more standard modeling that we do for river-type basins. And so that is why I announced this as a preferred alternative. It was a very tough call, but that is it, sir.

Senator DORGAN. Will it be your request to fund this as soon as you go through the comment period? Because you have outlined a preferred alternative and the consequences of not doing something at this point, will it be your determination to recommend and request funding in the next budget cycle?

General FLOWERS. Sir, following—pending the EIS responding to comments, et cetera, and once a record of decision is made, if that

decision is to do an outlet, then we would probably move forward, yes, sir.

Senator DORGAN. The budget request also zeros out the Breckenridge Flood Control monies, which stops the Wahpeton project, and Grafton Flood Control. Those are relatively small projects, but what would the anticipation be with zero funding? The project would just come to a halt?

General FLOWERS. Sir, if the project is in preliminary design, it would be suspended until money becomes available. If it is a project that has not been begun, then one of the decisions made in formulating the 2004 budget was to not include any new starts in the budget.

Senator DORGAN. Well, let me just say that I think the budget request is a huge disappointment in a number of areas. We are dramatically underfunded. Some key projects that must move forward were not funded appropriately. And you indicated that the budget will focus on finishing ongoing projects, but the fact is that has not been the case in several of our circumstances, but I want to work with you.

Let me ask one additional question, if I might, with respect to the master manual, which at least the staff of Senator Bond would be disappointed if I did not ask, I am sure. That was a 6-month project that has now at the end of 12 years produced a preferred alternative, the exact details of which, I think, are still at this point not public. Is that correct?

General FLOWERS. Yes, sir.

Senator DORGAN. There is a preferred alternative that is bouncing somewhere between yourself, The White House, and CEQ and others. I had General Fastabend before the committee last year. And, you know, he made an appointment to see me on May 23rd—I think it was May 23rd—the Corps was going to announce the preferred alternative the next day. And so he was coming to alert us to what the preferred alternative was going to be.

That meeting was then cancelled, and in a subsequent hearing I said to General Fastabend, I am sorry, "Could you tell me what it was you were going to tell me, because clearly you had a preferred alternative? You were going to disclose it. Can you tell me what it was you were going to disclose but did not disclose?"

And the answer was, "No, I am under orders not to do that."

I said, "Whose orders?"

He said, "General Flowers' orders."

General FLOWERS. Oh.

Senator DORGAN. So would you tell us what General Fastabend was going to tell us but could not tell us as a result of your orders, General Flowers?

General FLOWERS. Sir, if I could, I would defer to the Under Secretary for this.

Mr. BROWNLEE. Sir, most Under Secretaries probably become very good troubleshooters. I may have become a very good troublemaker in some respects. But I had just been appointed as the Acting Assistant Secretary of the Army for Civil Works when General Fastabend brought this matter to my attention. As I was briefed on it—and I admit to no long history of knowledge of these matters, but as I was briefed on it, it seemed to me that—clearly as

you know better than I do, these are very complex, sensitive issues. There are differing sides. It does not seem to cut politically. It seems to cut regionally.

Senator DORGAN. That is correct.

Mr. BROWNLEE. There are also matters, very important matters dealing with endangered species that have to be dealt with, and it was my decision. I ordered General Fastabend to cease engines, to not take this outside the administration until I had an opportunity to, A, learn more about it; and B, I have to admit that it appeared to me that the process we were following could have turned into one that was adversarial even within the administration. And the 18 years I had spent working on the staff here in this body told me that the best way to address these kinds of issues is to get well informed, well intentioned people around a table and see if we cannot work something out.

So my direction to him was that we would work collaboratively within the administration to see if we could reach some positions that would more adequately satisfy these very varying interests.

I have to admit to you that this has gone on longer than I ever anticipated, but I also want to report to you that I think we are right on the verge of entering formal consultation—reinstating that formal consultation with the Fish and Wildlife Service, and hopefully we can proceed.

It certainly is not my intent and it has never been my intent to delay this as long as it has been. This actually happened in the April, May time period. I never dreamed I would be here saying, "We are not there yet."

But as you know very well, it involves very complex issues. The drought has not helped things one bit. It has made it even more difficult. I just want to tell you, sir, it is my intent that the Army will continue to work this problem—but General Fastabend was doing exactly what I told him to do.

So at this point in time, I just have to tell you that it is my hope—I had hoped that by yesterday, we would be back in formal consultation with the Fish and Wildlife Service. Unfortunately, I got a call last night. It may be delayed a day or two, but we are that close, I think, to reinstating formal consultation with the Fish and Wildlife Service.

Senator DORGAN. Mr. Chairman, I perhaps have exhausted more than my time. May I make an observation about that, however?

Senator COCHRAN. Of course.

Senator DORGAN. This is approximately another 1-year delay on top of 11 previous. It is not the end of the world, but are you willing to set a time-line, like another 12 years or so?

Because what will happen to us——

Mr. BROWNLEE. Yes, sir.

Senator DORGAN [continuing]. Is another assistant secretary will come in and say, "You know something? This is controversial. And, General, I know you are working on this, but pull back." And so, you know, your grandchildren will be here and testifying on these things.

We need to make progress. The fact is this river is critically important to the upstream and downstream States. It has become a kind of a Hatfield/McCoy situation, but somebody needs to step in

and say, "Look. Here is the best way to manage this river, recognizing all of the interests of all of the people that have an interest in this river." And it is not going to happen by delay, and it certainly is not going to happen by preventing us from knowing what the Corps has been doing. And they were at a point where they had a preferred alternative, and I would very much like to know what it is.

Mr. BROWNLEE. Yes, I understand.

Senator DORGAN. Can you tell me what it is?

Mr. BROWNLEE. Sir, I would not know the detail adequately to describe it to you here at this point. I can tell——

Senator DORGAN. Well, could you tell the General to do it then? Because he knows.

Mr. BROWNLEE. My understanding is it has been kind of kicked around out there for awhile, but if I could, Senator, I just want to say that I do not disagree with any of the points you have made. I had hoped to appear before you to report a lot more progress than I am reporting now. There is another nominee for this particular position who I understand has already appeared in one hearing before the Senate, maybe at another one. But I did not feel that I could let that go forward knowing as little as I knew about it. I apologize for that. That is my problem and not yours.

I think that while there is not a lot of apparent progress that I can put before you today, I think there has been some, and hopefully we can reach the kind of solution that will benefit the interests or balance the interest, at least, on both ends of this river.

Senator DORGAN. Mr. Assistant Secretary, thank you.

Senator COCHRAN. Senator Bennett.

Senator BENNETT. I have no questions for this panel.

Senator COCHRAN. Thank you very much, gentlemen. We appreciate your attendance at this hearing.

Senator CRAIG. Mr. Chairman?

Senator COCHRAN. Senator Craig.

Senator CRAIG. One last comment: Both the Senators from North Dakota and I are co-chairs of an important caucus here on the Hill, and the Army Corps is a major player. And we began an episode that started 200 years ago to celebrate it last month.

General, you have got $310,000 in the budget for the Lewis and Clark Bicentennial. And you do play a major role in that. I believe that was a military activity and an Army activity some 200 years ago.

General FLOWERS. It was, sir.

Senator CRAIG. Is that adequate funding?

General FLOWERS. Sir, I think given all of the competing interests for the very scarce resources that the taxpayers have, it is probably sound. We have been trying to put as much of our O & M budget as we can toward preparing our portion of the Lewis and Clark Trail for or to receive visitors during the Bicentennial.

Senator CRAIG. Yes.

General FLOWERS. And I can provide to you and your staff a by-project listing of where we intend to invest money over the next couple of years.

[The information follows:]

CORPS OF ENGINEERS—OVERALL CAPABILITY FOR LEWIS AND CLARK PROJECTS AS OF MARCH 2003

Project	Total Cost
Hannibal Lock and Dam, WV	$229,500
Lake Ashtabula, ND	400,000
Mississippi River from Missouri River to Minneapolis	475,000
Mississippi River from Ohio River to Missouri River	1,013,000
Clinton Lake, KS	30,000
Perry Lake, KS	967,000
Fort Peck, MT	2,594,000
Garrison, ND	4,808,000
Gavins Point, SD and NE	7,396,000
Oahe, SD and ND	465,000
Dworshak Dam, ID	738,000
Ice Harbor, WA	1,280,000
Little Goose, WA	50,000
Lower Granite, WA	265,000
McNary, OR	601,000
Mill Creek, WA	150,000
Bonneville, WA and OR	2,793,000
Dalles, WA and OR	184,000
John Day, WA and OR	1,403,000
Albeni Falls, WA	65,000
Lake Washington Ship Canal, WA	15,000
Mud Mountain Dam, WA	15,000
Chief Joseph Dam, WA	15,000
Libby Dam, WA	15,000
National Coordinator and Events	310,000
TOTAL	26,276,500

Senator CRAIG. Well, I would like to see that. It is a short-lived project, but it is certainly one worthy of this country, and one to be celebrated. And we want to see it go forward for all of the public to enjoy. Thank you very much.

Mr. Chairman, thank you.

ADDITIONAL COMMITTEE QUESTIONS

Senator COCHRAN. Thank you, Senator.

Thank you all, gentlemen, for your cooperation with the committee and being here today and presenting the budget request for the U.S. Army Corps of Engineers.

[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

CONSTRAINING CORPS CONSTRUCTION

Question. One of the items the Corps' budget reduces significantly is the Preconstruction, Engineering, and Design, or PED-phase projects. In last year's enacted appropriation, the Congress funded approximately 80 projects in this phase. The PED phase is the last stage before construction. The administration is proposing to cut that number to about 18.

Can you, General Flowers or Undersecretary Brownlee tell the committee the practical effect this has for these projects?

Mr. BROWNLEE. The reduction in the number of PED's is an important element of our budget proposal. It is not due to any limitation on planning or design funds. Rather, until the large backlog of ongoing construction projects is reduced we need to reduce the number of projects that we design and initiate. The Fiscal Year 2004 Budget continues much important ongoing planning, PED and research work but

does put on hold many continuing PED activities that had been ongoing in previous years. The Fiscal Year 2004 Budget includes five new reconnaissance studies and provides significant funding for priority ongoing planning, research and PED work. Until the large backlog of ongoing construction projects is reduced we need to reduce the number of projects that we design and initiate.

Question. Would this budget, if enacted, force the Federal Government to terminate contracts?

Mr. BROWNLEE. No PED contracts would be terminated as a result of this budget. The PED activities would be in a pause status, not terminating, and as such could be continued when funds become available.

Question. Is there funding included in your budget to cover the contract termination costs associated with this decreased PED activity?

Mr. BROWNLEE. Since no PED contracts would be terminated, there is no termination costs associated with this decreased PED activity and no funds for termination would be needed.

TRANSFORMATION OF THE CORPS

Question. The Congress and the administration are always seeking new ways to do things more efficiently, more effectively, and less costly. As always, we see continuous negative news reports about the Corps. I would like to commend you, General Flowers, for undertaking this effort to transform the Corps.

Commonly, constituents complain about the permitting process, or that the construction process takes too long with a large project averaging from 10 to 15 years, depending on the size. Can you tell this committee what the Corps is doing internally to transform itself into a more productive agency?

General FLOWERS. We are doing a number of things to transform ourselves into a more productive agency. First, we are strengthening the Planning Program. We're cooperating with major universities and have established a planner training and development plan, to include core curriculum, a new Planning Associates Program, and the Masters in Water Resources Planning. We are also moving forward with a Planning Leadership Development and looking at our structure with a focus on establishing centers of Specialized Planning Expertise needed for the 21st Century. We are also looking to modernize planning processes, tools and models as well as our environmental benefit evaluation and formulation. We have developed and are now working on specific procedures to implement the Environmental Operating Principles to assist field planners in formulating environmentally sustainable civil works projects. Having more effective planning practices will lead to better studies, which will lead to better reports and a more efficient study process.

We must improve our operations for more expeditious and productive performance. In recognition of this, I have been engaged, throughout my tenure as Chief, in an effort, initiated by my predecessor, to reengineer the organizations and business operations of the Corps of Engineers. In that effort we have selected the project management way of doing business as the basis for developing a business management system and attendant organizations and operations. This system, called PMBP, including an automated information system (AIS) to go along with it, is being implemented Corps-wide to manage all Corps projects more efficiently and effectively. Supporting policy and doctrine, definitions of our business processes, and curriculum are in now in place Corps-wide. Deployment of the AIS is scheduled to begin in mid-October and once fully deployed, the PMBP system will greatly enhance our ability to better support the Army, other Federal agencies, and the Nation.

As to our permitting process, we will have available by August 1, 2003, an electronic application and comment form tied to the implementation of our new permit tracking system. Most Districts are currently publishing their Public Notices on the web and are moving toward electronic notification procedures. Other plans include the hiring of additional personnel to reduce process time for the large number of standard permits and general permits; continuing to encourage pre-application coordination allowing potential applicants to work out issues before submission of an application and allocation of additional resources to studies of watershed approaches to the permit process. The latter allows better prediction of future permit impacts in sensitive areas so permit review can be expedited for standard permits as well as other permit actions.

Question. It is my understanding that the Corps has undertaken an examination of its processes, what is the most remarkable thing you have found?

General FLOWERS. In examining the processes that are leading to the transformation of the Corps I have found it remarkable how powerful a concept "working in teams" can be. Through teams, we are able to exchange information, ideas, and

concepts, which lead to solutions coming from a synergy that is simply not present when working in the traditional "stovepipe" method.

Question. Did you seek out the views of any affected parties outside the Corps, its customers and critics?

General FLOWERS. Yes, I have. Among those is the Corps Reform Network, comprising all parties interested in improving our program. We have also redoubled our efforts to engage Federal, State, and local agencies, stakeholders, and the public in meaningful dialogue on what the Corps should look like in the future. Additionally, I have issued communication principles to ensure open, effective, and timely two-way communication with the entire community of water resources interests. We know well that we must continue to listen and communicate effectively in order to remain relevant.

Question. What are ways the Congress can assist the Corps to become better at its job?

General FLOWERS. Senator I would seek any and all advice and guidance that the Congress can provide as to what you would like to see out of your Corps of Engineers. We have heard what the people we have spoken with have said, and we are working to transform the organization into a one that will provide better service to the Nation. We look forward to continue to working with the Congress as well as stakeholders and all who have provided input, so we can all do a better job.

INLAND WATERWAY AND HARBOR MAINTENANCE TRUST FUNDS

Question. The administration's budget proposes to change the use of both the Inland Waterway Trust Fund and the Harbor Maintenance Trust Fund. As the author of the Inland Waterway Trust Fund, I am concerned about the impact of the proposal to utilize these funds for Operation and Maintenance projects and to utilize the Harbor Maintenance Trust Fund, strictly an O&M account, for construction projects.

If the Congress was to enact these two trust fund changes, General Flowers, what is the effect?

General FLOWERS. The commercial interests that use the inland waterways system are paying a portion of the costs of capital improvements. However, the costs of operation and maintenance, which are substantial, have continued to be borne entirely by the general taxpayers.

The budget proposed to begin using some of the diesel fuel receipts to finance a portion of the inland waterways system's operation and maintenance costs. The administration has recommended using $146 million for this proposal in fiscal year 2004, which would cover about 38 percent of the estimated operation and maintenance costs. The remaining costs would continue to be financed through general tax revenues. Under the budget proposal, those who benefit commercially from past Federal investments in the inland waterways navigation system would pay a fair share of all of the system's costs—for the construction and major rehabilitation of projects, as well as their operation and maintenance.

The budget includes a similar proposal for coastal ports and channels. Some users of certain U.S. ports now pay a tax in proportion to the value of their imports. Treasury deposits these receipts, along with tolls collected on the St. Lawrence Seaway, into the Harbor Maintenance Trust Fund. Until now, Congress has used this Fund to finance the cost of operating and maintaining these waterways. The budget proposes to expand it use to include the Federal costs of the Army Corps of Engineers work on coastal port and channel construction. The administration has recommended using $205 million for this purpose in fiscal year 2004.

Question. Wouldn't the two trust funds be essentially diluted if we expand their scope?

General FLOWERS. Under both proposals, those who benefit commercially from Federal investments in navigation would pay a fair share of all navigation system costs—for the construction and major rehabilitation of projects, as well as their operations and maintenance. Since the funds would still be used for navigation, we do not view the funds as being diluted.

Question. Can you tell this committee, if Congress enacted these proposals today, at the current rate of spending, when would the trust funds be insolvent?

General FLOWERS. At the current rate of collections and outlays, the Inland Waterway Trust Fund could run out of funds by the end of fiscal year 2006. Within this time frame, however, Congress and the administration should be able to reach agreement on the best way to allocate responsibility for future inland waterways operation and maintenance costs.

The Harbor Maintenance Trust Fund balance would continue to grow, but more slowly, so long as annual outlays remain about the same and the fund continues to receive harbor maintenance tax payments as projected.

Question. What decisions would we have to make if these two funds became insolvent?

General FLOWERS. The draw down of the fund will be affected by many variables, including economic conditions and funding decisions. At the current rate of collections and outlays, the Harbor Maintenance Trust Fund would continue to show positive balances for many years. The situation with the Inland Waterways Trust Fund is not as favorable; it could run out of funds by the end of fiscal year 2006. Within this time frame, however, Congress and the administration should be able to reach agreement on the best way to allocate responsibility for future inland waterways operation and maintenance costs.

POWER MARKETING ADMINISTRATIONS (PMA'S) DIRECT SPENDING PROPOSAL

Question. The administration has included for the second year, a proposal to allow for direct spending by the PMA's of Operations and Maintenance work. Bonneville already has this authority, and I believe we need to pursue all of our options, however, I think we need to gain a better understanding of the effect of this proposal.

How would the Corps budget be affected if we enacted this proposal?

Mr. BROWNLEE. Enactment of a direct funding authorization together with the completion of necessary inter-agency Memoranda of Agreements, would reduce the need to provide annual appropriations for hydropower operation and maintenance (O&M) activities. The power customers are willing to spend more on maintenance activities than Congress has appropriated in recent years. We would apply the extra funds to hydropower maintenance. This will improve the reliability of the power that we provide by reducing the incidence and duration of unscheduled equipment outages.

Question. What assurances do we have that the Corps would be credited those funds which would be directly funded? How do we know that the Corps gets the direct savings instead of those going to the General Fund of the Treasury?

Mr. BROWNLEE. If the administration's proposal were enacted, we would execute the Memoranda of Agreement and begin direct funding in fiscal year 2004.

Question. One important concern I have is that if this proposal were enacted, it appears that the costs for operations and maintenance would just be passed on to the ratepayer without any oversight, either by the administration or Congress. Is this true?

Mr. BROWNLEE. Under the administration's direct funding proposal, every year all work and costs associated with a given Federal hydropower facility would continue to be documented and submitted to the PMA's. In the case of Bonneville, projected system costs are submitted to the administration and identified in the President's budget. Additionally, Congress requires a 3-year progress report on the direct funding with Bonneville, which was completed and submitted in December 2002. Thus the administration and Congress both will continue to provide oversight of the use of funds.

Only costs associated with the production of electricity would be passed on to the rate payer under this proposal, consistent with the "beneficiary pays" principle. Costs for other project benefits such as navigation and flood control would continue to be covered with annual appropriations. For multipurpose projects, the joint costs allocated to hydropower would continue to be funded through annual appropriations.

Every year all work and costs associated with a given Federal hydropower facility must be documented and submitted to the PMA's. These costs are also submitted to the Federal Energy Regulatory Commission in evaluation of rates nationwide. The PMA's and the Corps use this information to develop 5-year work plans for projecting future costs. In the case of Bonneville, these projected system costs are submitted to the administration and identified in the President's budget. Additionally, Congress required a 3-year progress report on the direct funding with Bonneville, which was completed and submitted in December 2002.

Question. How has Bonneville done under this authority? What's the biggest complaint?

General FLOWERS. Through a strategy based on increased funding of Corps hydropower facilities in the northwest, the region has experienced a more stable power supply, additional generation of electricity, and increased revenues. Breakdowns have decreased from 5.5 percent to 2.7 percent over the past 3 years under direct funding authority.

Question. Can you tell us what benefits the Government and the Corps has gained with Bonneville having its own authority?

General FLOWERS. One of the key management tools in efficiently maintaining a hydropower facility is the ability to address maintenance before a problem becomes larger. Direct funding achieves this objective by providing a way to make additional funds available for maintenance. In addition, direct funding has provided the flexibility to fund critical maintenance as it is identified, rather than having to attempt to forecast priorities as part of the budget cycle. This regional system approach creates more reliable and improved system performance in a region that 70 percent of the power needs are provided by the hydropower system. Consequently, the closer partnership between Bonneville and the Corps has led to an overall Performance Measurement Management System—where system performance drives investment decisions.

ALAMOGORDO FLOOD CONTROL

Question. There have been questions raised about the level of flood protection afforded to the residents of Alamogordo by the Alamogordo flood protection project. In particular, there have been indications that the project will not allow citizens within the area to be protected by the project, to get out of the need to pay for FEMA flood insurance. Could you please update the Committee on the status of the Alamogordo project and the level of flood protection that will be provided to the citizens of the area?

General FLOWERS. The project consists of three diversion channels, South Channel, McKinley Channel, and North Channel. Construction of South Channel was initiated in late 2000. The project is designed to divert the 1 percent or 100-year flow from storms originating in the Sacramento Mountains safely through or around the City. Upon project completion, approximately 75 percent of currently flood-prone structures will be removed from the 100-year floodplain and will no longer be required to maintain flood insurance. Even with these improvements, some residual flooding will occur from storms occurring directly over the City. The local sponsor is currently considering the need for additional protection.

Question. When will this project be ready to proceed to construction and what is the estimated time for completion?

General FLOWERS. Phase I of the South Channel was initiated in December 2000 and completed in June 2002. Remaining phases of the South Channel will be initiated this spring, followed by McKinley Channel and North Channel. The schedule will depend upon the availability of funding and other factors. Subject to the usual qualifications on capability, we could compete the project by September 2009.

EMERGENCY SUPPLEMENTAL

Question. Are there any Civil Works requirements for the supplemental, either in terms of emergency or terrorism needs that the Congress needs to consider?

Mr. BROWNLEE. Sir, at this time we expect to be able to address the priority emergency and terrorism needs without supplemental funding.

Question. Within the fiscal year 2003 appropriation, are there sufficient funds to cover your terrorism related expenses?

Mr. BROWNLEE. Senator, the Fiscal Year 2003 President's Budget for facility protection required $65 million, but the appropriation was $35 million. This amount will be sufficient to pay for guards, provided that we do not enter a heightened alert status for an extended period.

Question. From an economic security standpoint, is there anything that would make sense for the Congress to include in the Supplemental on behalf of the Corps?

Mr. BROWNLEE. Sir at this time we do not expect to need supplemental funding.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

CIVIL WORKS CONTRIBUTION TO NATIONAL DEFENSE

Question. Please explain the contribution provided to this Nation's Defense by the Civil Works Program?

General FLOWERS. The contributions provided by the Corps' Civil Works program are substantial. The Civil Works Program is a valuable asset in support of the National Security Strategy in many ways. Foremost, we have a trained engineering workforce, with world-class expertise, capable of responding to a variety of situations across the spectrum of national defense. In fact, skills developed in managing Corps projects transfer to most tactical engineering-related operations.

The Civil Works mission complements and augments the Army's war fighting competencies providing established relationships with the Nation's engineering and construction industries—a force multiplier with "On the shelf" contracts available for emergencies. Civil Works members are deployable. During Operations Desert Shield/Desert Storm, more Civil Works employees volunteered for duty in Southwest Asia than were needed. To date, 250 civilian members of our Civil Works Program team have volunteered for deployment in support of Operation Enduring Freedom—providing engineering, construction, and real estate support specialists and professionals skilled in managing large, complex projects.

Civil Works also provides professionals with expertise in natural and cultural resources, water quality, flood plain management or toxic waste control, helping the Army comply with more than 70 Federal environmental statutes, and a breadth of experience and workload in dozens of specialized fields that would not otherwise be possible. Finally, Army Engineers experienced in Civil Works play a major role in infrastructure in developing nations. They help to improve economic conditions and strengthen democratic institutions in these nations and foster good will through contact between governments and armed forces.

CIVIL WORKS VALUE TO THE NATIONAL ECONOMY

Question. Could you please provide an explanation of the overall value that the Civil Works program makes to this Nation's economy?

General FLOWERS. The Corps Civil Works program supports our national economy through the provision of physical infrastructure features. These include navigation features that facilitate domestic and foreign commerce by means of waterborne transportation; flood control features that reduce the risk of flooding and the extent of flood damages incurred; and hydroelectric power generation features located at 75 Corps operated facilities.

ECONOMIC SECURITY REQUIREMENTS

Question. Does the administration intend to submit a supplemental appropriations bill covering unmet economic security requirements associated with the recently enacted Omnibus Bill or associated with the fiscal year 2004 budget?

Mr. BROWNLEE. At this time, we expect to be able to address the priority needs of the Civil Works program without supplemental funding.

NATIONAL WATER POLICY

Question. General Flowers, in your role as the Chief of Engineers, what do you see as the major water resource challenges facing this country in the future? Do you see value in an overall National Water Policy Debate occurring?

General FLOWERS. Sir, because the conflicting demands for water appear to be increasing across the country in major watersheds I see value in the debate. Last fall, the American Water Resources Association sponsored a seminar on the need to better coordinate water policy. Solutions to complex water problems will not be easy without collaboration of many government organizations at all levels, first and foremost at the State level.

PRECONSTRUCTION ENGINEERING AND DESIGN

Question. What was the decision process for funding only 19 Preconstruction Engineering and Design studies in the fiscal year 2004 budget? As Truckee Meadows is one that is going unfunded within my State, you can understand, I am very curious. Reno has suffered many devastating floods and is in desperate need of this flood protection project.

Mr. BROWNLEE. The reduction in the number of PED's is an important element of our budget proposal. It is not due to any limitation on planning or design funds. Rather, until the large backlog of ongoing construction projects is reduced we need to reduce the number of projects that we design and initiate. The Fiscal Year 2004 Budget includes five new reconnaissance studies and provides significant funding for priority ongoing planning, research and PED work. For the Preconstruction, Engineering and Design, we funded those projects that had strong benefit to cost ratios or high environmental outputs and that are near completion.

CIVIL WORKS BUDGET LESS THAN PREVIOUS YEARS APPROPRIATIONS

Question. We have noted that the President's proposed Fiscal Year 2004 Budget is nearly $400,000,000 less than the fiscal year 2003 enacted Civil Works Program, what is the impact of such a drastic cut on the ongoing Program?

Mr. BROWNLEE. Senator, in fiscal year 2002, the Congress appropriated $1,828,035,000, net of a reduction for savings and slippage, for specifically authorized projects included in the Construction, General account in the fiscal year 2002 budget. The amount in the President's fiscal year 2004 budget for specifically authorized projects funded in the Construction, General account is $1,466,095,000, net of a reduction for savings and slippage. Increasing the budgeted amount for fiscal year 2004 by the difference of $361,940,000 would enable the acceleration of a number of projects, enabling benefits of approximately $1,500,000,000 to come on-line 1 year sooner. Cost savings would largely be attributable to differences in price levels.

Question. How do you plan to manage such a drastic cut?

General FLOWERS. At this time, we are continuing to execute the fiscal year 2003 program enacted by the Congress. The fiscal year 2004 budget was prepared before enactment of the fiscal year 2003 appropriations, so we will need to do some reprogrammings to address changes in the continuing requirements of some work. We will finalize our execution plans after enactment of fiscal year 2004 appropriations legislation.

Question. What level of funding would be necessary to maintain the progress realized in the Civil Works Program through the enacted appropriations levels for the past couple of years?

General FLOWERS. Sir, the level of funding needed to execute at a level commensurate with fiscal year 2003 appropriations, including an adjustment for inflation, would be about $4.8 billion in fiscal year 2004. However, the fiscal year 2003 appropriations included funds for projects that are not included in the fiscal year 2004 budget.

ARMY RECOMMENDATION

Question. What was the Fiscal Year 2004 Program that the Department of the Army recommended? What rationale was provided as to why this program was not supported?

Mr. BROWNLEE. Senator, a number of alternative funding levels were developed, proposed and discussed. As you know, the advice and counsel leading up to the final decision that form the basis of the President's budget are part of the internal deliberative process. The Army's requests were fully considered during the budget process.

Question. What level of funding would be necessary to sustain the progress developed in fiscal year 2003 in meeting the Nation's water infrastructure needs?

Mr. BROWNLEE. Sir, the level of funding needed to execute at a level commensurate with fiscal year 2003 appropriations, including an adjustment for inflation, would be about $4.8 billion in fiscal year 2004. However, the fiscal year 2003 appropriations included funds for projects that are not be included in the fiscal year 2004 budget.

Question. If the administration's budget proposal is enacted, what will be the impact on meeting the Army Corps' O&M backlog? The construction backlog?

General FLOWERS. Our latest estimate of the construction backlog of ongoing budgeted construction work is $21 billion. I should note that this figure does not include the construction costs of projects in preconstruction, engineering and design or that are not budgeted. The fiscal year 2004 budget applies nearly $1.3 billion to construction of specifically authorized projects, as part of the administration's comprehensive strategy to reduce the backlog over time.

We now refer to our operation and maintenance work that cannot be deferred without added cost or a loss in performance as high priority work. With the Fiscal Year 2004 President's Budget of $1.939 billion for the Corps Operation and Maintenance, General program there would be a backlog of an estimated $1.011 billion in high-priority operation and maintenance work.

RELATIONSHIP TO NATIONAL DEFENSE

Question. What is the relationship of the Corps' Civil Works Program to the defense of our homeland?

General FLOWERS. The Civil Works Program is a valuable asset in support of the National Security Strategy in many ways. Foremost, we have a trained engineering workforce, with world-class expertise, capable of responding to a variety of situations across the spectrum of national defense. In fact, skills developed in managing Corps projects transfer to most tactical engineering-related operations. The Civil Works mission complements and augments the Army's war fighting competencies providing established relationships with the Nation's engineering and construction industries—a force multiplier with "On the shelf" contracts available for emergencies. Civil Works members are deployable. During Operations Desert Shield/

Desert Storm, more Civil Works employees volunteered for duty in Southwest Asia than were needed.

To date, 250 civilian members of our Civil Works Program team have volunteered for deployment in support of Operation Enduring Freedom—providing engineering, construction, and real estate support specialists and professional skilled in managing large, complex projects, transferable to most tactical engineering-related operations. Civil Works also provides professionals with expertise in natural and cultural resources, water quality, flood plain management or toxic waste control, helping the Army comply with more than 70 Federal environmental statutes, and a breadth of experience and workload in dozens of specialized fields that would not otherwise be possible.

Finally, Army Engineers experienced in Civil Works play a major role in infrastructure in developing nations. They help to improve economic conditions and strengthen democratic institutions in these nations and foster good will through contact between governments and armed forces.

TERRORIST THREAT

Question. How would you characterize the threat from terrorism to this country's vital Civil Works Projects?

General FLOWERS. The vulnerability of water resources infrastructure facilities to potential acts of sabotage has always been a concern throughout history. All of our projects have some measure of protection in place based on traditional risk assessments and would be happy to personally discuss these threats further with you.

Question. Could you provide an example of the kind of risk that you are talking about?

General FLOWERS. Again, I would be happy to personally discuss these threats with you.

MINIMIZING VULNERABILITY TO TERRORIST THREAT

Question. What efforts are you undertaking to minimize this risk?

General FLOWERS. Since the events of September 11, 2001, we have increased and modified our security posture at our facilities in response the changing threat levels. We performed an initial screening of over 600 dams and other facilities and determined that approximately 350 projects could be considered to have high consequences in the event of a terrorist attack. Consequences were based on the potential for loss of life and/or impacts to the facility purpose including navigation, flood control, hydropower, and ecological outputs. The list was further refined to the 306 facilities that we believe warrant security upgrades and detailed assessments and review has been completed on all of these. Vulnerability assessments produce a recommended system of improvements targeted to reduce the risk associated with potential threats to the facility. Elements of the proposed systems can include cameras, lighting, fencing, structure hardening, and access control devices designed to improve detection and delay at each facility.

One hundred four million dollars of the Operation and Maintenance funds provided in this budget are targeted for facility security. We will direct funding to those priority projects at which there is potential for loss of lives downstream or economic consequences of greater than $200 million and will continue security improvements at our administrative facilities.

Question. Does the President's proposed budget provide adequate resources to address this risk?

General FLOWERS. Sir, we are funding the highest priority need first. Based on current assessments, we are comfortable with our funding path.

Question. What funds would you need to adequately address the risk to our Civil Works Projects?

General FLOWERS. Sir, we are funding the highest priority need first. Based on current assessments, we are comfortable with our funding path.

COMMODITY FLOW THROUGH CORPS BUILT HARBORS

Question. What is the percentage of the Nation's commerce that come into or leave this country that goes through a Corps-built and -maintained harbor?

General FLOWERS. Over 95 percent of the commodities that leave or enter this country by ship moves through our Nation's coastal and Great Lakes harbors, virtually all of which is in Federal channels maintained by the Corps.

HISTORIC SPENDING FOR INFRASTRUCTURE MAINTENANCE

Question. Could you characterize the proportion of the discretionary budget of the Federal Government that is directed toward building and maintaining this country's water infrastructure today to say 30 years ago?

General FLOWERS. According to information published in the fiscal year 2004 "Historical Tables of the Budget of the United States Government", in fiscal year 1974, Federal Government outlays in support of the "water resources" subfunction within the "Natural Resources and Environment" function totaled $2.200 billion or 1.6 percent of discretionary outlays totaling $138.2 billion.

In the proposed fiscal year 2004 budget, Federal Government outlays in support of the "water resources" subfunction within the "Natural Resources and Environment" function are estimated to be $5.062 billion or 0.6 percent of discretionary outlays totaling $818.8 billion.

With respect to the Army Corps of Engineers Civil Works program, in fiscal year 1974, the Corps' outlays were $1.664 billion, or 1.2 percent of total Federal discretionary outlays. In the proposed fiscal year 2004 budget, the Corps' outlays are estimated to be $4.117 billion, or 0.5 percent of total Federal discretionary outlays.

DETERIORATING INFRASTRUCTURE—ECONOMIC IMPACTS

Question. Could you provide some examples of this deteriorating infrastructure could have to this Nation's economic and National security?

General FLOWERS. Our inland waterways handle more than 15 percent of the Nation's intercity freight traffic, including 20 percent of the coal for power plants, petroleum products such as gasoline and diesel fuel, strategic chemicals and minerals, and more than half of our export grain. Generally, as this waterway infrastructure has aged, backlog of maintenance and repair needs has grown. While many inland waterway segments are heavily used, other service relatively low volumes of traffic. The budget gives priority to the maintenance of segments that carry a higher volume of traffic due to the economic impacts that a breakdown could have.

Question. Could you provide a historical perspective on the value of the Nation's inland waterways for Nation security and economic security?

General FLOWERS. Many military and industrial facilities were located on our inland waterways during World War II for added security. Ships and submarines were built and launched from our inland waterways. Over time, our inland waterways have been used to move strategic and oversized equipment, such as nuclear generators and rocket components, as well as military vehicles and equipment.

ENVIRONMENTAL PROJECTS

Question. What percentage of the Fiscal Year 2004 Budget is associated with environmental projects?

General FLOWERS. Sir, nearly 19 percent of the fiscal year 2004 budget is classified as environmental, including the Regulatory Program and Formerly Used Remedial Action Plan (FUSRAP) Program.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

WEST VIRGINIA FLOOD RECOVERY

Question. What is the status of the flood-recovery work for which the Corps was authorized to conduct at a level of $8 million in the Fiscal Year 2001 Supplemental Appropriations bill for the July 2001 floods in West Virginia?

General FLOWERS. All work is complete. The Huntington District Corps of Engineers accomplished three primary missions. These missions included repair of public infrastructure, repair and restoration of flood-damaged facilities at Corps' projects, and flood documentation. Flood recovery efforts were accomplished in close coordination with the Federal Emergency Management Agency, the Natural Resources Conservation Service, the West Virginia Conservation Agency, and other Federal and State disaster coordinators.

Approximately $5.1 million was used to assist affected counties with infrastructure repair. Thirty-one emergency streambank protection projects were constructed along West Virginia State Routes 1, 3, 16, 24, 35, 54, and 97 in Boone, Wyoming, McDowell, Raleigh, Mercer, and Fayette Counties.

Approximately $2 million was used to repair and restore existing facilities at several Corps projects that incurred damage during the July 2001 event. At the R.D. Bailey project, $1,777,000 was utilized for flood debris cleanup and to relocate facilities out of the flood plain. At Summersville Lake, $80,000 was utilized to remove

drift and debris accumulations. On the Kanawha River, $143,000 was utilized for removal of flood-related silt material following the flooding.

Approximately $900,000 was utilized for flood documentation. This included flood damage surveys of residential, commercial, and public structures. Surveys of damages to highways and utilities were also conducted. High water marks were established and data was collected and analyzed for stream profiles and cross-sections. Public workshops were conducted to confirm structure damage and obtain flood experiences and feedback for future use in the development of potential solutions to the flooding problem.

Question. What is the status of the flood-recovery work for which the Corps was authorized to conduct at a level of $10 million in the Fiscal Year 2002 Supplemental Appropriations Bill for the May 2002 floods in Southern West Virginia, Eastern Kentucky, and Southwestern Virginia?

General FLOWERS. Work is currently ongoing. The primary mission of the Huntington District Corps of Engineers is to repair public infrastructure and provide flood documentation. This mission is being done in coordination with Federal, State and local emergency management organizations.

Approximately $9,500,000 will be used to assist affected counties with infrastructure repair in West Virginia, Kentucky and Virginia. Of this, approximately $6,000,000 will be used in West Virginia for emergency road embankment repairs along U.S. Route 52, WV State Routes 16, 80 and 83, and County Routes 1, 3, 7/8, 7/28, 17, and 32/55. Approximately $1,750,000 will be used in Kentucky for emergency road embankment repairs along Kentucky State Routes 195 and 1441, and approximately $1,750,000 will be used in Virginia for emergency road embankment repairs along Virginia State Routes 67 and 83.

Approximately $500,000 will be utilized for flood documentation. This will include flood damage surveys of residential, commercial, and public structures. High water marks have been established and will be used to determine approximate flood frequency levels.

MARMET LOCKS REPLACEMENT

Question. Which lock in the United States is most heavily used?

General FLOWERS. Marmet is the most heavily used lock in terms of commercial lockage cycles. In 2002, Marmet processed over 15,000 commercial lockages.

Question. Is the Marmet Lock replacement important to maintaining and increasing the efficient flow of commerce along the Kanawha and Ohio Rivers? How many tons of cargo, and what type of cargo, were shipped through the locks in 2002? Does the project have a strong benefit/cost ratio?

General FLOWERS. The Marmet lock replacement is important to maintain and increase the flow of commerce. The locks move millions of tons of cargo to and from West Virginia. Improvements at Marmet would reduce the average transit time from 4.7 hours to 0.8 hours, a reduction in lock transit time of 3.9 hours. At 2002 traffic levels, the new lock would yield almost 14.8 thousand hours of reduced trip time for the 3,793 tows that used the project.

In 2002, nearly 13.5 million tons of cargo were shipped through Marmet. Coal accounted for 93 percent of all tonnage, or 12.6 million tons. Other commodities were petroleum, crude materials, chemicals, and manufactured machinery and goods.

The project has a total benefit to cost ration of 2.5 to 1 and a remaining benefit to cost ratio of 4.2 to 1.

Question. The Marmet Locks and Dam are nearly 70 years old. Are the locks deteriorating? If so, what impact does this have on transportation and the safety of those working at the locks, in the barge industry, and on area residents?

General FLOWERS. The Marmet locks and dam were placed in service in 1934. The locks have experienced significant deterioration over the nearly 70 years of operation. The small chambers at Marmet require up to five lockage cycles of the operating gates and valves to process a typical Kanawha River tow. This intense level of usage has resulted in accelerated deterioration in recent years. Concrete and embedded steel at critical miter gate areas have failed, causing additional delays for repairs and operational procedure changes to insure lockage safety. The upstream guard wall was built on wooden cribbing which has failed. The guard wall has moved horizontally 6″, and has dropped vertically more than 12″. The potential for collapse of this guard wall is high, and significant economic impact would result if lock access were blocked. Further, to assure both lock and tow personnel safety, no one is allowed on the upper guard wall while tows are approaching the lock and landing on the guard wall. Although there are no safety issues with area residents, locking procedures have been modified and restrictions placed on commercial tows to minimize the risk of collapse of the guard wall.

Question. When are the lock chambers projected to reach maximum capacity? What is the impact of reaching maximum capacity? Is there potential for the same type of delays, which averaged 32 hours per transit, and number of accidents which were prevalent at the former Gallipolis Locks and Dam on the Ohio River prior to the replacement of the locks and the rehabilitation of the dam?

General FLOWERS. The existing lock chambers (with a capacity of 20 million tons annually) are projected to reach maximum capacity in 2005, with average delays of approximately 47 hours per tow. High delays are expected as the capacity limit is approached. While the chambers at Gallipolis required double cutting of typical Ohio River tows, the undersized chambers at Marmet require five cuts to process the typical Kanawha River tow. Average transit time at Marmet could exceed the time experienced at Gallipolis prior to the replacement of its locks.

The old Gallipolis locks were a safety hazard due to a dangerous upstream curve on the lock approach, when coupled with high water conditions. That condition does not exist at Marmet.

Question. What improvements will be realized with a completed new lock at Marmet?

General FLOWERS. The Marmet lock replacement includes construction of a new 110′ wide × 800′ long lock chamber landward of the existing 56′ wide × 360′ chambers. This lock is sized to process a Kanawha River tow consisting of nine jumbo barges in a single lockage cycle, reducing the average transit time to 0.8 hours. A new guard wall will provide improved approach conditions for the new lock and continue to provide protection to the navigation dam. The new lock will feature programmable logic control to permit safe efficient operation of the lock from a single central location.

Once the Marmet project is completed, the aging Kanawha River locks will have been completely modernized. New locks at Winfield and Marmet, and an extended lock chamber at London, will provide industry an efficient, effective transportation system.

Question. Has the Corps completed real estate acquisition in Belle? How many properties have been acquired?

General FLOWERS. The Marmet locks replacement project required acquisition of 216 tracts of real estate. The real estate acquisition phase was completed in 2002.

Question. What is the President's Fiscal Year 2004 Budget request for the Marmet project? What will this amount allow the Corps to accomplish?

General FLOWERS. The fiscal year 2004 budget request for Marmet is $52.154 million. These funds would be used to continue construction of the new lock, and continue environmental mitigation and cultural mitigation.

Question. What is the full capability for Marmet? What additional work will this amount allow the Corps to accomplish?

General FLOWERS. The maximum capability estimate for a study or project reflects the readiness of work for accomplishment. It is the most that the Army Corps of Engineers could obligate efficiently during the fiscal year for that study or project. Because each estimate is made without reference to the rest of the Army Civil Works program, these estimates are not cumulative. Civil Works studies and projects compete for funding and manpower. The President's fiscal year 2004 budget for the Army Civil Works program proposes funding levels that reflect this administration's assessment of nation priorities in view of the many potential uses of Federal funds. Consequently, while the Corps could obligate additional funds on some studies and projects, offsetting reductions within the Army Civil Works program would be required to maintain overall budgetary objectives. Furthermore, the budget allocates the funding available to the army Civil Works Program in a manner that would enable the Corps to use funds effectively. The fiscal year 2004 capability for Marmet is $69.2 million. These funds would allow lock construction to proceed at an efficient rate in fiscal year 2004.

LONDON LOCKS REHABILITATION

Question. What is the benefit/cost ratio of the London Locks Rehabilitation project?

General FLOWERS. The total benefit/cost ratio of the London locks rehabilitation project is currently 21.1 to 1.

Question. Now that all of the necessary funding for the rehabilitation project has been secured, what is the current status of the project and what is the anticipated completion timeframe?

General FLOWERS. Construction to replace the upper guard wall and extend the size of the lock chamber from 360′ to 407′ was initiated in March 2002. The contract is 85 percent complete, and will be completed in the summer 2003.

Question. By what percentage will lock capacity increase once the rehabilitation is completed? What other benefits will be derived?

General FLOWERS. Once rehabilitation is complete, the riverward lock capacity will increase by 21 percent. The chamber will better serve modern tows by accommodating two jumbo barges in a single lockage cycle, instead of one. Jumbo barges are the navigation industry's preferred mode of shipment on the Kanawha River. Delays and queuing time will be substantially lessened, an important benefit since traffic demand at London is expected to grow. The other important benefit of project rehabilitation is the ability to provide a safe and reliable level of service. This will be achieved once replacement of the upper guard wall is complete. The wall had failed structurally.

BLUESTONE DAM SAFETY PROJECT

Question. What risks are currently posed by the Bluestone Dam to the communities, businesses, and the environment below the dam?

General FLOWERS. Under current design criteria, the probable maximum flood (PMF) is estimated to overtop the existing dam by 8′. Dam failure would cause catastrophic flooding along the New, Greenbrier, Gauley, Kanawha, and Elk Rivers, including the metropolitan area and heavily industrialized capital city of Charleston, West Virginia. This would place more than 115,000 persons at risk, with property damages in excess of $6.5 billion.

Question. What level of flooding would cause the dam to fail catastrophically? How likely is it that such a level of flooding might occur? What is the likelihood that the dam will fail in the next 50 years? In the next 100?

General FLOWERS. The dam would be in danger of failing if pool levels approaching the top of the existing dam were to occur. This flood level, known as the 500-year flood event, has a 0.2 percent chance of occurring in any year, a 10 percent chance of occurring at least once in the next 50 years, and an 18 percent chance of occurring at least once in the next 100 years.

Question. What is the current status of work completed on the dam safety project with available funds?

General FLOWERS. The first phase of construction is underway. Phase 1 includes installation of a thrust block to partially stabilize the dam and extension of the six penstocks which will be used to improve discharge capacity if an event approaching the magnitude of the PMF event were to occur. In fiscal year 2003, installation of the penstock extensions will be completed, and work will continue on placing the mass concrete thrust blocks. Plans and specifications will be initiated for phases 2A and 2B. Phase 2A includes the Route 20 gate opening, stilling basin training walls, east abutment monolith, fishing pier, and other miscellaneous work. Phase 2B includes the 8′ pre-cast concrete parapet wall added to the top of the dam to accommodate the PMF event and anchors which will further stabilize the dam.

Question. Are there additional Corps capabilities for this project above those identified in the President's Fiscal Year 2004 Budget?

General FLOWERS. Subject to the prior stated qualifications on capabilities, the Corps has an additional capability of $1.7 million above the President's Budget request of $2.6 million, for a total of $4.3 million. The added funds could be used to initiate Phase 2A construction.

Question. Contingent on adequate funding being provided, this project is not scheduled for completion until September 2008. In the meantime, what additional measures can be taken to minimize the risks to the public and to ensure that this project remains on track and a high priority?

General FLOWERS. With maximum level funding that the Corps could obligate efficiently, the project could be completed in September 2009. An additional year is needed beyond our previous estimates in order to accomplish additional model studies which will influence the design for anchors in the stilling basin for the second phase of construction.

No temporary structural measures are feasible. The Huntington District maintains a close vigil of any significant storm event that could potentially move into or through the Bluestone Lake drainage basin, and provides forecasts as early as possible in order to determine if and when a hazardous pool level could occur. The Water Control Plan provides for special operational techniques during major floods to minimize risks to the public. In the event a forecast indicates possible flow through the spillway, the Dam Safety Officer would be briefed immediately, as well as other key personnel. Continuous monitoring and updating of forecasts would occur and every effort made to control the event. If spillway flow becomes imminent, the District Engineer/Dam Safety Officer would decide if downstream evacuation

was warranted, and appropriate emergency organizations and law enforcement agencies would be notified in order to minimize risk to the public.

Question. What extra efforts is the Corps making to minimize the impact of the project construction on the citizens of Hinton?

General FLOWERS. The Corps has undertaken several extra efforts in order to minimize the impacts of project construction on the citizens of Hinton. The Corps continue to work with a committee of local residents appointed by the mayor to develop solutions to their concerns about traffic, safety, and noise. In order to divert traffic away from the Bellpoint community, a temporary 1,360′ Bailey-type bridge was built over the stilling basin to accommodate all construction traffic during both phases of construction. The contractor uses the bridge for all construction traffic including employee access and all construction deliveries.

The committee and mayor are involved in Corps bi-monthly project team meetings and quarterly partnering meetings with the contractor. A web site has been created to keep town residents aware and informed of the current status of the project, and serves as a way to provide feedback and opinions. The web address is www.lrh.usace.army.mil/pa/HotTopics/bluestone.htm. The project's Resident Engineer prepares a monthly update for the area newspaper to inform residents about project status. This information is well received and appreciated by the community.

GREENBRIER RIVER BASIN FLOOD CONTROL

Question. What is the status of the City of Marlinton's effort to identify a local cost share partner?

General FLOWERS. We are currently coordinating with the State of West Virginia, the City of Marlinton, and the affected State legislators to identify the appropriate non-Federal sponsor.

Question. Are there any Federal competitive grants that can be used as the local match for the construction of Corps local flood control projects, such as the Community Development Block Grant program under the U.S. Department of Housing and Urban Development?

General FLOWERS. Other Federal agency funds, such as those you mentioned, can be used to cost share in Corps projects, if the granting agency certifies in writing that the use of those funds for that purpose is authorized.

Question. What type of in-kind contributions can the City of Marlinton offer to the Corps to help defray costs associated with the local match?

General FLOWERS. The town would receive credit for in-kind contributions, such as value of lands, easements, rights-of-way, relocations, and suitable borrow and dredged or excavated material disposal areas.

Question. What activities are currently being conducted on the Marlinton local protection plan?

General FLOWERS. Current activity is limited to coordination efforts with non-Federal interests to develop a project financing plan and secure the local cost sharing match.

Question. What capabilities does the Corps anticipate for fiscal year 2004 for the Marlinton local protection plan?

General FLOWERS. Subject to the previously mentioned qualifications on capability, the maximum fiscal year 2004 capability is $2.5 million. If provided, these funds could be used to continue detailed design, complete plans and specifications for the first construction phase, and prepare and execute a Project Cooperation Agreement. It is possible that limited construction could possibly begin late in fiscal year 2004.

WEST VIRGINIA TUG FORK FLOOD PROTECTION PROJECTS

Question. The President's request includes $15 million for the multi-State Levisa and Tug Fork projects for fiscal year 2004; however, none of these funds are slated for projects in West Virginia. Why are no monies budgeted for the West Virginia Tug Fork projects?

General FLOWERS. There is no budgeted West Virginia project in the Tug Fork program because economic analysis indicates that the costs exceed the benefits.

Question. It was projected that the Corps would be closing out the Lower Mingo, Upper Mingo, and Wayne County components of the project by the end of fiscal year 2003. Will this goal be met? Please provide me with a chart noting the number of eligible participants and the Federal and local dollars spent for each region, including other improvements that were made to the authorized areas such as new schools, community structures, etc.

General FLOWERS. The three project components are nearly complete. The majority of floodproofing and acquisition efforts will be completed by the end of fiscal year

2003. The only remaining item is completion of the Lower and Upper Mingo water and sewer service that will connect flood proofed homes to the county-administered public system which is being developed. However, the sewer/water contract has not yet been awarded. Funding has been appropriated for the Federal share on the contract. Final project closeout should occur in fiscal year 2004. No further appropriations are necessary for the Lower Mingo, Upper Mingo, and Wayne County elements of the project.

The following chart identifies the number of eligible participants and the Federal and non-Federal dollars spent to date for Lower Mingo, Upper Mingo, and Wayne Counties.

[Dollars in millions]

	Eligible participants	Project cost		
		Total	Federal	Non-Fed
Lower Mingo County	585	$46.1	$43.8	$2.3
Upper Mingo County	270	13.5	12.8	0.7
Wayne County	115	6.6	6.3	0.3

Other significant project improvements are the new East Kermit Elementary School and the new Kermit Town Hall and Fire Station. In addition, all floodproofed structures in each of these three program areas will be connected to a State-approved water and sewer system.

Question. What activities will remain to be completed beyond fiscal year 2003 in McDowell County and what is the cost of the remaining effort? What capability does the Corps have in McDowell County in fiscal year 2004?

General FLOWERS. Remaining activities include voluntary acquisition, floodproofing, and the design and construction of relocated schools, town halls, and fire stations. Assuming a 100 percent participation rate in this voluntary non-structural project, the remaining cost is $162.3 million. Subject to the previously mentioned qualifications on providing capability amounts, the capability for fiscal year 2004 is $8.0 million.

LOWER MUD RIVER

Question. What is the status of the revaluation report being conducted by the Corps and the options that are being examined?

General FLOWERS. The draft report/Supplemental Environmental Impact Statement is scheduled for completion in March 2003.

A total of eight alternatives have been considered. One is the channel alternative proposed by the NRCS, which consists of approximately 2.8 miles of channel modifications, including stream widening and overflow cuts, along the Mud River. A second plan would divert flood waters approximately 2 miles around the Milton area. The remaining six plans are levees, with varying levels of protection.

Question. What are the construction costs associated with each option and the anticipated maintenance costs that will be the responsibility of the local sponsor?

General FLOWERS. Based upon current estimates, the first levee plan (low-level protection) will cost an estimated $30 million, with a $13,000 annual O&M cost. The second levee plan (high-level protection) is estimated to cost $40 million, with a $30,000 annual O&M cost. These costs are subject to change during final design reviews and preparation of the final report.

Question. Has the local sponsor indicated an ability to cover the maintenance costs of the options being considered?

General FLOWERS. The City of Milton and the West Virginia Conservation Agency have indicated that the O&M costs for both levee plans would be affordable.

Question. What activities will remain to be completed beyond fiscal year 2003 for the Lower Mud River project and what is the cost of the remaining effort? What is the Corps capability for this project in fiscal year 2004?

General FLOWERS. Remaining efforts include completion of detailed design, completion of plans and specifications, execution of the construction Project Cooperation Agreement, and construction of the project. The Federal cost of the remaining effort is contingent upon the alternative recommended in the reevaluation report. Subject to the previously mentioned qualifications on capability, the maximum fiscal year 2004 capability is $1.5 million. We could use these funds to continue activities, including completing detailed design and initiating plans and specifications.

LITTLE KANAWHA RIVER FEASIBILITY STUDY

Question. What is the status of the feasibility study for the Little Kanawha River, for which $100,000 was provided in fiscal year 2003?

General FLOWERS. The Corps is meeting with potential sponsors for projects that were identified in the reconnaissance report. If a sponsor is identified, a feasibility study cost sharing agreement would be executed and the study initiated.

Question. Does the Corps have additional capabilities for this endeavor in fiscal year 2004?

General FLOWERS. There are no additional fiscal year 2004 capabilities beyond the President's Budget request of $65,000 for this study.

OPERATIONS AND MAINTENANCE

Question. What are the budgeted amounts for Operations and Maintenance (O&M) for the Kanawha River Locks and Dam, Summersville Lake, and R.D. Bailey Lake?

General FLOWERS. The President's Budget for fiscal year 2004 contains the following requests: for Kanawha River Locks and Dam, $7,655,000; for Summersville Lake, $1,469,000; and for R.D. Bailey Lake $1,457,000.

Question. What are the full capabilities for each of the above, and what additional O&M could be performed if full capability was achieved?

General FLOWERS. Subject to the previously mentioned qualifications on capability, the maximum capability for the Kanawha River Locks and Dam is $19,666,000. Additional work to be performed if the maximum capability were appropriated includes the following: repair concrete dam piers at Marmet and London; replace rail and structural members of dam bulkhead cranes at Marmet and London; modify lower guide and guard wall ladders at London, Marmet, and auxiliary chamber at Winfield; rehab lower miter gates in auxiliary chamber at Winfield; install a tow haulage unit at London; repair concrete in the riverward lock chamber at London; and construct facility security at Winfield, Marmet, and London.

Subject to the previously mentioned qualifications on capability, the maximum capability for Summersville Lake is $2,969,000. If the maximum capability were appropriated, additional funds would be used to construct several project features at the Battle Run area. They would be used to replace two restrooms, construct a campground entrance station and host campsites, install courtesy docks at two boat launch ramps, install a new sewage dump station, replace two lift stations, and renovate playground with ADA-compliant equipment.

Subject to the previously mentioned qualifications on capability, the maximum capability for R.D. Bailey Lake is $1,607,000. If the full capability were appropriated, additional funds would be used to construct a permanent trash boom and drift and debris staging area.

ROBERT C. BYRD LOCKS AND DAM

Question. Please provide an estimate of the increased capability and the reduction in navigation delays since operation of the new locks commenced in January 1993. Please also include an estimate of the navigation savings during this same time.

General FLOWERS. With the new R.C. Byrd locks, typical 15 barge tows can now be processed in one operation instead of two, reducing tow processing time from an average of about 16 hours to 1.6 hours. The capacity of the older, smaller Gallipolis locks was estimated to be 63.3 million tons, while the new R.C. Byrd locks have a capacity of 148.5 million tons.

In the first year of operation, traffic at R.C. Byrd locks increased by close to 15 percent. This occurred as it became cost advantageous for upper Ohio utilities to source more coal from below the Kanawha River since the project was no longer a constraint. Since the new R.C. Byrd locks opened in 1993, annual traffic has grown from almost 45.0 million tons to around 58 million tons. Current traffic levels are around 55 million tons.

In the first 10 years of operation, the new R.C. Byrd locks have realized total transportation savings of an estimated $302 million. The total project cost is $381 million, with an incremental cost over the without-project condition of $264 million. Using the current fiscal year 2003 Federal Discount Rate of 5⅞ percent, R.C. Byrd Locks and Dam project is expected to pay for itself by the end of calendar year 2003 in reduced transit times.

WINFIELD LOCKS AND DAM, WEST VIRGINIA

Question. Please provide an estimate of the increased capability and the reduction in navigation delays since operation of the new additional lock commenced in No-

vember 1997. Please also include an estimate of the navigation savings during this same time.

General FLOWERS. The capacity of the old Winfield project was estimated at 24 million tons. The capacity of the new lock at Winfield is estimated at 69.5 million tons. Instead of the typical five-barge tow being processed in five lockage cuts, a process taking approximately 3 hours, the new lock can process nine-barge tows in a single lockage cut taking approximately 1 hour. Total commercial lockage cuts have reduced from over 22,000 to 3,000 annually.

The longer processing times at the old project also created congestion generating average delays ranging from 3 to 12 hours per tow between 1987 and 1997. Delays are currently around 30 minutes. Since the new lock opened, transit times through Winfield have been reduced by approximately 4.5 to 13.5 hours per tow. With 5 years of operation, the new Winfield lock has realized an estimated $65.8 million in total transportation savings from this reduced transit time. This cumulative savings represent 22 percent of the incremental cost of the new lock. The total cost of the project was $235.9 million. Discounting future expected savings at the fiscal year 2003 Federal Discount rate of 5⅞ percent and using the Feasibility Report's traffic forecasts, Winfield lock will pay for itself by the year 2018.

PROPOSAL TO USE INLAND WATERWAYS TRUST FUND FOR OPERATIONS AND MAINTENANCE OF CORPS INLAND WATERWAYS INFRASTRUCTURE

Question. Does this proposal violate the agreements underlying the Water Resources Development Act of 1986, which affirmed continued Federal responsibility for inland waterways operations and maintenance (O&M) in return for waterways users assuming the obligation for financing 50 percent of future construction and major rehabilitation costs?

Mr. BROWNLEE. The commercial interests that use the inland waterways system are paying a portion of the costs of capital improvements. However, the costs of operation and maintenance, which are substantial, have continued to be borne entirely by the general taxpayers.

The budget proposed to begin using some of the diesel fuel receipts to finance a portion of the inland waterways system's operation and maintenance costs. The administration has recommended using $146 million for this proposal in fiscal year 2004, which would cover about 38 percent of the estimated operation and maintenance costs. The remaining costs would continue to be financed through general tax revenues. Under the budget proposal, those who benefit commercially from past Federal investments in the inland waterways navigation system would pay a fair share of all of the system's costs—for the construction and major rehabilitation of projects, as well as their operation and maintenance.

Question. Given the $23 billion backlog in construction and $1 billion backlog in O&M, is it possible that the double draw on the Inland Waterway Trust Fund would deplete the fund in 3 years? If so, how would future revenues for construction and O&M be generated? By increasing the current 20 cents per gallon fuel tax on waterway users? Would this, in turn, lead to a substantial increase in the transportation costs of energy (namely coal) and agricultural products?

Mr. BROWNLEE. We have not proposed to change the way that Congress finances the construction and major rehabilitation of inland waterways projects. In fact, the budget includes a $3 million increase in spending for such work, compared to the enacted fiscal year 2003 level.

At the current rate of collections and outlays, the Inland Waterway Trust Fund could run out of funds by the end of fiscal year 2006. Within this time frame, however, Congress and the administration should be able to reach agreement on the best way to allocate responsibility for future inland waterways operation and maintenance costs.

Question. The unspent balance in the Trust Fund and projected fuel tax revenues for the foreseeable future are already committed to the construction or major rehabilitation of congressionally approved projects, such as the Marmet Lock replacement project. If the administration's proposal goes forth, how can the administration provide assurances that progress on these important construction projects will not be jeopardized?

Mr. BROWNLEE. The administration would work with the Congress to focus funding on the project that will most benefit the Nation.

Question. With inland waterways providing multiple benefits such as flood control, water supply, hydropower, transportation, and recreation, why should the transportation users be the only beneficiaries to pay for operation and maintenance?

Mr. BROWNLEE. Transportation users would contribute only to the costs allocated to inland waterway navigation. Costs allocated to other purposes would continue to

be financed in the manner appropriate to those purposes. Generally, non-Federal sponsors pay for water supply O&M costs, Federal Power Marketing Administrations would pay directly for hydropower O&M costs (under a separate administration's proposal), flood control O&M costs are paid from general revenues and the financing of recreation costs varies among recreation areas.

HOMELAND SECURITY

Question. Many do not view the Corps' Civil Works Program as an important part of national defense. What is the role of the Corps in the security of our Nation?

General FLOWERS. The Civil Works Program is a valuable asset in support of the National Security Strategy in many ways. Foremost, we have a trained engineering workforce, with world-class expertise, capable of responding to a variety of situations across the spectrum of security threats. In fact, skills developed in managing Corps projects transfer to most tactical engineering-related operations. The Civil Works mission complements and augments the Army's war fighting competencies providing established relationships with the Nation's engineering and construction industries—a force multiplier with "On the shelf" contracts available for emergencies. Civil Works members are deployable. During Operations Desert Shield/Desert Storm, more Civil Works employees volunteered for duty in Southwest Asia than were needed. To date, 250 civilian members of our Civil Works Program team have volunteered for deployment in support of Operation Enduring Freedom-providing engineering, construction, and real estate support specialists and professionals skilled in managing large, complex projects, transferable to most tactical engineering-related operations. Civil Works also provides professionals with expertise in natural and cultural resources, water quality, flood plain management or toxic waste control, helping the Army comply with more than 70 Federal environmental statutes, and a breadth of experience and workload in dozens of specialized fields that would not otherwise be possible. Finally, Army Engineers experienced in Civil Works play a major role in infrastructure in developing nations. They help to improve economic conditions and strengthen democratic institutions in these nations and foster good will through contact between governments and armed forces.

Question. What is the scope of Corps assets that are considered highly vulnerable to future terrorist attacks?

General FLOWERS. At the present time the U.S. Army Corps of Engineers has identified 306 facilities that warrant security upgrades. These include USACE dams, locks, and a other facilities that provide flood control, water supply, navigation, and hydropower to the Nation.

Question. What would you describe as the major terrorism threats to our Nation's civil works projects?

General FLOWERS. The vulnerability of water resources infrastructure facilities to potential acts of sabotage has always been a concern throughout history. All of our projects have some measure of protection in place based on traditional risk assessments. We would be happy to meet with you to discuss the threat in greater detail.

Question. Could you provide an example of the kind of risk that you are talking about?

General FLOWERS. Again, we would be happy to discuss these risks with you personally in greater detail.

Question. Along the Kanawha River in West Virginia, there are three busy locks and dam projects—London, Marmet, and Winfield—through which millions of tons of coal and highly volatile chemicals traverse every year. What extra precautionary measures is the Corps taking to safeguard barges carrying highly explosive agents, or hazardous or toxic agents?

General FLOWERS. This mission is being pursued by the U.S. Coast Guard under the new Homeland Security Department. However, every effort is made to increase the detection, assessment, and response to such an act of terrorism on a vessel should it occur at, or within, a lock and dam facility. Efforts by the Corps risk assessment teams developed solutions to mitigate these threats and will be implemented based on priorities that reflect our assessment of the risk.

Question. Overall, what efforts are you undertaking to minimize the risk at Corps structures across the Nation?

General FLOWERS. Following 9/11 we completed 306 security reviews and assessments of our inventory of locks, dams, hydropower projects and other facilities to determine vulnerability to terrorist threat and potential consequences of such an attack. We improved our security engineering capability, identified proposed security upgrades, and prioritized this work. Utilizing supplemental appropriations provided in fiscal year 2002 (Public Law 107–117, $139 million), we have initiated the design and implementation of security improvements on 85 of the 306 critical facilities. We

have also initiated security improvements at administrative facilities to reduce risks to our employees.

Question. Does the President's fiscal year 2004 budget provide adequate resources for the Corps to address terrorism in the future?

General FLOWERS. Senator, the budget provides sufficient resources to address the priority fiscal year 2004 needs. One hundred four million dollars of the O&M funds provided in this budget are targeted for facility security. We will direct funding to those priority projects at which there is potential for catastrophic consequences resulting in loss of lives downstream or economic consequences of greater than $200 million and continue security improvements at our administrative facilities. Vulnerability assessments produce a recommended system of improvements targeted to reduce the risk associated with potential threats to the facility.

Question. What funds are needed to adequately address the risk to Civil Works projects?

General FLOWERS. The budget provides sufficient resources to address the priority fiscal year 2004 needs. Subject to the usual aforementioned qualifications regarding capabilities, the maximum capability for guards, maintenance, assessments and other activities to fully address risk associated with USACE facility security in fiscal year 2004 is $227 million.

QUESTION SUBMITTED BY SENATOR ERNEST F. HOLLINGS

Question. The Water Resources Development Act of 1999 and Section 348(k) of the Water Resources Development Act of 2000 directed the Secretary of the Army to convey all right and title 10,165 acres of federally owned land to the State of South Carolina along with a lump sum payment of $4.85 million in lieu of annual mitigation payments. The Savannah District conducted a preliminary life cycle financial analysis in an attempt to reduce the lump sum payment to the State of South Carolina. This analysis was not required and now the Army Corps of Engineers (COE) wants the State of South Carolina to pay for this unnecessary analysis. Although Congress' intent was clear, the COE's effort to transfer these lands to South Carolina is moving at a snail's pace and COE has not asked Congress for the appropriation. The COE agreed with this language in the two Water Resources and Development Acts and should transfer the lands and the lump sum immediately with as little red tape as possible. The attempt to delay the transfer by insisting on reimbursement for an unauthorized and unneeded economic evaluation is inappropriate. Why can't the COE move forward immediately with transferring these lands to the State of South Carolina?

General FLOWERS. The authorization required that the Secretary and the State of South Carolina enter into a contract for the State to manage the conveyed parcels of land for fish and wildlife mitigation purposes in perpetuity. Preparation of a preliminary life cycle financial analysis to determine the appropriate lump sum payment amount was consistent with the Water Resources Development Act of 1999 requirement. With enactment of the Water Resources Development Act of 2000 the analysis was no longer required and all activity on the analysis was stopped. The part of the study that was done was appropriately part of the project so it is legitimately cost-shared.

A draft Memorandum of Agreement detailing the terms and conditions associated with the lands transfer and management as authorized by paragraph (i)(3) of Section 348(k) has been provided to the State of South Carolina for review and approval. Upon the approval of an agreement satisfactory to both the Secretary and the State of South Carolina and subject to the availability of funds, the lands and funds will be conveyed to the State of South Carolina. At the present time, sufficient funds have not been appropriated for this purpose.

QUESTIONS SUBMITTED BY SENATOR BYRON L. DORGAN

DEVILS LAKE, NORTH DAKOTA

Question. I am pleased that the Corps has agreed that building an outlet at Devils Lake is its preferred alternative, even though the revised cost estimate presents this subcommittee with some difficulties. Are you confident that water quality standards have been addressed, within given cost constraints?

General FLOWERS. Under the option that the Cops report identified as the preferred alternative, water quality impacts addressed consistent with a balancing of effectiveness and cost. Some refinements of the operating plan may be made through coordination with an operation task force to reduce downstream water qual-

ity impacts. Beyond that, further reducing the water quality impacts and exceedances of water quality standards on the Red River would either require more restrictive sulfate constraints, thereby limiting the discharge rate and significantly reducing an outlet's effectiveness, or mechanically treating the water, which would be very costly.

Question. Are there areas where the costs might be reduced?

General FLOWERS. If Congress funds the project, the Corps of Engineers will look for every opportunity to reduce costs during detailed design and implementation. Features currently proposed for the project are considered essential; thus cost reduction by deletion of project features is not viewed as an acceptable option. As more detailed design is accomplished on features that have only been developed to a conceptual level, such as the sand filter, the Sheyenne River cutoffs and control structures, and other project features, a reduction in costs could occur, although there is also a possibility of an increase.

Question. With respect to the outlet at Devils Lake, do you believe EPA will "sign off" on this from a water quality perspective?

General FLOWERS. The Corps has applied to the North Dakota Department of Health for Section 401 water quality certification in accordance with the Clean Water Act for the construction and operation of the outlet. In addition, the North Dakota State Water Commission has applied to the North Dakota Department of Health for a Section 402 National Pollution Elimination System permit for the operation of the outlet. The certification and permit processes are still ongoing. The EPA has indicated that North Dakota would coordinate with the State of Minnesota and EPA expects that no North Dakota authorization would be issued if it would cause a violation of North Dakota or Minnesota water quality standards. EPA has been noncommittal as to what its reaction would be should it be asked to intervene through a potential appeal by the State of Minnesota. EPA has indicated that it has concerns but that at least we have been moving in the right direction by trying to address water quality impacts more fully.

Question. Do you think the administration will now commit to supporting and funding this project given that the Corps' recommendation is to build an outlet?

General FLOWERS. The administration did not fund the project in fiscal year 2004. My recommendation on this project will follow public review of the final environmental impact statement to be filed with the Environmental Protection Agency in mid April 2003.

Question. Do you think the Corps could cover the portion of the costs that involve Tribal lands, rather than having the State cost-share this portion of the project?

General FLOWERS. The Water Resources Development Act of 1986, as amended, requires cost sharing of the project as 65 percent Federal and 35 percent non-Federal, with the non-Federal responsibilities to include provision of lands, easements and rights-of-way required for the project.

GRAND FORKS, NORTH DAKOTA—EAST GRAND FORKS, MINNESOTA

Question. The Grand Forks Flood Control project was scheduled for substantial completion in December of 2004. This is vitally important because FEMA is looking to remap the community and without this project, the 100 year floodplain would include 90 percent of the two cities (GF and East GF). This would force residents to pay between $10–$15 million annually in additional flood insurance.

Last year, this subcommittee increased the budget recommendation by $5 million which helps the process along, but much more funding will be needed next year for substantial completion by the 2004 date. Can you tell me if the budget request of $23 million for this project in fiscal year 2004 would allow for substantial completion by December 2004, as the Corps promised the Grand Forks community?

General FLOWERS. No, sir, the fiscal year 2004 budget amount would not allow for substantial completion by December 2004.

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

STATEMENTS OF:

BENNETT W. RALEY, ASSISTANT SECRETARY FOR WATER AND SCIENCE

JOHN W. KEYS, III, COMMISSIONER, BUREAU OF RECLAMATION

ACCOMPANIED BY:

J. RONALD JOHNSTON, PROGRAM DIRECTOR, CUP COMPLETION ACT OFFICE

JOHN TREZISE, DIRECTOR OF BUDGET, OFFICE OF BUDGET, DEPARTMENT OF THE INTERIOR

Senator COCHRAN. We are now going to hear from our second panel. It is a panel which includes Assistant Secretary for Water and Science, Bennett W. Raley; Commissioner John W. Keys, III, of the Bureau of Reclamation; and Officer Ronald Johnston, who is program director.

If you will come forward and take your seats at the witness table, we will proceed.

The hearing will come to order.

Those who are leaving the room will please do so expeditiously so we may proceed with our second panel.

Secretary Raley, we appreciate your presence. You're here representing the Bureau of Reclamation. We ask you to please proceed.

SUMMARY STATEMENT OF BENNETT RALEY

Mr. RALEY. Thank you, Mr. Chairman, members of the committee. Yes, I am here on behalf of Secretary Norton to present the President's budget request and have with me today John Keys, Commissioner of Reclamation, Ron Johnston, Program Director of the Central Utah Project and John Trezise, the Department's Budget Director.

Mr. Chairman, Interior takes great pride in fulfilling the multiple missions that we have. We have a mission to protect and manage the Nation's natural resources and cultural heritage, provide scientific information about those resources and to honor our special responsibilities to the American Indians, Alaska Natives and affiliated Island Communities.

Our responsibilities lie at the confluence of people, land and water and touch the lives of individuals across the Nation. How well we fulfill our mission influences whether there will be water for people, water for farmers, and water for the environment, in vast areas of this Nation.

We look forward to working with the Corps of Engineers as partners in the Federal role in managing resources. But if I could, to

perhaps save Senator Craig a question, I want to emphasize that from a Department of the Interior perspective with respect to the 17 Reclamation States of the West, we recognize a national water policy and have, since 1866, that water policy being one of federalism. And everything that we do with respect to water management in the west starts with that foundation of federalism and recognizing the appropriate role of States in managing the water resources that they are entrusted with.

Senator CRAIG. Thank you, Mr. Secretary. That is why you are a secretary in this administration. We appreciate that attitude.

Mr. RALEY. Well, thank you, sir.

We also know that the charge of the Department and how well we fulfill that will have an impact on our children's ability to use and enjoy the resources and the incredible vistas, the wonderful places in this Nation, to live and work in healthy communities, to have good jobs and good environments and a future. We have a small part in that and we are very proud of that. But we also recognize that our part of that has to be within national priorities.

And so our budget, Mr. Chairman, members of the committee, has tried to focus on fulfilling core missions—that is c-o-r-e, not C-o-r-p-s; we have no wish to take on more than we can handle—to first take care of what we have in terms of maintaining and operating the investment of the last century, to meet the security needs with respect to some very important facilities that are under the jurisdiction of the Department, and to meet the requirements of the Endangered Species Act and other very important national policy objectives.

Our budget was framed with that approach in mind. That was the budget for the entire department, because we recognize that we are an important part, the Bureau, of that broader mission and that the Department of the Interior is a part of the national priorities.

For the Department, the 2004 budget request is $10.7 billion, the largest Presidential request in the Department's history, a 25 percent increase over the 2000 budget. With respect to the programs under the jurisdiction of this subcommittee, the request is for $916.2 million. This includes $878 million for the Bureau of Reclamation and $38.2 million for the Central Utah Project Completion Act activities.

Others, members of the panel and of this committee, have already described the many ways that the Interior mission touches people's lives. And I will not go into the details of how many people we serve, how many acres are irrigated with water from reclamation projects, or how much power is provided to the citizens of this Nation. I would or do wish to highlight a couple of areas within the budget.

WATER INITIATIVE

First of all, our budget request includes $11 million for a Bureau of Reclamation Water Initiative that will focus on meeting the core mission of today and the challenges of the future in an even more efficient manner. We want to build on lessons that we have learned in past decades and do a better job with the public's money.

Let me be very specific about what is intended here. We know that there can be great savings in water with the implementation of some fairly simple technologies, technologies that are common in some places and not common in others, technologies like check structures in canals that allow all needs to be met and to stretch existing reservoir supplies even further. So, in times of drought, as much of the West is in today, we can farm and have water for people further into the drought than we otherwise would without these technologies. These are technologies like computerized SCADA, the supervisory control and data acquisition systems, to operate canals in a more efficient way.

These, members of the committee, are steps that will have very real benefits to water users in the basins where they can be implemented, but they have historically not been as attractive for investment as other alternatives. And we wish to get back to the basics. We wish to bring our investments over the last century up to par so that we can meet the challenges of the next century.

SPECIFIC PROJECT REQUESTS

Our budget request also includes nearly $21 million for the challenges we face in the Klamath Basin, for meeting water supplies for farmers, for tribal trust needs, and for the environment. It includes $19 million for the Columbia/Snake salmon recovery; $17.4 for the Middle Rio Grande Project; and $15 million in an account established exclusively for implementation of the preferred program alternative for the CALFED Bay-Delta Program that is so important to the Central Valley and, in fact, the entire State of California.

The budget request includes $58 million to continue construction of the Animas La Plata Project. This is the level of funding that is needed for the Department to be able to meet the 7-year construction schedule contained in the Colorado Ute Settlement Act Amendment of 2000.

Lastly, let me explain if I could, the budget request for rural water systems and Title XVI. Our budget includes $32 million for rural water projects. This is significantly reduced from the level Congress recently enacted for 2003. This budget reflects the findings of the OMB Program Assessment Rating Tool (PART) that OMB and Interior jointly proceeded with. We believe that there are gains in efficiency that can be achieved in meeting the needs of rural communities.

Mr. Chairman, I grew up 60 miles from the nearest stoplight, hospital, movie theater. The water that I drank, when you took it out of the tap, set it on the table, the flakes immediately started precipitating out. My guess is that that water would not meet today's safe drinking water standards, which may for some explain my behavior.

We understand the importance of rural drinking water, but we also know that those needs are enormous throughout the West. And it is incumbent upon us to meet those needs in absolutely the most efficient manner possible. Our budget request this year is a reflection of our commitment to do just that. With respect to Title XVI, which is commonly known as the Waste Water Recycling or Desalinization Programs that have been implemented since 1992,

when Title XVI was added, our funding levels in part are based on the completion of the OMB PART assessment tool that was also used for the rural drinking water systems. The assessment tool that the Federal investment in the critically important areas of waste water recycling and desalinization technology can be more efficiently targeted. Our belief is that the first priority for the Federal investment should be to invest in the technology advances that will drive the per-unit cost down to the lowest level possible so as to make water from these sources competitive with alternatives as quickly as possible.

SUMNER PECK

Finally, I would like to report on a matter that is of direct importance to Senator Feinstein, if you would allow me. Our budget for 2003, in the budget amendments submitted, provided for funds to pay a judgment under a consent judgment in what is known as the Sumner Peck litigation in the Central Valley in California. I am authorized today to state that the Department of Justice has determined that the Judgment Fund will be available for payment of the amounts due under that consent judgment in 2003. The Department of Justice has not made a determination regarding the availability of funds from the Judgment Fund for future years under this consent decree, but I know that this is a matter of great importance to Senator Feinstein and all of her colleagues from California. We wanted to take the opportunity to inform this committee of the resolution of this issue with respect to 2003, but also to make it very clear that the issue has not been resolved for future years.

PREPARED STATEMENT

Mr. Chairman, in light of the amount of time that you probably have saved for questions for the Commissioner and the budget officer, I would ask that my entire remarks be submitted in the statement, and I will remain available for questions.

[The statement follows:]

PREPARED STATEMENT OF BENNETT W. RALEY

I am pleased to be here today before the Subcommittee on Energy and Water Development to discuss with you the fiscal year 2004 budget for the Department of the Interior. I appreciate the opportunity to highlight a number of important initiatives and to answer questions that you might have.

On behalf of Secretary Norton, and as an introduction to our 2004 budget request, I'd like to offer some observations about the Department's mission. We take a great deal of pride in our mission to:

—Protect and manage the Nation's natural resources and cultural heritage;
—Provide scientific information about those resources; and
—Honor our special responsibilities to American Indians, Alaska Natives and affiliated Island Communities.

Our responsibilities touch the lives of each individual across the Nation. How well we fulfill our mission influences:

—Whether farmers will have water and people can turn on the tap;
—Whether our children will enjoy America's grand vistas, places, and history;
—Whether we can hike, bird watch, canoe, or hunt and fish in the great American outdoors; and
—Whether our landscapes are healthy and our communities are thriving.

DEPARTMENTAL BUDGET OVERVIEW

Our 2004 $10.7 billion budget request provides the single clearest statement of how we plan to honor these commitments in the upcoming year. It lays the foundation for us to build a legacy of healthy lands and thriving communities, including:

—*Resource Protection*.—Reflecting the Department's multiple missions, the budget proposes $2.6 billion to fund programs that improve the health of landscapes, sustain biological communities, and protect cultural resources.

—*Serving Communities*.—The budget proposal includes $5.0 billion to serve communities through fire protection, generation of scientific information, education investments for American Indians, and through activities to fulfill responsibilities toward American Indians, Alaskan natives, and the Nation's affiliated island communities.

—*Resource Use*.—Interior lands include many working landscapes where ranchers, energy partners, and other entrepreneurs help maintain thriving American communities and a dynamic economy. The budget includes $1.5 billion to provide access for these important uses.

—*Recreation*.—$1.4 billion in fiscal year 2004 budget investments will ensure recreational opportunities for all Americans in the network of public lands, parks and refuges that the Department administers.

In total, the 2004 budget is the largest presidential request in the Department's history. This budget proposal is about 25 percent higher than the 2000 appropriations level of $8.6 billion, and represents an increase of $338.7 million, or 3.3 percent, over the 2003 enacted level. Permanent funding that becomes available as a result of existing legislation without further action by the Congress will provide an additional $3.0 billion, for a total 2004 Interior budget of $13.7 billion. The Department anticipates that it will collect $7.8 billion in receipts in 2004, equivalent to 73 percent of Interior's current appropriations request.

The 2004 request includes $9.8 billion for programs funded in the Interior and Related Agencies Appropriations Act, an increase of $369.8 million or 3.9 percent over the 2003 enacted level.

The budget includes $916.2 million for programs funded in the Energy and Water Development Appropriations Act, a decrease of $31.1 million, or 3.3 percent below the 2003 enacted level.

BUREAU OF RECLAMATION

The Bureau of Reclamation is the largest supplier and manager of water in the 17 western States. Its facilities include 348 reservoirs and 456 dams with the capacity to store 245 million acre-feet of water. These facilities deliver water to one of every five western farmers for about 10 million acres of irrigated land and provide water to over 31 million people for municipal, rural, and industrial uses. Reclamation is also the Nation's second largest producer of hydroelectric power, generating 42 billion kilowatt-hours of energy each year from 58 power plants. In addition, Reclamation's facilities provide substantial flood control, recreation, and fish and wildlife benefits.

Since its establishment in 1902, water supply facilities developed by Reclamation have contributed to sustained economic growth and an enhanced quality of life in the western States. Lands and communities served by the bureau's projects have been developed to meet agricultural, tribal, urban, and industrial needs. In more recent years, the public has demanded better environmental protections and more recreational opportunities while municipal and industrial development have required more high quality water. Continuing population growth, especially in urban areas, will inevitably lead to even greater competition for the West's limited water resources. These increased demands are further compounded during periods of drought.

The Bureau of Reclamation request for current appropriations is $878.0 million, a net increase of $23.1 million above the 2003 request, as amended. The 2004 request is $33.3 million below the 2003 enacted level.

The 2004 request for current appropriations is offset by discretionary receipts in the Central Valley Project Restoration Fund, resulting in a net request of $847.2 million. The request for permanent appropriations totals $87.5 million.

The request for the Water and Related Resources account is $771.2 million. The account total includes an undistributed reduction of $40.0 million in anticipation of delays in construction schedules and other planned activities.

The budget provides a total of $348.3 million for facility operations, maintenance, and rehabilitation, an increase of $8.3 million over the 2003 request, as amended. The 2004 request for facilities operations, maintenance, and rehabilitation is a decrease of $3.4 million from the 2003 enacted level. The request includes $71.0 mil-

lion for the Dam Safety program to protect the downstream public by ensuring the safety and reliability of Reclamation dams.

Water Initiative.—The 2004 budget for Reclamation proposes ways to manage water carefully and creatively for people, land, and the environment. The poet Thomas Hornsby Ferris, wrote about the West: "Here is a land where life is written in water."

What was true 100 years ago remains true today. Managing water wisely lies at the heart of maintaining healthy lands and thriving communities. The budget request includes $11.0 million to launch a Bureau of Reclamation Water Initiative that uses collaboration, conservation, and innovation to make sure every drop of water counts. This initiative is expected to benefit communities currently struggling with increased water demands, drought, and compliance with the Endangered Species Act. The funding increase will be used to: develop pilot projects that demonstrate how to prevent crises-level water conflicts in the West; expand the use of science to improve desalination technology, promote adaptive management of watersheds, and fund peer review of Endangered Species Act consultations; design water management programs that address environmental needs on a basin-scale; and train Reclamation employees to help them better carry out the ESA as it relates to Federal actions.

The budget also includes $58.0 million for the Animas-La Plata Project in Colorado, specifically for the Colorado Ute Settlement Act Amendment of 2000 requirements outlined in the final record of decision. The Department is committed to completion of this project and requests an increase of $23.2 million over the 2003 enacted level.

The Reclamation budget puts increased emphasis on resolving water management and delivery issues that involve endangered species in several western States. The Klamath Project is funded at $20.8 million, Columbia/Snake salmon recovery is funded at $19.0 million, and the Middle Rio Grande Project is funded at $17.4 million.

The request provides $34.1 million for the Central Arizona Project. The request includes $170.1 million for operating, managing and improving California's Central Valley Project, including an increase of $13.1 million from 2003 enacted level for the CVP Replacements, Additions, and Extraordinary Maintenance program.

Collectively, the request includes $32.3 million for rural water projects—Garrison Diversion Unit, Mni Wiconi, Mid-Dakota—which is a 67 percent reduction from the 2003 enacted level. The findings in the OMB Program Assessment Rating Tool process indicated that a new approach is necessary for rural water delivery programs. The Administration intends to submit legislation this spring, establishing a Reclamation Rural Water Program with adequate controls and guidelines.

The budget includes $15.0 million in the account established exclusively for implementation of the CALFED Bay-Delta Program. Funds provided will be used for ongoing activities within existing authorities.

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. A program office located in Provo, Utah provides liaison with the District, Mitigation Commission, and the Ute Indian Tribe and otherwise assists in carrying out responsibilities of the Secretary. Under the Act, the responsibilities of the Secretary cannot be delegated to the Bureau of Reclamation.

The 2004 request provides $38.2 million, an increase of $2.2 million over the 2003 enacted level. The budget refocuses resources to address redesign and realignment of the Diamond Fork tunnel due to the interception with water that is highly contaminated with hydrogen sulfide. The 2004 request includes: $26.4 million for planning and construction activities administered by the District; $9.4 million for mitigation and conservation activities funded through the Mitigation Commission; and $2.4 million for activities administered by the program office, which includes $629,000 for mitigation and conservation activities funded through the program office.

TRUST PROGRAMS

Over one-half of our $369.8 million increase for 2004 will fund trust reform initiatives. While the overall budget request is approximately 3.9 percent over the fiscal year 2003 request, our fiscal year 2004 Indian trust budget request is almost 50 percent higher than what was included in the 2003 appropriations act.

Fulfilling our Trust responsibilities remains one of the Department's greatest challenges. The Department has responsibility for the management of 100,000 leases for individual Indians and Tribes on a land trust that encompasses approximately 56 million acres. Leasing, use permits, sale revenues, and interest of approximately $226 million per year are collected for approximately 230,000 individual Indian money accounts, and about $530 million per year are collected for approximately 1,400 tribal accounts per year. In addition, the trust manages approximately $2.8 billion in tribal funds and $400 million in individual Indian funds.

Interior faces many challenges in reforming the management of its Indian trust responsibilities. First, the Department has not been well structured to focus on its trust duties. Second, fractionated interests in individual Indian allotted land continue to expand exponentially with each new generation. Today, there are approximately 4 million owner interests in the 10 million acres of individually owned trust lands. These 4 million interests could expand to 10 million interests by the 2030 unless an aggressive approach to fractionation is taken. There are now single pieces of property with ownership interests that are less than 0.000002 percent of the whole interest.

Third, there are 230,000 open individual Indian money accounts, the majority of which have balances under $100 and annual transactions of less than $1,000. Interior maintains thousands of accounts that contain less than one dollar, and has a responsibility to provide an accounting to all account holders. Unlike most private trusts, the Federal Government bears the entire cost of administering the Indian trust. As a result, the usual incentives found in the commercial sector for reducing the number of accounts do not apply to the Indian trust.

An increase of $114.1 million for the Office of Historical Trust accounting will support the Department's plan to conduct a historical accounting for individual Indian money accounts and to account for funds in Tribal accounts. On January 6, 2003, the Department presented a plan to the District Court in Cobell v. Norton for the historical accounting for about 260,000 IIM accounts. The work described in that Plan is expected to take five years to complete and is preliminarily estimated to cost approximately $335 million. The budget includes $130.0 million for these historical accounting activities. Funds also will be used to provide for historical accounting activities related to tribal accounts.

The 2004 budget proposes $21.0 million for Indian land consolidation, an increase of $13.0 million, to expand pilot efforts to reduce the fractionation of individual land ownership interests into a nation-wide program. During 2003, we will establish a national program office, standardize business practices, and develop a strategic plan to guide expansion to more tribal reservations.

Interior is reorganizing trust functions in BIA and OST. The new organization was developed after detailed analysis of the prior organization and a year-long consultation process with tribal leaders. In one of the most extensive consultation efforts ever undertaken by the senior management level at the Department on any issue relating to Indian Country, over 45 meetings with tribal leaders provided detailed findings and recommendations. The new organization reflects a synthesis of the views heard during the consultation process. It will meet fiduciary trust responsibilities, be more accountable at every level, and operate with people trained in the principles of trust management. The 2004 budget provides an increase of $15.0 million to support the new organization, which together with base funding available in BIA and OST will provide resources needed for the new organization in 2004.

The proposed $183.8 million increase for trust management reforms includes funding to help rebuild Bureau of Indian Affairs information technology infrastructure to support trust and non-trust programs. The BIA's information infrastructure and security use outmoded hardware and software that do not meet lifecycle management and systems architecture principles, and do not comply with the security requirements of OMB Circular A–130 and the Government Information Security Results Act. The Department requests IT funding for the significant new investments needed to address these challenges. The 2004 budget includes increases of $29.8 million for a ground-up rebuilding of the BIA IT infrastructure to support trust, as well as non-trust programs, and $2.5 million for Interior-wide IT security. The proposed rebuilding will fit within the enterprise architecture and includes full business cases for proposed investments.

The 2004 budget also proposes an increase of $4.5 million to accelerate a new strategy to administer, manage, search, retrieve, and store trust records. Reform efforts to date have improved records collection and security. However, recent Interior reviews have resulted in a reassessment of the resource requirements needed to establish proper records retention schedules, establish and implement record keeping requirements, safeguard records, implement and maintain training programs, and meet records-retrieval needs in an effective and cost-efficient way.

COOPERATIVE CONSERVATION INITIATIVE

The 2004 budget lays the foundation for a legacy of healthy lands, presenting a blueprint for fulfilling the President's vision of a new environmentalism of citizen stewards and cooperative conservation. Building partnerships lies at the heart of this effort. Last year's budget proposed a Cooperative Conservation Initiative. This year, our budget again includes a Cooperative Conservation Initiative, structured around bureau Challenge Cost Share programs and other existing cooperative conservation grant programs.

The Cooperative Conservation Initiative, funded at $113.2 million, will empower citizen stewards to conserve and protect natural resources, while also achieving important community and economic goals. The Initiative builds on existing conservation partnership programs and will provide new and expanded opportunities for landowners, land managers, and others to participate in projects that foster innovation and create incentives for stewardship. Our budget also provides funds for a public lands volunteers program.

The 2004 CCI request builds upon Interior's long history of working collaboratively with others. It builds on existing conservation partnership programs, including the challenge cost share programs of the Bureau of Land Management, Fish and Wildlife Service, and National Park Service, as well as FWS's Partners for Fish and Wildlife program, Coastal program and Migratory Bird Joint Venture program. This initiative also funds a program of volunteers to increase public awareness of, and appreciation for, natural and cultural resource protection.

The CCI request includes a $9.3 million increase for the Partners for Fish and Wildlife program, the largest increase ever provided to this program. The Fish and Wildlife Service will partner with 2,500 additional landowners on the program's waiting list. These new partnerships will restore an additional 19,298 acres of wetlands; 83,601 acres of native grasslands, forest and other uplands; and 241 miles of riparian and in-stream habitat over 2003 levels.

CONSERVATION GRANTS

The Private Stewardship grants and the Landowner Incentive Program recognize continuing opportunities for conservation of endangered and threatened species through partnerships with private landowners. The budget request includes $50.0 million for Private Stewardship grants and the Landowner Incentive program. Interest in the State portion of the program is high, with over 80 grant requests totaling $61.0 million for the program's first year.

The 2004 budget request includes a comprehensive, partnership approach to meeting the President's commitment for fully funding the Land and Water Conservation Fund. The 2004 LWCF program includes $662.4 million for the Department. It emphasizes conservation partnerships with States, Tribes, local communities, and private citizens, including a strong State grant program, and reduced Federal land acquisition. This proposal recognizes the costs of adding to the significant land holdings that are already managed by the Department and our commitment to take better care of these lands. It also recognizes the value and cost-effectiveness of partnerships. We can accomplish our conservation goals by conserving endangered and at risk species through conservation easements, working with private landowners to enhance habitat for endangered and at risk species, and other innovative partnership approaches.

CONSERVING WILDLIFE AND FISHERIES

March 14, 2003 marks a milestone in the history of wildlife conservation in America—the centennial anniversary of the national wildlife refuge system. Reflecting the importance of this event and the record of conservation established through this unique system of lands and resources, the 2004 budget builds on last year's historic $48.4 million budget increase for the national wildlife refuge system by requesting a total of $402.0 million for refuge operations and maintenance, an increase of $33.6 million over 2003 appropriation levels. The total budget request for the Fish and Wildlife Service is $1.3 billion.

The Fish and Wildlife Service fisheries program has played a vital role in conserving and managing fish and other aquatic resources. The 2004 budget enhances the Federal contribution to aquatic resource conservation partnerships, by providing $103.6 million for the FWS fisheries program. The request includes an $7.4 million increase for operation and maintenance of the national fish hatchery system's hatcheries, fish health centers, and fish technology centers. Also included is a $1.0 million increase to combat aquatic nuisance species, part of the larger, coordinated interdepartmental effort discussed below.

OTHER PARTNERSHIPS

As Stated earlier, the 2004 budget is based on a vision of partnerships and leaving a legacy of healthy lands and thriving communities resulting from efforts to work together across landscapes and across communities. The 2004 budget sets forth the tools through which these partnerships can flourish and leave a legacy of healthy lands and thriving communities.

The Department's parks, refuges, and public lands host nearly 500 million visitors a year and provide access for economic uses, activities that fuel the economic engines for communities adjacent to our Federal lands. Recognizing that the Department's decisions can greatly impact these gateway communities, the Department is working in partnership with the people who live on the private lands that border these areas and developing collaborative approaches to address local issues.

Everglades.—The Everglades restoration effort also affirms the power of partnerships. As stewards of about one-half of the remaining Everglades ecosystem, the Interior Department works with a broad team of Federal, State and local partners. In 2004, the President's budget includes $111.8 million for Interior Everglades activities, an increase of $27.8 million above 2003 enacted appropriations. The request includes $40.0 million to protect the Big Cypress National Preserve by acquiring the Collier family's mineral right holdings.

Exemplifying the partnership approach to this restoration effort, the Department is building stronger coalitions to implement the restoration program, including:

—Forming an advisory committee for public input to land managers in South Florida on a wide range of issues;
—Providing scientific expertise to the State and the U.S. Army Corps of Engineers to meet the objectives of the Comprehensive Everglades Restoration Plan; and
—Taking steps to ensure that appropriate quantities of water are distributed at the right times and in the right places to restore the unique Everglades ecosystem.

Invasive Species.—The Department is participating in an interagency performance budget to promote invasive species management that is being coordinated by the National Invasive Species Council. The 2004 budget proposes $57.5 million for the Department's portion of this interagency effort.

At this funding level, Interior will participate in the control and management of tamarisk and giant salvinia in the southwest; conduct ballast water research; control and eradicate nutria in the Chesapeake Bay and in Louisiana; plan early detection and rapid response to eradicate outbreaks of sudden oak death in eastern hardwood forests of the central Appalachian Mountains; and develop a marine invasive species early detection warning system.

Abandoned Mine Reclamation and Clean Streams.—Through partnerships the Office of Surface Mining is restoring streams impacted by coal mining. Its Clean Streams program involves State and local groups to enhance miles of riparian areas. The President's budget request includes $281.2 million for State and Federal programs to protect the environment during coal mining, assure prompt reclamation after mining, and clean up abandoned mine lands. The request will enable OSM to continue directly administering Federal regulatory and reclamation programs in States that do not operate their own surface mining programs as well as on Federal and Indian lands, and to reclaim 6,900 acres of disturbed land and other hazards that threaten human health and welfare and environmental quality.

Payment of Lieu of Taxes.—The President's proposal calls for $200.0 million for Payments in Lieu of Taxes, to compensate States for Federal lands that cannot be taxed by local governments. The 2004 budget proposes to move the program from the Bureau of Land Management to the Departmental Management account to reflect the breadth of this program. The lands on which the payments are made are administered by the NPS, FWS, and USDA Forest Service, as well as by the Bureau of Land Management.

WILDLAND FIRE AND HEALTHY FORESTS

Building a legacy of healthy lands and thriving communities means applying a healing hand to the landscape. The Department is advancing the President's Healthy Forests Initiative to reduce decades-long build-ups of underbrush and unnaturally dense forests.

The budget proposes $698.7 million for wildfire prevention and suppression and Healthy Forest initiatives in fiscal year 2004. This is a $48.5 million, or 7.5 percent increase over last year's budget proposal. The request includes continued funding for a robust fuels treatment program at $186.2 million, 400 percent above spending in 2000. At this funding level, the Department will treat 307,000 high priority acres

in the wildland-urban interface and an additional 768,000 acres that are not in the wildland-urban interface.

The Department is also taking a number of steps to improve the productivity and performance of the fuels program that will help the Department's firefighting bureaus take maximum advantage of the opportunity for fuels treatment projects at the beginning of the fiscal year when weather and workload conditions for fuels treatments are optimal. The Department is accelerating project planning and selection, issuing policy guidance and proposed legislative language designed to facilitate and expand contracting in the fuels program, and issuing policy guidance to expedite the budget allocation process for the fuels program and individual projects.

The fuels treatment program is key to restoring forests and rangelands to long-term health and preventing damage caused by catastrophic wildfires. One approach to improving forest health that holds promise is stewardship contracting. Stewardship contracts allow the private sector, non-profit organizations, and local communities to productively use materials generated from forest thinning.

The 2004 budget proposal also calls for $282.7 million for fire preparedness, including increased funding for aviation contract costs. The fire suppression request of $195.3 million reflects a $36.0 million increase to fund suppression operations at the revised 10-year average. This funding level will provide resources to respond to an "average" fire year without having to rely on emergency borrowing that can be disruptive to other Interior programs. The Department is also working to develop new and improved current cost control strategies for suppression. The budget also includes $24.5 million for rehabilitating burned areas. Timely stabilization and rehabilitation of severely burned areas are critical to prevent further damage due to erosion, loss of soil nutrients, and the introduction and spread of invasive species. The budget also continues funding for Rural Fire Assistance at $10.0 million. Frequently, local firefighting departments are the first responders to wildland fires on public lands and play a vital role in preventing fires from escaping initial attack and becoming exponentially more expensive to suppress. In 2002, the Department assisted 5,349 rural and volunteer fire departments through grants, technical assistance, training, supplies, equipment, and public education support.

HELPING TO MEET THE NATION'S ENERGY NEEDS

Interior plays a central role in meeting the Nation's energy needs. Conservation, renewable energy, and traditional energy sources all play an intertwined role in helping the Nation meet these needs. The budget supports the President's and the Department's goal for increasing domestic energy supplies from a variety of sources, in an environmentally acceptable manner, with a special emphasis on developing renewable energy sources on Federal lands.

The 2004 budget request includes an increase of $444,000 for activities on the North Slope, for a total of $8.4 million. Funding will support planning for sales in the National Petroleum Reserve-Alaska, and, if authorized, the Arctic National Wildlife Refuge. Congressional authorization will be required for a lease sale to be conducted in ANWR.

The budget requests an increase of $2.0 million for BLM to strengthen inspection and enforcement activities, targeted primarily to the Powder River and San Juan basins. The budget also proposes a $500,000 increase to expand resource monitoring to improve assessment of the cumulative impacts of oil and gas development, especially on cultural resources and species at risk.

The 2004 budget includes $2.0 million for renewable energy resources. This includes an increase of $100,000 over 2003 enacted appropriations to support the development of geothermal, wind, and solar energy on public land. This is more than five times the 2002 funding level for these programs.

The Outer Continental Shelf is projected to produce over 25 percent of both the Nation's oil and natural gas in 2003. The Minerals Management Service is the primary steward of the mineral resources on the OCS. The MMS budget of $171.3 million includes an increase of $1.6 million to meet increased workload brought about by the demand for Outer Continental Shelf program services in the Gulf of Mexico. The 2004 budget includes a total of $11.6 million, an increase of $3.9 million over 2003 funding levels for MMS to employ innovative business processes and advances in electronic technology in the offshore program. The budget also includes an increase of $300,000 to investigate the energy resource potential found in methane hydrate formations. The MMS will also invest an additional $3.0 million to operate and maintain its minerals revenue management and royalty-in-kind systems.

The 2004 BIA request includes a $2.0 million increase for grants to Tribes to evaluate mineral resource potential on tribal trust and restricted lands. The request also includes $1.0 million to help Tribes expedite the development of tribal regula-

tions governing mineral leasing and permitting, and rights-of-way of tribal lands required under the Energy Policy Act, 2002.

TAKING CARE OF PARKS

Complementing the Department's cooperative conservation commitments is a continued investment in taking care of National Parks. The President's budget proposes a $2.4 billion budget for the National Park Service, an increase of $131.4 million above 2003 appropriations.

This budget continues the Department's commitment to fulfill the President's pledge of addressing the maintenance backlog in National Parks, proposing $705.8 million this year toward this effort, an increase of $54.1 million, nearly an eight percent increase over 2003. The budget includes an increase of $16.3 million for cyclic maintenance. This increase will provide additional funds for regular maintenance activities and will help the NPS keep pace with its maintenance needs and prevent additional projects from becoming deferred. It also includes an additional $16.7 million for the repair and rehabilitation program and a $4.7 million increase for comprehensive condition assessments at parks. Data collected through the condition assessments will be used in 2004 to evaluate progress in eliminating the deferred maintenance backlog, as measured by a facility condition index.

To date, our accomplishments are impressive. For example, the Many Glacier Hotel at Glacier National Park was built in 1914. A highly recognized National Landmark, this facility signifies an important period in the development of the National Park Service. Due to the harsh climate and insufficient maintenance in the past, this important landmark had deteriorated to a stage where emergency stabilization was necessary. The Department is in the process of stabilizing this important facility.

But we still have more work to do. A key focus in the 2004 budget will be to improve park roads. Here, too, the Department is reaching out to partners. A signed memorandum of agreement with the Federal Highway Administration will help us achieve our road maintenance goals efficiently. The Department of Transportation's 2004 budget proposes $300.0 million in 2004 for Park road repair as part of the reauthorization of TEA–21, bringing the total park maintenance budget to over $1 billion.

In the National Park Service, the Natural Resource Challenge helps Park managers improve resource management by strengthening the scientific base of knowledge about park resources. Our budget proposes $76.1 million, an $8.7 million increase over 2003, for the program. This increase will provide a 3 year cumulative total increase of over $104 million above the 2001 level. The Natural Resource Challenge is an integral component of President Bush's ongoing commitment to improving natural resource management in Parks.

INDIAN EDUCATION

No task is more important to the American community than educating its children. In education, the President has committed to "leave no child behind." At Interior, this commitment centers on the 48,000 children educated at schools operated by the Bureau of Indian Affairs or by Tribes under BIA grants or contracts.

The budget request for Indian education continues the President's commitment with a robust $528.5 million school operations budget request, including funding for teacher pay increases. The budget includes $3.0 million to establish a separate fund for new administrative cost grants to encourage more Tribes to exercise their authority to operate BIA schools by providing full funding for start-up costs for the first year of tribal operation of bureau-operated schools.

Children deserve safe, functional places to learn. The 2004 budget invests $292.6 million in school facilities, including funds to replace at least seven high priority school facilities and to repair schools identified in the Indian school maintenance backlog. The President's goal is to eliminate the backlog by 2006.

RECREATION

With almost 500 million visits each year to the Department's lands, Interior provides a wide array of recreational opportunities, including fishing, hiking, hunting, camping, and wildlife viewing. Public lands managed by the Bureau of Land Management provide recreational venues for a growing population in the West, hosting over 60 million visitors annually.

The 2004 budget requests $48.7 million to enable the Bureau of Land Management to continue to provide quality recreational opportunities. BLM will address transportation and access needs and challenges, expand interpretive and other vis-

itor services, and support greater outreach and consultation efforts to help resolve user conflicts in the face of growing visitation.

In recreation as in conservation, partnering is central to achieve our recreation goals. The Department depends on the contributions of 200,000 volunteers, almost three times Interior's Federal workforce, to help address resource protection and public recreation needs. Over 126,000 volunteers work in parks, the rest work in refuges, public lands, and other Interior sites across the country. In 2004 volunteers will assist NPS staff with important park projects including the Lewis and Clark bicentennial, the Powered Flight centennial, and the Jamestown 400th anniversary. The budget request proposes to increase funding by $1.5 million for partnership efforts and volunteer recruitment and training. A $1.0 million increase is aimed at bolstering volunteer participation and improving park capacity to supervise, train, and reward volunteers. An increase of $500,000 will allow NPS to establish full time volunteer coordinators to manage an expanding program.

The Department's partnerships include working with States. Today, the LWCF State grant program is a cornerstone of the Secretary's commitment to involve State governments in conservation and recreation activities. This program, enacted in 1965, helps States develop and maintain high quality recreation areas and stimulate non-Federal investments in the protection and maintenance of recreation resources across the United States. Reflecting the President's goals, the Interior LWCF program seeks to promote cooperative alliances, leave land on State tax roles, and achieve conservation goals by emphasizing innovative alternatives to fee simple title purchases, such as conservation easements and land exchanges. This emphasis also enables Interior land management agencies to focus more funds on caring for lands already under their management.

The President's budget fully funds the Land and Water Conservation Fund at $900.7 million. The LWCF proposal calls for $160.0 million in State grants, an increase of $62.6 million over the 2003 funding level enacted by the Congress.

LAW ENFORCEMENT AND SECURITY

The budget calls for increases for Interior's law enforcement and security programs. The money would be used to hire additional personnel, provide more training, and improve security operations. This includes an increase of $28.9 million that is earmarked for strengthening law enforcement and security operations at key Interior visitor sites and $3.9 million to increase protection and law enforcement at Interior refuges, public lands, and parks along U.S. borders with Mexico and Canada. Of the increase for Interior visitor site security, $26.8 million is slated for security improvements at the Jefferson National Expansion Area in St. Louis, Missouri; Independence National Historical Park in Philadelphia, Pennsylvania; and the Washington Monument in Washington, D.C.

SCIENCE

All of the Department's efforts require good information. Scientific information is the cornerstone for Interior's natural resource management activities, providing a basis for making decisions about resource protection, resource use, recreation, and community-based programs. The USGS has the principle responsibility within Interior to provide its bureaus the earth and natural science information and research necessary to manage the Nation's natural resources.

The President's 2004 budget proposes $895.5 million for the USGS. The budget includes $17.1 million in new program increases above the 2003 conference level for high priority research needs, including invasive species control and management and increased capability to address science needs for Interior bureaus.

CONCLUSION

The Interior Department's responsibilities lie at the confluence of people, land, and water. The 2004 budget funds programs that support our broad and multiple missions. Leaving a legacy of healthy lands and thriving communities requires resources, creativity, and, above all, collaboration. The 2004 budget supports this vision of forging partnerships.

This concludes my overview of the 2004 budget proposal for the Department of the Interior and my written Statement. I will be happy to answer any questions that you may have.

Senator COCHRAN. Thank you, Secretary Raley. Commissioner Keys, do you have a statement?

Commissioner KEYS. Yes, sir, I do.

Senator COCHRAN. Please proceed.

STATEMENT OF JOHN W. KEYS, III

Commissioner KEYS. Good morning, Mr. Chairman. It is my pleasure to be here today with you, and we do appreciate the opportunity to come and talk with you about the President's 2004 budget request. We appreciate all of the support that we have received from your staff over this year and especially in preparing for this hearing. I will tell you that your staffs are first-class, and we do enjoy working with them very much.

I have a statement for the record which I would hope you would enter for me, please.

Senator COCHRAN. It will be entered in the record.

Commissioner KEYS. The overall budget request for fiscal year 2004 totals $878 million for the Bureau of Reclamation in current authority. And from our perspective that budget is good news for the West.

Let me digress for just a second. This is our centennial year for the Bureau of Reclamation. The authorizing legislation for the Bureau was enacted on June 17, 1902, and certainly we are proud of Reclamation and what our part has been in developing the West and our continuing relationship with the States there and in providing that water supply.

We are currently the largest wholesaler of water in the United States and the seventh largest power utility delivering power and water to the West. About 31 million people depend on us for water every day, and we serve about 10 million people with power every day. We are proud of those 348 major dams and 58 power plants that we have across the West.

The budget request for 2004 is citizen centered and founded on the President's principle of results rather than procedures. An example is the Western Water Initiative that Mr. Raley just talked about. Our budget is a fiscally responsible request which will continue to provide funding to deliver water, provide a stable source of power for our growing population, keep our dams and facilities safe, and support sound environmental stewardship efforts.

The 2004 request includes $771 million for the Water and Related Resources. This will allow us to continue Reclamation's emphasis on delivering and managing water and power, the two valuable public resources that we are responsible for. In cooperation and consultation with the States, tribal and local governments, along with our 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 across the western United States.

With the need to pursue cost-effective, environmentally sound approaches to meeting these demands, the request continues to emphasize the operation and maintenance of Reclamation facilities in a safe, efficient, economic and reliable manner. This is all done while sustaining the health and integrity of ecosystems that address the water needs of a growing population.

BUDGET HIGHLIGHTS

Let me just give you a few highlights of that budget. Mr. Raley mentioned the Animas-La Plata project in Colorado and New Mexico and the request being $58 million. This year that level of funding is crucial to complete the construction of this project within the time frames required by the Colorado Ute Settlement Act Amendments of 2000.

The 2004 request will continue the construction of Ridges Basin Dam and the Durango Pumping Plant on the Animas River, as well as continuing the preconstruction activities for the Navajo Nation Municipal Pipeline and Ridges Basin Inlet conduit, and other facilities there.

The Columbia-Snake River Salmon Recovery in Idaho, Oregon, Montana, and Washington addresses the implementation of reasonable and prudent alternatives included in two biological opinions issued in December of 2000. We are working mightily to make those work for the return of the salmon and the continued operation of our projects there.

The Klamath Project in California and Oregon provides funding for scientific studies and initiatives that will, as a result of the 2002 to 2012 biological opinion, establish a water bank. We think the water bank will separate the requirements for water for the Endangered Species Act from the requirement of water for deliveries to the irrigation community. We think it is a great approach to try, and certainly we have every effort there to make that work this year.

The safety of Reclamation dams is one of our highest priorities, if not the highest one. About 50 percent of Reclamation's dams were built between 1900 and 1950, and 90 percent of these dams were built before the advent of current state-of-the-art foundation treatments, and before filter techniques were incorporated into those constructions. We have $71 million of our budget dedicated to the continued safety of those facilities.

Site security activities are ongoing in the funding program improvements identified in 2002 and 2003. Since September 11, 2001, Reclamation has maintained the heightened security levels at our facilities to protect the public, to protect our employees, and all of the infrastructure there, and certainly we will continue that. The 2004 budget includes those monies, about $28-and-a-half million, for us to complete the analysis and look at every one of those facilities that we operate and maintain.

The desalination of seawater and groundwater poses a promising opportunity to expand water supplies for both coastal and inland areas. The 2004 budget contains increased funding for desalination research activities aimed at decreasing the cost and facilitating local implementation of desalination projects.

The Western Water Initiative that Mr. Raley talked about is one that we are proud of. It sets aside some money for us to focus on those activities and bring forward other parts of our program that are complementary to those activities. A feature of the initiative that is especially promising is the one that will actually take a look 25 years into the future around our projects. The objective is to see if there are unmet demands there that cannot be met by our exist-

ing infrastructure and identify the areas that we and our stakeholders, with the States, need to address over that period of time.

To be successful in dealing with today's complex water issues, we know that collaboration is the key. We must all work together to forge workable solutions. We are looking for new ways to make existing water supplies go further. We must continue to develop strategies where water can be used more than once in order to satisfy multiple users and stretch those existing water supplies even more. This means improved water conservation, investments in science and technology, and modernization of existing infrastructures.

PREPARED STATEMENT

I would be glad to provide more detail, and we would certainly stand to any questions that you all might have today.

[The statement follows:]

PREPARED STATEMENT OF JOHN W. KEYS, III

Thank you, Mr. Chairman, and members of the subcommittee, Thank you again for the opportunity to appear before you today to support the President's fiscal year 2004 budget request for the Bureau of Reclamation. With me today is Robert Wolf, Director of the Program and Budget Group.

Our fiscal year 2004 request has been designed to support Reclamation's core mission, as stated in DOI's Strategic Plan:

"Deliver Water and Hydropower, Consistent with Applicable State and Federal Law, in an Environmentally Responsible and Cost Efficient Manner."

Funding is proposed for key emerging projects which are important to the Department and in line with Administration objectives. The budget request also supports Reclamation's participation in efforts to meet emerging water supply needs, to resolve water shortage issues in the West, and to promote water conservation and improved water management.

The fiscal year 2004 request for Reclamation totals $878.0 million in gross budget authority, an increase of $23.1 million from the fiscal year 2003 President's Amended Request of January 7, 2003, and a decrease of $33.3 million from fiscal year 2003 Enacted Level. The request is partially offset by discretionary receipts in the Central Valley Project Restoration Fund, resulting in net discretionary budget authority of $847.2 million, a decrease of $24.5 million over the fiscal year 2003 Enacted Level.

Center to this is $11.0 million to launch a Western Water Initiative that uses collaboration, conservation, and innovation to make sure every drop of water counts. This initiative will provide a comprehensive forward-looking water resource management program that will respond to growing water demands. To be successful in dealing with today's complex water issues, we know collaboration is the key. We all must work together to forge workable solutions. We are looking for new ways to make existing water supplies go further. We must continue to develop strategies where water can be used more than once in order to satisfy multiple users and stretch existing water supplies even more. This means improved water conservation, investments in science and technology, and modernization of existing infrastructures.

The four major components of the initiative are Enhancing Water Management and Conservation; Expanding Science and Technology Program; Preventing Water Management Crisis; and Strengthening Endangered Species Act (ESA) Expertise.

This budget is good news for the West. Each year 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.

DEMONSTRATED COMMITMENT AND ACCOMPLISHMENTS

While performing its core mission, Reclamation delivered 10 trillion gallons of water to over 31 million people in the 17 western states for municipal, rural, and industrial uses. Reclamation facilities stored over 245 million acre-feet of water, serving one of every five western farmers to irrigate about 10 million acres of land. Those irrigated lands produced 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 continues to administer and/or operate 348 reservoirs, 56,000 miles of water conveyance systems, and 58 hydroelectric facilities, which generate 42 billion kilowatt-hours annually.

Reclamation also continues to manage 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. Reclamation and its employees take very seriously their 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 fiscal year 2004 budget request demonstrates Reclamation's commitment in meeting the water and power needs of the West in a fiscally responsible manner. This budget continues Reclamation's emphasis on delivering and managing those valuable public resources. In cooperation and consultation with the 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. With the need to pursue cost effective and environmentally sound approaches, Reclamation's strategy is to continue to use 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 our stakeholders, to use decision support tools, including risk analyses, in order to develop the most efficient and cost-effective solutions to the complex challenges that we face.

During the second session of the 107th Congress, both the committee and Reclamation's stakeholders accentuated their concerns over the availability of water two decades from now. Our fiscal year 2004 request includes measures that will be utilized to help assure that water will be available for a growing population when needed. Through our Western Water Initiative, Reclamation plans to develop a forward looking water resource management program that will respond to growing water demand.

Furthermore, funding is proposed for key emerging projects that are important to the Department and the Administration's objectives. The budget proposal also supports Reclamation's participation in efforts of meeting emerging water supply needs, resolving water issues in the West, promoting water efficiencies, and improving water management.

Moreover, Reclamation's request reflects the need to address an aging infrastructure and the rising costs and management challenges associated with scarce water resources. As our infrastructure ages, we must direct increasing resources toward technological upgrades, new science and technologies, and preventative maintenance to ensure reliability, which will increase output, and improve safety.

More and more everyday we see how important water resource needs are to our state, local and tribal partners. Many states are developing statewide water plans or drought contingency plans to address resource utilization and stewardship against the backdrop of large population increases with the growing concern for sustainable development. Reclamation, in partnership with other federal, state, local, tribal, and private entities, has consistently proven its ability to work with others to optimize water use. This technical capability is one of our most valuable resources.

WATER AND RELATED RESOURCES

The fiscal year 2004 request for the Water and Related Resources account is $771.2 million. The request provides funding for five major program activities: Water and Energy Management and Development ($331.3 million); Land Management and Development ($41.3 million); Fish and Wildlife Management and Development ($90.4 million); Facility Operations ($176.8 million); and Facility Maintenance and Rehabilitation ($171.5 million). The request is partially offset by an undistributed reduction of $40.0 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, while sustaining the health and integrity of ecosystems that addresses the water needs of a growing

population. It will also assist the states, tribes, and local entities in solving contemporary water resource issues.

Highlights of the fiscal year 2004 request include:

Animas-La Plata in Colorado and New Mexico ($58.0 million).—The fiscal year 2004 request includes $58 million for the project and will fund the construction contracts awarded in fiscal year 2003 that are associated with critical path activities. This level of funding is crucial to complete the construction of this project within the time frames required by the Colorado Ute Settlement Act Amendments of 2000. In December 2000, Congress enacted legislation to resolve the Colorado Ute Indian Tribes' water right claims and allowed construction of a smaller Animas-La Plata Project to proceed.

Columbia-Snake River Salmon Recovery in Idaho, Oregon, Montana, and Washington ($19.0 million).—This program addresses the implementation of Reasonable and Prudent Alternatives (RPAs) included in two Biological Opinions issued in December 2000. The first opinion was issued by the National Marine Fisheries Service (NMFS) entitled "Operation of the Federal Columbia River Power System (FCRPS), Including the Juvenile Fish Transportation Program, and 19 Bureau of Reclamation Projects in the Columbia Basin," and the second opinion was issued by the U.S. Fish and Wildlife Service (FWS) entitled "Effects to Listed Species from Operations of the Federal Columbia River Power System."

Those Biological Opinions superseded all previous FCRPS Biological Opinions and all actions will now be focused toward the new "reasonable and prudent alternatives (RPA)." Section 7(a)(2) of the Endangered Species Act (ESA) requires Federal agencies to consult with NMFS and the FWS to ensure that agency actions will not likely jeopardize the continued existence of endangered or threatened species, or will not adversely modify or destroy their designated critical habitats.

The FWS Biological Opinion is coordinated with the NMFS Biological Opinion, and calls for operational changes to the FCRPS, by way of additional research measures. A substantial majority of the action items resulted from the NMFS Biological Opinion, while the FWS action items included significantly increased regional coordination with the Federal regulatory agencies; aggressive actions to modify the daily, weekly, and seasonal operation of Federal dams; and the "off-site mitigation" of hydro system impacts.

Klamath Project in California and Oregon ($20.8 million).—The funding will provide for scientific studies and initiatives as a result of the 2002–2012 biological opinions and for the establishment of a water bank as required under those same opinions, as well as to provide water to meet ESA compliance.

The request will also continue 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 to improve fish passage and habitat.

Safety of Dams ($71.0 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 those dams were built before the advent of current state-of-the-art foundation treatment, and before filter techniques were incorporated in embankment dams to control seepage. Safe performance of Reclamation's dams continues to be of great concern and requires a greater emphasis on the risk management activities provided by the program.

The fiscal year 2004 request of $71.0 million for the Safety of Dams Program is being made to provide for the reducing of public safety risks at Reclamation dams, particularly those identified as having deficiencies. The request provides for risk management activities throughout Reclamation's Safety of Dams inventory of 362 dams and dikes, which would likely cause loss of life if they were to fail. Pre-construction and construction activities for up to 19 of these dams are identified for funding through the Safety of Dams Program. The fiscal year 2004 request includes $1.7 million for the Department of the Interior Dam Safety Program.

Site Security ($28.6 million).—Since September 11, 2001, Reclamation has maintained heighten security at is facilities to protect the public, its employees, and infrastructures. The supplemental funding in fiscal year 2002 was necessary to cover the costs of site security activities in three principle areas. The first area was for guards and law enforcement, the second area included reviews, studies, and analyses, and the third area was for equipment. The fiscal year 2004 request continues funding for those critical activities under the categories of Critical Infrastructure Protection and Continuity of Operations.

Drought ($1.1 million).—The program includes those activities related to administering the Reclamation States Emergency Drought Relief Act of 1991, as amended, to undertake activities that will minimize losses and damages resulting from drought conditions. The major component of the program relates to response activi-

ties taken during an actual drought to minimize losses or mitigate damages. The program also provides for assistance in the preparation of drought contingency plans.

Desalination of Seawater and Groundwater ($775,000).—This program provides a promising opportunity to expand water supplies for both coastal and inland areas. The 2004 budget contains increased funding for desalination research activities aimed at decreasing the cost and facilitating local implementation of desalination.

Our research activities are carefully chosen to align with the Department's draft Strategic Plan and are developed in collaboration with stakeholders. We believe that cost shared research conducted at existing institutions is the quickest and most economical means to achieve our ambitious long-term goal of decreasing desalination costs by 50 percent by 2020.

Sumner Peck Settlement ($34.0 million).—The budget request provides payment to the plaintiffs towards the settlement of Sumner Peck Ranch Inc v. Bureau of Reclamation.

WESTERN WATER INITIATIVE

The new Western Water Initiative will position the bureau in playing a leading role in developing solutions that will help meet the increased demands for limited water resources in the West. The budget proposes $11.0 million, which will benefit western communities that are struggling with increased water demands, drought, and compliance with the Endangered Species Act. The Western Water Initiative involves:

Enhanced Water Management and Conservation ($6.9 million).—Funding will be used for the modernization of irrigation delivery structures such as diversion structures and canals. This will also allow Reclamation to use existing intrastate water banks where they are available, and to promote intrastate water banking as a concept to help resolve future water supply conflicts. Reclamation will develop alternative ways to balance the existing demands for water for agricultural, municipal, tribal, and environmental purposes. Examples include water management tools; inexpensive and accurate water measuring devices; and computer technologies that will allow remote sensing and automation. Moreover, new canal lining material, data collection and analysis systems should make predicting, managing, and delivering water much more effective.

Preventing Water Management Crisis ($917,000).—Funding will enable us to provide effective environmental and ecosystem enhancements in support of Reclamation's project operations through proactive and innovative activities. For example, we are exploring ways of addressing issues at projects by identifying and integrating long-term river system ecological needs within the context of regulated river management.

Pilot projects will be selected from a list of critical areas based on the potential for cost savings resulting from the development of a program in advance of the occurrence of a crisis. Pilot projects are anticipated to include environmental enhancements that provide support for project operations or optimization of project operations for both water supply and environmental benefits. For example, in some cases, water release patterns can be modified to address environmental needs without impairing the delivery of water for authorized project purposes.

Expanded Science and Technology Program ($2.7 million).—Reclamation's Desalination Research and Development Program will be expanded to research cost reduction of water desalinization and waste disposal. Reclamation has developed much of the current desalinization technology used around the world today, and will continue to work with partners in the industry to accomplish this goal.

Funding will also expand the effective use of science in adaptive management of watersheds. This cooperative effort with the USGS will assist Reclamation in reaching decisions that are driven by sound science and research, are cost effective, and are based on performance criteria.

Funding will also provide for peer review of the science used in ESA consultations and other environmental documents issued by Reclamation. The National Academy of Science, USGS, and other federal and state entities with science expertise will peer-review the science used by Reclamation in preparing Biological assessments. This initiative will improve Reclamation's use of science and technology to address critical water resource management issues.

Strengthening Endangered Species Act (ESA) Expertise ($458,000).—Funding will be used to strengthen ESA expertise and will produce identifiable mechanisms in order to achieve continuity in evaluating biological assessments and/or biological opinions. This initiative will enable managers to acquire a greater understanding of the purpose, process and requirements of the ESA as it relates to federal actions

that are important to carrying out Reclamation's water resources management mission.

CENTRAL VALLEY PROJECT RESTORATION FUND

The fiscal year 2004 Reclamation budget includes a request for $39.6 million and is expected to be offset by discretionary receipts totaling $30.8 million, which can be collected from project beneficiaries under provisions of Section 3407(d) of the Act. These funds will be used for habitat restoration, improvement and acquisition, and other fish and wildlife restoration activities in the Central Valley Project area of California. This fund was established by the Central Valley Project Improvement Act, Title XXXIV of Public Law 102–575, October 30, 1992.

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 2004.

CALIFORNIA BAY-DELTA RESTORATION

The fiscal year 2004 Reclamation budget includes a request for $15.0 million. The funds will be used consistent with commitment to find long-term solutions in improving water quality; habitat and ecological functions; and water supply reliability; while reducing the risk of catastrophic breaching of Delta levees. Fiscal year 2004 budget contains funds for Bay-Delta activities that can be undertaken within existing statutory authorities for implementation of Stage 1 activities. Those activities are included in the preferred program alternative recommended by CALFED and approved by the Secretary of the Interior. The majority of these funds will specifically address the environmental water account, storage, and program administration.

POLICY AND ADMINISTRATION

The request for Policy and Administration (P&A) is $56.5 million. P&A funds are 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.

LOAN PROGRAM

No funding is requested for any direct loans. Funding of $200,000 is requested for program administration.

PERFORMANCE ASSESSMENT RATING TOOL (PART)

During fiscal year 2002, all cabinet level agencies reviewed at least 20 percent of their programs in concert with the Office of Management and Budget. The Administration conducted these reviews using PART, a standardized format for program evaluation and management. Results from the PART process were one of many criteria used in making budget decisions. The three Reclamation programs that were reviewed were Hydropower, Water Reuse and Recycling Program (Title XVI), and Rural Water. Reclamation is currently addressing all deficiencies identified with respect to each program.

Hydropower was rated "moderately effective" and Reclamation has begun developing long-term goals that will address the identified issues, such as aging facilities and the need for better performance measures. The Title XVI program review indicated that the program was "moderately well managed." However, Reclamation's oversight of individual projects is limited by strong local control, and the PART findings indicated that there is no clear linkage between Federal funding and progress towards outcomes.

The Rural Water Supply Projects were rated "results not demonstrated." Fiscal year 2004 funding requests for this program has been reduced due to systemic program weaknesses, such as non-existent guidelines for eligibility; local cost share and program planning; and overlaps with other Federal agencies. The Administration intends to submit legislation this spring, establishing a Reclamation Rural Water Program with adequate cost controls and clear guidelines for project development.

PRESIDENT'S MANAGEMENT AGENDA

Reclamation is engaged in a variety of activities designed to meet the Department's "Getting to Green" Scorecard requirements related to the President's Management Agenda (PMA). These activities are concentrated in five major components of the PMA: Expanding E-Government, Financial Management Improvement, Human Capital, Performance and Budget Integration, and Competitive Sourcing.

E-Government.—Reclamation participates in a one-stop Internet access that provides citizens information about recreational opportunities on public lands and participates in the Volunteer.gov website which provides information on volunteer activities. We also recently completed an internal review of our web program and are in the process of implementing the recommendations from the review, including the development of a common website.

Financial Management Improvement.—Reclamation continues to make progress to ensure that our financial systems are compliant with the Joint Financial Management Improvement Program core requirements. To ensure that accurate and timely financial information is provided, our financial management program uses the Federal Financial System, the Program and Budget System, and its corporate data base system to report summary and transactions data on a 24-hour basis.

Human Capital.—Reclamation effectively deploys the appropriate workforce mix to accomplish mission requirements. The use of existing human resources flexibilities, tools, and technology is in a strategic, efficient, and effective manner. Our workforce plan addresses E-Government and Competitive Sourcing and a plan is in place for recruitment, retention, and development of current and future leaders, in addition supervisors are encouraged to work individually with employees to develop Individual Development Plans.

Competitive Sourcing.—Reclamation's A–76 Inventory Consistency Team was established to ensure consistency in inventory reporting. The team established guidelines for commercial, commercial core, and inherently governmental functions that are specific to Reclamation's workforce. Two streamlined studies have been completed for 124 FTE and a tentative decision has been announced, moreover two additional streamlined studies are with the Independent Review Official and a preliminary planning is underway for the Express Review studies scheduled in early 2003.

Performance and Budget Integration.—Reclamation continues to issue joint planning guidance through the Budget Review Committee process to provide budget targets, priorities, objectives, and goals. A Government Performance and Results Act (GPRA) planning calendar, including budget process and major milestones, has been developed. In addition, budget accounts, staff, and programs/activities are aligned with program targets.

FISCAL YEAR 2002 ACCOMPLISHMENTS HIGHLIGHTS AND FUTURE PLANNED ACTIVITIES

In fiscal year 2002, we delivered the contracted amount of water to our water users, thereby meeting our contractual obligations. However, severe drought conditions increased demand for water, and in some cases, the water delivered to the water users was not enough to meet the increased requirement. If snow pack runoff continues at or below normal levels and if the drought continues, there will be far less water to release to our water users during fiscal year 2003 and fiscal year 2004.

Reclamation renewed 100 percent of the water service contracts expiring in fiscal year 2002, helping to ensure continued reliable service. An additional contract that was not planned for was also renewed for a total accomplishment of 114 percent.

Reclamation also completed Safety of Dams modifications on four facilities in fiscal year 2002, the Caballo, Avalon, Clear Lake and Red Willow dams. Also, in fiscal year 2003, Reclamation anticipates completing Safety of Dams modifications at Deadwood Dam in Idaho and Salmon Lake Dam in Washington.

Completion of these modifications improves overall facility condition by reducing risk and improving safety. In some cases, completion of the modifications increased Reclamation's ability to deliver water by removing restricted capacity requirements, and allowing the reservoir to be filled to full operational capacity, if needed.

Reclamation's draft cost of power production per megawatt capacity for fiscal year 2002 was $6,855. This amount puts Reclamation within the upper 25th percent of the lowest cost hydropower facilities. Reclamation also achieved a 1.3 percent forced outage rate, which measures the amount of unplanned time out of service. This performance level is 56 percent better than the industry average forced outage rate of 3 percent.

By the end of fiscal year 2002, Reclamation conducted over 130 reviews of its recreational facilities to determine the state of its facilities, identify corrective actions, and determine needed improvements. Also in fiscal year 2002, Reclamation's partnerships and cost-sharing practices allowed Reclamation to complete additional cor-

rective actions to improve more facilities than originally planned. This resulted in performance greater than 100 percent completion of the planned corrective actions.

Reclamation completed 130 percent of its planned site security improvements. Moreover, funding was used to implement additional high-priority security improvements at its high-priority facilities, which was well above the target originally established.

FISCAL YEAR 2004 PLANNED ACTIVITIES

In fiscal year 2004, Reclamation plans to deliver 27.0 million acre-feet of water for authorized project purposes. In addition, we will complete the Safety of Dams projects at Wickiup Dam, Keechelus Dam, Pineview Dam, and Horsetooth Dam. This will reduce total reservoir restrictions and increase the available storage capacity by 127,300 acre-feet. Reclamation will also complete projects or parts of projects that have the potential to deliver an additional 42,030 acre-feet of water, which will naturally be dependent upon water availability and operations.

Reclamation plans to complete the Escondido and San Elijo Water Reclamation Program; the Olivenhain Recycled Water Project; the Yuma Area Water Resource Management Group bifurcation structure; portions of the El Paso Waste Water Reuse Project; canal linings; and other salinity reduction projects that increase water availability.

Reclamation also plans to continue ranking within the upper 25th percentile of low cost hydropower producers, by comparing power production costs per megawatt capacity, Reclamation plans to achieve a forced outage rate 50 percent better than the industry average, which is currently 3 percent. While Reclamation anticipates completing the baseline condition assessments for 80 percent of the recreation facilities it manages, it plans to continue to maintain the overall facility condition rating assessed at the fiscal year 2003 baseline level.

Reclamation intends to ensure that 14 percent of recreation facilities meet universal accessibility standards, thereby increasing access to recreation areas to the disabled from 8 percent in fiscal year 2003, in addition to maintaining the annual level of on-the-job employee fatalities and serious accidents at zero.

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 COCHRAN. Thank you, Commissioner Keys, for your statement. Mr. Johnston, do you have a statement to make?

PREPARED STATEMENT OF J. RONALD JOHNSTON

Mr. JOHNSTON. I have a prepared statement in support of the request for 2004 for the Central Utah Project. And in the interest of time, I would simply ask that it be entered for the record.

Senator COCHRAN. It will be so entered. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF J. RONALD JOHNSTON

My name is J. Ronald Johnston. I serve as the Program Director for implementation of the Central Utah Project Completion Act under the direction of the Assistant Secretary for Water and Science in the Department of the Interior. I am pleased to provide the following information about the President's 2004 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 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 her 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 2004 request for the Central Utah Project Completion Account provides $38.2 million for use by the District, the Commission, and the Department to implement Titles II–IV of the Act, which is $2.0 million more than the 2003 requested level and $2.2 million more than the 2003 enacted level. The request includes $6.4 million for the District to implement water conservation measures, implement local development projects, continue construction on Uinta Basin Replacement Project, and continue planning and NEPA compliance for the facilities to deliver water in the Utah Lake drainage basin. The request also includes $20.0 million for use by the District to complete the construction of the Diamond Fork System. The problems associated with an unforeseen cave-in and dangerous levels of hydrogen sulfide gas have been resolved, and construction of the alternative facilities is progressing on schedule.

The funds requested for the Mitigation Commission ($9.4 million) will be used in implementing the fish, wildlife, and recreation mitigation and conservation projects authorized in Title III ($7.7 million); and in completing mitigation measures committed to in pre-1992 Bureau of Reclamation planning documents ($1.7 million). Title III activities funded in 2004 include the Provo River Restoration Project; acquisition of habitat, access, and water rights; and fish hatchery improvements.

Finally, the request also includes $2.4 million for the Program Office for mitigation and conservation projects outside the State of Utah ($239,000); operation and maintenance costs associated with instream flows and fish hatchery facilities ($390,000); and for program administration ($1.7 million).

In addition to the request described above, the Bureau of Indian Affairs' budget includes $22.5 million for the Ute Indian Water Rights Settlement.

In conclusion, we appreciate the opportunity to testify before the Committee and would be happy to respond to any questions.

Senator COCHRAN. Senator Domenici has several questions which, I will state, will be submitted to you. We hope you will respond to them in a timely fashion.

Mr. RALEY. We will.

Commissioner KEYS. We will be glad to.

Senator COCHRAN. We would appreciate that very much.

Senator Craig.

Senator CRAIG. Thank you very much, Mr. Chairman. The time is late so I will be brief.

But let me say: Mr. Secretary, I do appreciate your testimony and, I think, the reality and the importance you bring to the Department as it relates to its responsibilities. I was looking at your testimony and found most interesting the Wildland Fire and Healthy Forests' proposal. And in that initiative you are talking BLM lands, I assume, exclusively.

Mr. RALEY. Yes, sir.

WILDLAND FIRE AND HEALTHY FORESTS

Senator CRAIG. And the treatment of nearly a million acres of urban wildland interface—well, 300,000 of that, 700+ of wildland-urban—well, I guess, it is all interface. Could you expand on that a little more as to what your plans are? That is certainly a positive, but aggressive, agenda but one, I think, that is very necessary in the West.

Mr. RALEY. Senator, this is Interior's component of the President's Healthy Forest Initiative and the implementation of that initiative will be done—must be done in close coordination with and absolute partnership with the United States Department of Agriculture and the Forest Service. The areas for treatment and the method of implementation is what is being discussed right now so that it can be done in the most cost-effective manner. If you would like, we can provide you with the state of knowledge, whatever it

is as of today, as to the manner of implementation. And I would suggest that we——

Senator CRAIG. Well, I would——

Mr. RALEY [continuing]. Maybe get you that detail shortly.

Senator CRAIG. Thank you. I am working closely with the Forest Service and understand, of course, that you do coordinate because we have inter-dispersed lands there in most every instance, in checkerboard patterns. But that is a very aggressive agenda and one that I am pleased with. So, yes, a briefing on that I would appreciate, as it relates to what we do with the Forest Service on that issue.

The tragedy is when you talk drought and the absence of water, you are also talking the presence of a lot of very dry fuel in the forested lands of the West and the potential of even as great a forest fire year this coming year as we had last. And last was almost a record setter.

PREVENTING WATER MANAGEMENT CRISIS MONIES

John, in your proposal I am pleased to see, I assume by the language in your presentation, the "preventing water management crisis monies," that that is a proactive account, or an account to be proactive as it relates to the potential of impending crises, i.e., a Klamath Falls or the avoidance thereof.

Commissioner KEYS. Yes, sir. Mr. Chairman, Mr. Craig, what we are trying to do is not limit the look to climatic futures, because none of us can see the weather that is coming.

What we are trying to do is look at all of the different factors involved in water supply and where they could reach crisis levels in the future—looking at the growth of cities and towns, Endangered Species Act requirements that are taxing some of our existing systems now, the growing need for water for a lot of other purposes, water quality control for fish and wildlife, for recreation, the whole bit, and see where those hot spots might occur 25 years into the future.

There may be some things that we can do now that start stretching that water supply. Then, later, we can begin working with our partners to implement a plan for having additional infrastructure in place when we get to that time where we could have a crisis if we do not react earlier.

Senator CRAIG. Is $1.1 million in the drought category as it relates to the Reclamation States Emergency Drought Relief Act of 1991 adequate based on impending drought scenarios in the West at this moment?

Commissioner KEYS. Mr. Chairman, Mr. Craig, the worst time to plan for a drought is when one is underway. What we are trying to do is encourage people to prepare themselves ahead of time so that there are contingency plans. That $1.1 million is mostly planning funds that we are using with entities to be ready for the next one.

Over the past few years, some of our monies have been used to help tribes drill wells, to work with them on providing water supplies to outlying areas and so forth. But this one is directed mainly to contingency planning so that we can be ready for the next drought.

Senator CRAIG. Well, we know what your snow courses tell you today and what the impending water situation looks like in the West at this moment. I would trust that you are well underway and working with the—those who receive water on how you will manage your way through the coming summer.

Commissioner KEYS. Mr. Chairman, Mr. Craig, we have been doing that since last fall. We are receiving regular snow surveys. We do them every 2 weeks now. This is crunch time for us in preparing for next year and we are certainly working with all of those stakeholders and their water supplies, both what is available and what is projected. There are a lot of areas that are going to be short, and we are trying to do some planning for that.

Senator CRAIG. All right. Well, I would appreciate also, when your time allows, to drop by and visit about the Snake River adjudication that is underway and important in Idaho. That would be appreciated by you.

And certainly, Mr. Secretary, we will look forward to visiting with you.

Thank you all.

Senator COCHRAN. Senator Bennett.

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

Commissioner Keys, we welcomed you to the authorizing committee. I introduced you. That was a day of great praise of your background and your service.

Commissioner KEYS. Thank you.

Senator BENNETT. And now you come to the place where you get beat up.

It is a slightly different kind of a hearing here. May I say that I am delighted that you are here and that you are willing to make this kind of contribution to public service.

CENTRAL UTAH PROJECT

I want to specifically recognize Ron Johnston. The Central Utah Project sounds enormously parochial, and that is only because it is.

But I recognize that my father worked on the Central Utah Project, and if I can share with the committee a comment my father made to a staffer as they were walking back from the Senate floor to his office and my father said, "You know, if the people of Utah were smart, if the people of Utah and their Senator were smart, they would build the Central Utah Project themselves. This looks like it will cost at least $150 million." Well, it has gone—it is almost that much per year now and we are glad the Federal Government has helped us out.

Obviously, Mr. Keys, I have some questions about western power. The 2004 budget request of the Western Area Power Administration proposes to shift to the Bureau of Reclamation the obligation to fund the approximately $6 million annual contribution to the Utah Reclamation Conservation and Mitigation Commission trust account. And that provides important work in conservation and mitigation programs associated with the Central Utah Project, or the Central Utah Project Completion Act.

Now this was established by Public Law 102–575, and with other contributions being made by all of the stakeholders and project beneficiaries, including the State of Utah, the Central Utah Water

Conservancy District, as well as the Interior Department. Now Western Area Power has been providing payments into the account since 1992 on behalf of the power user beneficiaries.

So with that lead-up, Mr. Commissioner or Mr. Keys, do you support ending Western's responsibilities to contribute into this account, and transferring this funding obligation from Western to Reclamation? And if you have, why is that contribution not built into the 2004 budget request?

Commissioner KEYS. Mr. Chairman, Mr. Bennett, we do not support that. I will be very candid with you: We were surprised to find out about this change just this past week. We are in heavy negotiations with Western Area Power Administration now about them continuing the contributions of those monies to that project.

Senator BENNETT. Okay. Just so long as it comes, I am not really excited about where. I just want the money.

Commissioner KEYS. I understand, sir.

Senator BENNETT. Okay. Continue your negotiations.

FLAMING GORGE EIS

Okay. Now it is my understanding that the Bureau will release its draft EIS for Flaming Gorge this summer. Is that correct, or is the date subject to change?

Commissioner KEYS. Mr. Chairman, Mr. Bennett, that is the schedule as we see it, and I have seen nothing that would affect that schedule as of right now.

SECURITY ISSUES

Senator BENNETT. Good. Finally, on security issues, so far the Bureau has treated security costs as non-reimbursable. Do you intend to continue to do that?

Commissioner KEYS. Mr. Chairman, Mr. Bennett, what we are trying to do is accommodate the extra requirements for security that came out of the September 11, 2001 attack. At some time in the future, we will have to go back and reassess what is reimbursable on an annual basis.

But what we are trying to do now are all of those reviews of facilities, the analysis of security for each one of the facilities, and then at least get started into the hardware preparations, the installation of facilities, before it becomes reimbursable. So for the time being, we are able to maintain that. At some time, we will have to take a hard look at that, and certainly a part of that hard look would be working with your committee here, sir.

Senator BENNETT. Thank you. We have had a good relationship with you as, of course, we have with Mr. Johnston who has been very helpful in working with us on the goals of the Central Utah Project.

One last area I want to probe a little, and you have gotten there with your previous question: What did you do in the Bureau when the Department of Homeland Security raised the threat level? And what kind of budget impact did those actions have? Do you have flexibility in the 2004 budget to accommodate those kinds of circumstances? Just visit with us generally about what happens when you go from yellow to orange, and what kind of budget we need to look at.

Commissioner KEYS. Mr. Chairman, Mr. Bennett, when we went from yellow to orange, of course it heightened the level of security for all of us and some of the requirements at some of our facilities. There is flexibility in the security monies that we have to go to the higher level. I am treading on a thin line of what is secure and what is not and how much we can cover here.

Senator BENNETT. And you are speaking to the new chairman of the Homeland Security Subcommittee——

Commissioner KEYS. Yes.

Senator BENNETT [continuing]. So take——

Commissioner KEYS. Sir, what I would propose——

Senator BENNETT [continuing]. Take the opportunity to ask for a little money out of the——

Commissioner KEYS. Okay.

Well, I will do that.

What we would prefer to do is, Mr. Chairman, Mr. Bennett, we would like to come and give you a secure briefing on all of those facilities and the differences between those levels of security and how we are prepared to do that.

I will assure you that we were able to achieve the change of security levels within minutes, rather than hours or days, when we went to the higher level this time. We were ready for it. It happened, and it worked very well. We would certainly be willing to come and give you a lot of details in a secure briefing on all of those facilities that you are interested in.

Senator BENNETT. Very good. Thank you very much.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Bennett.

Mr. RALEY. Mr. Chairman, Senator, if I might just on that last question——

Senator COCHRAN. Secretary Raley.

Mr. RALEY. I think that it is fair that we inform this subcommittee, however, that we may need to look at redirecting—we do not know how much—but some funds within the 2003 budget to meet needs that will be apparent as a result of the work that has taken place in fiscal year 2003. We believe that those may be accommodated with existing resources, but we obviously need to be in very close coordination with members of this committee on these important matters.

Senator BENNETT. Okay. Thank you.

ADDITIONAL COMMITTEE QUESTIONS

Senator COCHRAN. Thank you, Mr. Secretary, for making that comment. We appreciate your following the rules on reprogramming, and we look forward to working with you on any requests you have for that.

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

QUESTION SUBMITTED BY SENATOR PETE V. DOMENICI

SILVERY MINNOW ON THE RIO GRANDE

Question. As you are well aware, the State of New Mexico is suffering a severe drought, the extent to which has not been seen in recent history. Complicating this

situation is the fact that we have an endangered species, the silvery minnow, living in the Rio Grande. All of these competing demands, combined with the drought, has resulted in millions of Federal dollars invested in seeking a solution.

Can you provide the committee an update on the litigation and both Interior's and the Bureau's involvement?

Answer. Litigation in the Minnow v. Keys case continues against the Bureau of Reclamation (Reclamation) and the U.S. Army Corps of Engineers for alleged Endangered Species Act violations. Plaintiffs identified the central issue to be the scope of discretionary authority of Reclamation and the Corps over Middle Rio Grande water deliveries and river operations to deliver water for the benefit of the minnow over others. In a cross claim against the United States in Minnow v. Keys, the Middle Rio Grande Conservancy District seeks quiet title to all Middle Rio Grande Project properties.

On September 23, 2002, Chief U.S. District Judge James Parker issued an Opinion declaring the Fish and Wildlife Service's September 12, 2002, Biological Opinion arbitrary and capricious. The Service and Reclamation were ordered to complete formal consultation for 2003 water operations by March 1, 2003. Judge Parker's decisions were appealed and stayed by the 10th Circuit Court of Appeals. The United States in its appeal brief is arguing that the district court erred in its definition of discretion and requirement to compensate for shortages. The 10th Circuit has not made a decision and it is not known when it will do so. Through the winter and early irrigation season, Reclamation has continued to meet the flow requirements of the June 2001 Biological Opinion which was in place prior to the Biological Opinion which was struck down in September. Reclamation submitted a final Biological Assessment to the Service on February 19, 2003, covering water operations from 2003 to 2013. A final Biological Opinion was released by the Service on March 17, 2003 and Reclamation will comply with the recommended flow levels, working cooperatively with water users.

Question. In your opinion, is it possible for us to manage our way through this difficult situation, or is it an impossibility?

Answer. We are doing our very best to manage the water situation in these difficult circumstances. Several strategies have brought success through difficult times in recent years. During court-ordered mediation in 2000, Federal and non-Federal stakeholders came together and developed solutions which led to supplemental water being provided to the river to significantly help Rio Grande silvery minnow survival while additional supplemental irrigation water was provided to farmers. In January of 2000, Federal and non-Federal stakeholders signed a Memorandum of Understanding to form the Endangered Species Act Workgroup to develop the Middle Rio Grande Endangered Species Act Collaborative Program. The Program serves as a framework to coordinate actions to protect and improve the status of two listed species, the minnow and the flycatcher, while existing and future water uses are protected and proceed in compliance with applicable laws. The Program has made significant progress in implementing water acquisition, habitat restoration, silvery minnow monitoring, propagation, and rescue activities for the benefit of listed species.

In a landmark agreement between State and Federal stakeholders, a Conservation Water Agreement was signed in June 2001, to provide up to 30,000 acre-feet of water annually for 3 years to benefit the silvery minnow. An important component of this effort was another supporting agreement between the United States and the Middle Rio Grande Conservancy District. As a result, in 2001, approximately 26,000 acre-feet was released from upstream storage for the benefit of the minnow. In 2002, an additional amount of approximately 26,000 acre-feet of conservation water was released. Also in 2002, the City of Albuquerque made available water to Reclamation and Middle Rio Grande Conservancy district to benefit both the minnow and farmers. This supplemental water contributed to the ability of Reclamation and others to remain in compliance with the Endangered Species Act while continuing to deliver water to downstream users. Similar opportunities for cooperation between Federal and non-Federal stakeholders can also make a difference in 2003.

Question. Can you briefly discuss your plan for this growing season?

Answer. Reclamation has begun to release supplemental water it has acquired from willing San Juan-Chama Project contractors through lease agreements. This water is anticipated to last at least several weeks. Discussions are ongoing to determine if there are stakeholders interested in providing water willingly, and in accordance with State law, to yield additional supplemental water. Given current forecasts (65 percent of average inflow to El Vado Reservoir as of March 1st), Reclamation expects that inflow during spring runoff should meet the needs of both Indian and non-Indian irrigation along with March 17, 2003, final Biological Opinion flow requirements. Additional supplemental water is necessary to remain in compliance

with the Endangered Species Act for the remainder of the year. Reclamation will store water at El Vado Reservoir to meet prior and paramount needs of Pueblos and Tribes.

During the course of discussions amongst Federal and non-Federal parties over the Service's final Biological Opinion released March 17, 2003, strategies were developed to share in the responsibilities of Endangered Species Act requirements. Absent a ruling from the 10th Circuit Court, Reclamation plans on using available supplies of supplemental water and exercising the discretion it currently has in curtailing Middle Rio Grande Project diversions to the level needed to remain in compliance with the final Biological Opinion requirements.

Question. What do you believe is the key to the success on the Rio Grande and the minnow?

Answer. The key to success on the Rio Grande is continued cooperation and collaboration amongst all the key Federal and non-Federal stakeholders, including environmental groups, who currently participate in the Collaborative Program. Collaborative Program participants are currently working on long-term solutions to the complex problems of protecting the listed species while managing available water supplies, in a forum where frequent communication is possible through a consensus process. Ongoing habitat restoration, monitoring, propagation and rescue activities benefit the listed species. Ongoing efforts in the development of a long term water management plan include discussions on forbearance, water banking, water conservation, and improved efficiencies in water operations. Committees are made up of key stakeholders knowledgeable about operational, legal, and contractual needs. Support of this Program is very important in developing long-term collaborative solutions in this very complex situation.

Question. How are we doing with our efforts to take the fish to the water by modifying existing habitat so it is more hospitable for the minnow?

Answer. Salvage efforts have transferred over 3,500 silvery minnow to upstream areas and several hundred thousand eggs to rearing facilities. The Service has released 100,000 silvery minnows since December 1, 2002, for augmentation near Albuquerque, New Mexico, which is located higher in the basin. The Service expects to release another 30,000 fish near Albuquerque in April 2003. The Collaborative Program continues to develop a Habitat Restoration Plan that takes into account the greater availability of water higher in the basin while being sensitive to the significance of the existing population of silvery minnow in the lower reaches. The Service's final March 17, 2003, Biological Opinion places an emphasis on habitat restoration in the upstream reaches. Propagation and augmentation efforts continue with a goal of expanding silvery minnow populations throughout the Rio Grande corridor to reduce dependence on downstream populations of minnows.

Question. What can we do to assist you in these efforts?

Answer. Continue to support the Collaborative Program and other activities necessary to mitigate the current drought situation.

MIDDLE RIO GRANDE LEVEES

Question. We provided an additional $10 million in the operations and maintenance account to address the threatened levees along the Rio Grande.

Can you tell the committee when the fiscal year 2003 funding will be available for obligation?

Answer. Plans for utilization of the additional funding for the threatened levees along the Middle Rio Grande have been underway for many months. The funding is currently available for obligation. Most of the funds will be obligated within the next 4 months, with all funds being obligated by the end of fiscal year 2003.

Question. What is the current plan and schedule for repair work to begin on the levees?

Answer. As a result of the additional funding for the threatened levee sites in fiscal year 2003, work on one additional site will be completed, while on-going work at seven other sites will be accelerated in fiscal year 2003. In addition, design work will begin on two more sites to prepare for funds available in fiscal year 2004.

Question. What level of funding does the Congress need to provide the Bureau this year in order to complete this work in a reasonable time, given the current risk of the levees?

Answer. Reclamation has the personnel and contracting capability to effectively utilize $10.5 million per year for the period fiscal year 2003 through fiscal year 2012, the same as requested in the President's fiscal year 2004 Budget Request. Over a period of 10 years, this level of funding would reduce the number of sites where the levees are threatened to a point where any new sites could be corrected within a 1- or 2-year timeframe. Reclamation's Albuquerque Area Office is capable

of performing all project requirements including designs, environmental compliance work, contract administration, and project management.

SALT CEDAR ON THE PECOS RIVER

Question. The last several years the Bureau has started an effort whereby you go into and around the banks of the Pecos River and take out salt cedar trees in an effort to reduce their draw on the river water. One salt cedar soaks up approximately 200 gallons of water a day.

Can you tell me if this program is making any progress?

Answer. The Secretary of the Interior was authorized by an Act (September 12, 1964, Public Law 88–594, 78 Stat. 942) to carry out a continuing program to reduce non-beneficial consumptive use of water in the Pecos River Basin. During the late 1960's and early 1970's, the Bureau of Reclamation cleared about 33,000 acres of salt cedar in the Pecos River floodplain in New Mexico and 18,000 acres in the Pecos River floodplain in Texas. Currently, Reclamation maintains the original 33,230 acres in New Mexico by keeping this area free of salt cedar. Salt Cedar control and evaluation has also been identified as a priority by the National Invasive Species Council. This project is conducted on both private and public lands located from above Sumner Dam downstream to the Texas State line. Reclamation contracts with the Carlsbad Irrigation District to perform the mechanical removal work. Salt cedar removal is primarily accomplished utilizing rubber-tire tractors with root plows, and a D–7 caterpillar with a rake attachment. The New Mexico Interstate Stream Commission cost-shares this project. Mechanical clearing of salt cedar may not provide the most cost effective nor long-term solution. Therefore, we are exploring a partnership with Carlsbad Irrigation District to explore additional options for salt cedar control.

Question. Has the Bureau given consideration to doing salt cedar eradication anywhere else in New Mexico?

Answer. Reclamation works within its authorities to control the growth of salt cedar. At Caballo and Elephant Butte Reservoirs in the Rio Grande Basin, woody phreatophyte vegetation which is salt cedar and screwbean mesquite, is also controlled. For about the past 43 years, Reclamation has been maintaining approximately 6,300 acres at Caballo Reservoir cleared primarily through mowing, and is considering herbicide use there. Since 1972, approximately 4,900 acres have been maintained clear of phreatophytes at Elephant Butte Reservoir, again primarily through mowing. In addition to our traditional mechanical methods, Reclamation recently initiated a demonstration program of herbicide treatments. In August 2002, Reclamation completed herbicide treatments on 200 acres of dense stands of phreatophytes within the Caballo Reservoir floodplain.

Reclamation is also active in habitat restoration activities along the Rio Grande between Cochiti and Elephant Butte to minimize reinfestation of salt cedar or other noxious weeds. This work includes removal on non-native species and replacement with natives, and provides improved habitat for the Rio Grande silvery minnow and the southerwestern willow flycatcher.

Reclamation also supports testing of biological control agents for salt cedar. Reclamation is seeking the inclusion of test sites for release of Diorhabda beetles or other potential agents in both the Pecos and Rio Grande Basins.

Question. Is there sufficient need to expand this program?

Answer. The need to expand and coordinate salt cedar control activities with local partners was recognized by the Department which supported an addition of $600,000 in fiscal year 2004 to Reclamation for this purpose. Expansion of salt cedar removal should result in increased surface and ground water supplies.

Salt cedar is a real or potential threat to many watercourses in New Mexico. Salt cedar alone has been estimated to cause 2.4 million acre feet/year water, with irrigation water losses as high as $121 million annually. Reclamation, supported by the Department, is also leading an initiative in fiscal year 2004 with Federal and non-Federal partners to deploy the best science available for cost-effective, integrated management for salt cedar. Reclamation in partnership with local interests will develop a control and management plan that will focus on resources at the greatest risk from imminent infestation or the most valuable resources currently infested.

Reclamation looks to improve and expand the effectiveness of its salt cedar control efforts utilizing combinations of methodologies, including integration of re-vegetation with native species. The program will also implement alternative treatments and evaluations will be conducted to compare those methods to determine which treatment or combinations of treatment are most effective.

SECTION 208

Question. The fiscal year 2003 Omnibus funding bill included a provision which requires the Bureau to contract out 10 percent of its work to the private sector in fiscal year 2003, which is in line with the Administration's proposal for contracting out more Federal work. The goal here is to allow the private sector to do work currently done by the Federal Government in instances where it makes sense to do so, both from a cost and efficiency standpoint. As a frame of reference, the Corps contracts out over half of its work.

Commissioner, what rating did the Bureau receive from the administration on its efforts to contract out its work?

Answer. Reclamation is currently "at green" on the administration's Competitive Sourcing initiative, with a composite rating of 8.9 (out of 10).

Question. How do you plan to implement this effort to meet the requirements of the Omnibus legislative language of 10 percent in fiscal year 2003 and an additional 10 percent each year until you reach 40 percent?

Answer. While the Bureau of Reclamation fully supports the administration's effort to increase efficiency by increasing contracting opportunities, this is an area that will require additional review by the Bureau.

The Bureau currently contracts out a significant amount of our design and engineering work, but we have not determined the impact of increasing beyond those existing levels. We find overly prescriptive language of this sort may have an adverse effect in actual application.

Question. Assistant Secretary Raley, what is the administration's position on this provision?

Answer. While we strongly support the President's Management Agenda Initiative, including Competitive Sourcing, Section 208 will require further review.

ANIMAS-LA PLATA

Question. As many of my colleagues may be aware, the issue of the Animas-La Plata project has been around for a long time. Last year, this subcommittee provided $35 million for construction. This year, the Bureau's budget contains $58 million for this project.

Can you provide us an update on the ALP project?

Answer. Reclamation authorized the initiation of construction effective November 9, 2001. Nearly $18 million was expended in fiscal year 2002 to: (1) complete final designs on the project features; (2) complete the construction of a portion of the Inlet Conduit; and (3) initiate mitigation activities on impacts to cultural resources, wetlands, and fish and wildlife resources. Fiscal year 2003 activities include award of construction contracts on the Durango Pumping Plant, Ridges Basin Dam, and the relocation of three natural gas pipelines that currently lie within the footprint of the dam. Additional lands will be purchased that are needed for dam construction. Work will also continue on the mitigation activities.

Question. Are we still on schedule and in compliance with the Ute Water Rights Settlement Act?

Answer. The Colorado Ute Settlement Act Amendments of 2000 authorized appropriations for construction over a 5-year period to allow construction to be completed in 7 years. Fiscal year 2002 was the first year of construction. With the appropriations we have received to date and with what is requested for fiscal year 2004, and what will be budgeted for fiscal year 2005 and 2006, we are able to fund all critical activities and are scheduled to complete the project within 7 years.

We are also utilizing the talents of both the Ute Mountain Ute and Southern Ute Indian Tribes to perform much of the construction and environmental data collection activities through Indian Self-Determination and Education Assistance Act contracts and cooperative agreements.

SANTA FE WELLS

Question. During construction of the Fiscal Year 2002 Supplemental, the Congress provided funding for the drilling of emergency wells in Santa Fe, New Mexico.

Can you update us on the progress of those wells, have they been drilled?

Answer. The wells have been drilled and are currently being completed. Construction is underway on the pipeline and pumping plants. Final project completion is estimated for early fall.

Question. What is the impact of the current drought on these wells?

Answer. The current drought is not expected to significantly affect the production of the new supplemental wells. However, the current drought does increase the im-

portance of getting the new wells on line as soon as possible to supplement the City's existing water supply.

DROUGHT ASSISTANCE

Question. The Bureau has $1.12 million in fiscal year 2004 budget for Drought Emergency assistance. I have a concern, which many of my colleagues have expressed, that no one is doing anything significant about how to manage our non-agriculture drought problems.

Does the Bureau have the ability to do more within its existing authorities if additional funding were provided?

Answer. The Bureau of Reclamation has authority to address both agricultural and non-agricultural drought situations. In fiscal year 2002, Reclamation received requests for emergency drought assistance and planning in the amount of approximately $12 million. Those requests were for emergency domestic water supply wells, rehabilitation of disintegrating delivery systems, acquisition of water for drinking, and the acquisition of water for endangered species in order to continue operating our projects. However, Reclamation must balance funding for drought assistance along with the multiple priorities and emerging needs within Reclamation's other programs.

WESTERN WATER INITIATIVE

Question. How does this tie into the new initiative for Western Water in your budget request for $11 million?

Answer. Many of Reclamation's project water delivery facilities are more than 60 years old, and inexpensive modernization of existing infrastructure could add significant efficiencies to water delivery systems, while providing the flexibility needed to help meet unmet water demands. This Initiative will result in enhanced efficiency in the operation of Reclamation projects, which in turn will enhance Reclamation's performance in carrying out core mission functions: the delivery of water and power in an environmentally sound and cost efficient manner.

Question. How will New Mexico benefit from this new initiative?

Answer. The water crises in New Mexico, particularly the Middle Rio Grande are part of what prompted this Western Water Initiative. There are opportunities in New Mexico to implement water conservation and efficiency improvements, both on-farm and in water delivery systems that will result in an increased ability to meet otherwise conflicting demands for water. Science and technology research may reduce the cost of water desalination technologies by 50 percent by 2020, providing additional fresh water to benefit people and the environment including potential benefit to rural America through the treatment of brackish water.

Question. What does this initiative hope to achieve and is it a departure from what the Bureau is doing now?

Answer. The Initiative provides a focused effort to modernize water delivery facilities in the West, some of which are more than 60 years old. Inexpensive modernization of existing infrastructure could add significant efficiencies to water delivery systems, providing the flexibility needed to help meet unmet water demands. Reclamation will focus on financial incentives and technical assistance for modernization of water supply systems where the investment will allow water managers to meet otherwise unsatisfied demands for water.

In addition, focused Federal participation will assist with basin and watershed improvements as part of local, collaborative processes in areas where the greatest potential for conflict exists.

Question. Do you expect that this program, if begun, will transform the Bureau and how it manages its efforts with regard to water or is this to be a short-term effort until the current drought conditions subside?

Answer. The Bureau's fiscal year 2004 Western Water Initiative is the beginning of what we hope will be the catalyst for a longer-term strategic approach to predicting, preventing, and alleviating water conflicts. It takes a proactive rather than reactive approach to water management and conservation, research and development to bring down the cost of desalination, prevent water management crises, and strengthen Endangered Species Act expertise among Reclamation employees. By developing a forward looking 21st century water resource management program, we can better respond to the growing demand for water in the West. This initiative will provide the tools necessary to address the future water supply needs of farmers, cities, and rural communities in those areas of the West that are most prone to conflict over water supply, and do so in an environmentally friendly manner.

WESTERN WATER INITIATIVE

Question. Given that the Bureau only received a nominal increase in funding this year, where did you reduce program dollars elsewhere to fund this effort in this fiscal year?

Answer. Generally, the Bureau did not reduce any project line item funding to accommodate the Western Water Initiative. Given the similarity in purpose, programs such as the Environmental Program Administration and Environmental Interagency were combined into the new Initiative. However, funds for this initiative were developed in concert with the overall budget request and funding levels.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

ONGOING PROJECTS

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. At the present time there would be no impact to cost and schedule if our budget was enacted as proposed.

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

Answer. At the present time all of the Bureau's projects in the President's proposal are funded at a level that will allow projects and activities to proceed to meet the needs of the project beneficiaries.

DROUGHT EMERGENCY ASSISTANCE PROGRAM WEATHER MODIFICATION

Question. Commissioner Keys: Please provide us with an update on how funds provided in fiscal year 2002 and fiscal year 2003 for a regional weather modification program are being expended.

Answer. The Bureau of Reclamation developed a competitive procurement process for Cooperative Agreements in fiscal year 2002 to award research proposals that met the intent of Congress to establish a research Weather Damage Modification Program. Seven States responded to the Request for Proposals (RFP). They were North Dakota, Texas, Oklahoma, New Mexico, Utah, Nevada, and California. The RFP and contract awards for that work have been completed for the States of Nevada and North Dakota, and awards are near completion for Texas, Oklahoma, New Mexico, Utah, and California.

The fiscal year 2003 funding will be awarded through a similar Request for Proposal process and existing work may be extended to include further research efforts depending upon the needs of the States.

WESTERN WATER INITIATIVE

Question. The Bureau is proposing to initiate a Western Water Initiative in fiscal year 2004 to enhance efficiency and operation Reclamation programs and projects. First year funding is $11 million. This is significant first year funding for such an initiative. Could you give us an overall cost estimate for this initiative and some of the outputs that you expect to receive?

Answer. The total cost and duration of the initiative have yet to be determined. The Western Water Initiative will be a means for the Federal Government to provide technical and financial assistance to State and local entities in areas in critical need of assistance. This Initiative will result in enhanced efficiency in the operation of Reclamation projects, which in turn will enhance Reclamation's performance in carrying out core mission functions: the delivery of water and power in an environmentally sound and cost efficient manner. Ultimately, Reclamation will develop a forward looking 21st century water resource management program that will respond to the growing demand for water in the West, as opposed to costly crisis management as experienced in the Klamath and the Middle Rio Grande Basins.

Reclamation's goal is to help avoid water use conflicts through better use of technology, targeted research, identification of long-term potential crisis areas, and increased expertise about the Endangered Species Act. Examples of making improvements to existing irrigation systems include:

—Installing water metering and measurement devices on outdated irrigation systems to track the amount of water being used and where.

—Converting open ditches to pipeline to reduce evaporation.

—Lining canals at reasonable cost to minimize seepage where it can result in system-wide efficiency—some areas of the West can reduce loss of by 50 percent or more.

—Developing a partnership with USDA to install on-farm irrigation evaluation program, in which field irrigation is evaluated for distribution uniformity and efficiency. This would include locating, designing, and providing for review of flow measurement devices and data, installation of water control devices and instrumentation within irrigation districts.

—Using SCADA (Supervisory Control And Data Acquisition) system to allow river managers to remotely monitor and operate key river, pump, canal, and return flow control facilities by computer and radio telemetry. SCADA equipment receives, accumulates, records, and provides data on a real time' basis. Individual stations can be set to continuously monitor river levels or diversion flow rates. In addition, Reclamation and water district managers can respond to daily water management needs and emergencies in a timely fashion by controlling pump and canal facilities remotely.

—Conducting pump testing programs that provide accurate flow rate measurement data and information on the efficiency of the pumping plants that would improve efficiencies in managing both water and energy use.

Reclamation will also pursue the use of existing intrastate water banks where they are available, and to promote intrastate water banking as a concept to help resolve future water supply conflicts. In most situations, water banks provide added flexibility in dealing with environmental, tribal, Endangered Species Act, or other competing demands for contracted water supplies.

TITLE XVI—WATER RECLAMATION AND REUSE

Question. Again this year, funding for the Title XVI program has been slashed. Local communities all over the southwest have invested hundreds of millions of dollars in water recycling projects. These projects provide a crucial link in the water supply chain in Western States. The small amount of Federal funding provided by Reclamation, in many cases, is the catalyst that makes these projects feasible for the local communities. If, as Reclamation states, their mission is providing water and power to the west; how can the Title XVI program be someone else's responsibility as stated in your program review?

Answer. Reclamation's Title XVI projects, while important, are not part of Reclamation's core mission. The President's Budget request for these programs recognizes that we must maintain our existing infrastructure before we fund construction of new infrastructure. The PART process for Title XVI generated extensive information on program effectiveness and accountability, including the need for additional performance measures. The principal PART findings for Reclamation's Title XVI Water Reuse and Recycling program, with a PART rating of "Moderately Effective" indicate the program is moderately well-managed, although Reclamation's oversight of individual projects is limited by the strong degree of local control. Fiscal year 2004 funds will be directed to the completion of projects already under construction.

Additional performance measures are currently being developed for Title XVI that should facilitate better long-term planning and provide a clearer linkage between Federal funding and progress towards outcomes.

Question. Why will Reclamation not budget for these projects?

Answer. Existing budget constraints have made it necessary to fund higher priority items.

ENERGY AND WATER DEVELOPMENT ACT

Question. Commissioner Keys: A couple of years ago in the Energy and Water Development Act, Reclamation were given the responsibility to act as the clearing house for advanced water treatment technologies. How is this effort being undertaken?

Answer. During 2001, Reclamation began development of a desalination clearinghouse. In 2002, a draft clearinghouse web site was created (www.usbr.gov/desal/). This site features information on technologies, publicly available reports, cost estimation techniques, and publicly available information. Coinciding with Reclamation's draft clearinghouse review process, the WateReuse Foundation (www.wateruse.org) published a request for proposal to create a salinity management clearinghouse web site. Salinity management is a component of desalination. Therefore in December 2002, Reclamation invited the WateReuse Foundation to meet and discuss how best to accomplish a water reuse and desalination clearinghouse web site so as not to duplicate efforts. Both organizations agreed to cooperate in the clearinghouse development.

Developments in desalination technology in the last 10 years have dramatically altered the capability of desalination systems to meet national water needs. Promising technological advancements are in the area of reduced membrane fouling, im-

proved pretreatment systems, and increased energy recovery. Under the Desalination Research Act, we are also investing in development of new desalination processes such as low cost evaporation, chlorine resistant membranes, membrane distillation, and membrane bioreactors. In early fall 2001, Reclamation provided recommendations for technologies that should advance to the demonstration phase to Congress.

Question. Are there any promising technologies?

Answer. Promising technologies ready for demonstration, pursuant to the Desalination Act, include a sea water and inland brackish water test bed commercialization project (focusing on energy efficiency, feed water pretreatment, increased membrane life, concentrate disposal, environmental impact, increased scale of economies, and boron removal); Membrane Bioreactor System commercialization effort (focusing on decentralized drinking water treatment of waste waters to replace conventional treatment plants); Devaporation commercialization effort in an inland rural area (which would feature concentration disposal and/or renewable energy powered rural water treatment and low-cost) and testing of a small-scale renewable energy/desalination systems suitable for rural and Native American communities; and demonstration of a novel method to produce fresh water and employ innovative concentrate disposal methods, utilizing geothermal energy. Non-traditional technologies that may offer lower costs and higher efficiencies are currently being reviewed. These include technologies such as freezing with clathrates, magnetics, ultrasonics, adsorption, and other novel separation processes.

CALIFORNIA BAY-DELTA

Question. In the recently enacted Omnibus legislation, a provision was inserted to clarify Reclamation's authority for feasibility studies for Los Vaqueros water storage project, Upper San Joaquin water storage project and Sites reservoir storage project. This clarification was necessary due to the budget request for CALFED funding without a clear authorization. Are there other issues likely to arise this year that would require additional clarifying legislation? If Reclamation is going to continue to request funding for the CALFED Bay Delta Restoration Program, I would recommend that the Administration actively try to resolve the authorization question for the overall project. We have put "band-aids" on this program for 2 years due to the authorization stale-mate and I am unsure of how much longer the subcommittee will be able to continue this practice. Please carry that message back to your superiors.

Answer. With the provision of feasibility authority in the Omnibus legislation, Reclamation possesses adequate authority to expend the current year appropriations for the CALFED activities delineated in the legislation. Reclamation remains hopeful that legislation will advance in this session to provide Federal agencies with the necessary program authorization to fulfill the goals and commitment of the CALFED Bay-Delta Program, and assure completion of program elements in a balanced and integrated fashion.

WESTERN AREA POWER ADMINISTRATION

Question. The Fiscal Year 2004 Budget Request for the Western Area Power Administration proposes to shift to the Bureau of Reclamation, the obligation to fund the $6 million annual contribution to the Utah Reclamation Conservation and Mitigation Commission Trust Account which provides important work in conservation and mitigation programs associated with the Central Utah Project. This trust account was established under Public Law 102–575, the Central Utah Project Completion Act with other contributions being made by all the Stakeholders and project beneficiaries including the State of Utah, the Central Utah Water Conservancy District and the Interior Department. Western has been providing payments into the account since 1992 on behalf of the power-user beneficiaries.

Do you support ending Western's responsibilities to contribute into this account and transferring this funding obligation from Western to Reclamation, and if so why have you not built this contribution into your Fiscal Year 2004 Budget Request?

Answer. Reclamation has just recently become aware of the Department of Energy's proposal to transfer Western Area Power Administration's obligation to provide funds annually to the Utah Reclamation Mitigation and Conservation Committee to Reclamation and is very concerned. Maintaining this source of funds for the Mitigation Commission is important to continuing the very valuable ecosystem improvement projects the Commission is carrying out in Utah. We would welcome an opportunity to work with the subcommittee, the Mitigation Commission, and the Western Area Power Administration on a mutually acceptable solution.

TITLE XVI—WATER RECLAMATION AND REUSE

Question. The Fiscal Year 2004 Budget Request identifies that the Title XVI reuse project program will be funded at $12.6 million. This is a dramatic reduction from past years' congressional decisions. Please explain how the Bureau arrived at this funding level given the importance of providing assistance to projects that are proceeding to construction that depend on meaningful Federal assistance.

Answer. Reclamation's Title XVI program, while important, does not serve Reclamation's core mission. Also, these projects must compete with other Reclamation activities and projects for funding. Because of Reclamation's aging infrastructure, we must be careful to ensure that we direct sufficient resources toward maintaining our existing facilities, and not just focus on building new ones.

Question. Based on response to question 1, could you please explain the budget's reference to the Program Assessment Review Tool (PART). In your budget justification, you note that water reuse is not a "core mission" and therefore should not be a priority. This seems at odds with the history of the Bureau and its purpose. Could you provide me with an understanding of how the Administration defines the Bureau's mission? Please identify the individuals who conducted the PART and the expertise they hold in conducting such a review.

Answer. Although the Bureau's "core function" has not been defined by law, the Administration's use of the term generally refers to those programs that directly focus on water delivery and/or power generation. The purpose of the water recycling program is to identify and investigate opportunities for reclaiming and reusing wastewater and naturally impaired ground and surface water, and to provide financial and technical assistance to local water agencies for planning and development of water recycling projects. While in this regard, it is an important part of the bureau's mission, budget constraints prevented the bureau from funding this program at higher level. Bureau staff worked in consultation with OMB in conducting the PART process.

DESALINATION

Question. I note that the Administration is placing new priority on desalination research. In its budget request, it appears that most of the requested research funding is slated to support this priority. Is this correct?

Answer. The Science and Technology Program's total request was $9,305,000—of that, desalination and advanced water treatment amount to less than $3 million. The remaining program funds are directed to research that increases water delivery reliability, infrastructure reliability and efficiency, and decision support modeling.

Question. How much requested funding within the Bureau-wide programs will be made available to support this new priority?

Answer. Requested funding for desalination would be available from the following line items: Enhanced Science and Technology—approximately $900,000 (one-third); Science and Technology's Desalination and Water Purification Research (cooperative research with external partners): $775,000; (3) Title XVI: approximately $1,000,000; (4) Science and Technology's Advanced Water Treatment Research $1,590,000. The total amount is $4,265,000. The Yuma Desalting Plant funded under the Colorado River Basin Salinity Control Program, Title I also has funding dedicated to research towards reducing its operating costs.

Question. How much of the Bureau-wide programs will support water reuse research?

Answer. Desalination research under the Western Water Initiative will be used to expand our desalination capabilities under the Desalination Research Act. With this additional funding, we will be better able to initiate several demonstration projects and expand our desalination clearinghouse, and facilitate coordination of all the parties involved with various aspects of improving desalination through research.

Title XVI also authorizes research in this area. Treatment and subsequent reuse of impaired waters and desalination face common challenges as well as yielding complementary results—an increase in the usable supply of water. Title XVI research investments can simultaneously advance both reuse and desalination. It makes sense to fold these activities together as a part of a coordinated research strategy. To that end, last year we entered into an Memorandum Of Understanding with several interests in reuse and desalination (i.e., the WateReuse Foundation, American Water Works Association Research Foundation, Water Environment Research Foundation, and the National Water Research Institute) to identify common issues and coordinate research investments.

TITLE XVI—WATER RECLAMATION AND REUSE

Question. Over the past several years, Congress has requested on several occasions that the Bureau provide us with the final reports detailing the Southern California Wastewater Recycling and Reuse Program and Bay Area Wastewater Recycling and Reuse Program? In light of the budget's stated priority for desalination and the further statement that reuse is not a "core mission" when can we expect that these reports will be transmitted to us? Should we anticipate that the stated budget findings on reuse means that we will receive a negative report?

Answer. The Southern California Comprehensive Water Reclamation and Reuse Study is under Departmental review. This document is the culmination of a 6-year study of Southern California's water supply needs at a regional level and the potential for cooperative consideration of effective ways of matching wastewater reclamation opportunities with possibilities for reuse of recycled wastewater throughout southern California. The Department is finalizing its review and identifying editorial changes that will be made to the draft report documents prior to submission to OMB and Congress.

You also asked about the San Francisco Bay Area Regional Water Recycling Program, or BARWRP study. The Administration recently completed its review of the BARWRP Master Plan, and has raised several concerns with the Master Plan. Secretary Norton will relay these concerns when the BARWRP Master Plan is transmitted to Congress. I anticipate that the report will be submitted to Congress this year.

SUMNER PECK

Question. Mr. Reid. I am very concerned about the decision to take budget resources away from ongoing reuse projects and other priorities to fund $30 million in fiscal year 2004 for the settlement agreement between the U.S. and Sumner/Peck. Please provide me with a specific itemization on where the funds for the settlement are being provided in relation to specific program and project funding reductions within the fiscal year 2004 budget request.

Answer. No funding reductions or offsets were proposed with respect to fiscal year 2004 funding for the Sumner Peck settlement, Sumner Peck Ranch, Inc. v. Bureau of Reclamation.

DESALINATION

Question. Over the past several years, Congress has supported important research and technology demonstration that has direct industry support through industry and university cost-shared assistance. I note that the budget request fails to identify how the Bureau intends to maintain this successful program. In your response, please explain how any funding under the new desalination priority will be used to support the ongoing reuse research needs.

Answer. The budget request will build on the success of this Desalination and Water Purification Research program authorized by Congress in the 1996 Desalination Research Act. We propose to continue bench and pilot studies and now embark on a few selected demonstration projects to test actual applications of new technologies under real world conditions. Some of the research will benefit both reuse as well as desalination. Title XVI research funding will be dedicated to research that benefits both desalination and reuse as well as research related solely to reuse questions.

QUESTIONS SUBMITTED BY SENATOR BYRON L. DORGAN

WESTERN WATER INITIATIVE

Question. I note that you have a new "Western Water Initiative" in your Fiscal Year 2004 Budget where you are requesting $11 million. Who developed this initiative?

Answer. The Western Water Initiative was developed collaboratively by the Office of the Secretary with a team of Bureau of Reclamation senior leadership and program managers. The objective was to take a comprehensive look at long-term water needs and show how best to address them.

Question. Was it ever offered to the White House as a larger Bush Administration Initiative?

Answer. Yes, it was included in the fiscal year 2004 budget submitted to Executive Office of the President; discussions with OMB and the Office of the President staff are ongoing.

Question. Why did they decline?

Answer. Discussions are continuing on the future scope of the program.

Question. Why was rural water not a part of the Initiative?

Answer. Rural water is currently being reviewed and refined as a stand-alone program. The Department is in the process of drafting legislation to establish a structured rural water program within the Bureau of Reclamation. Reclamation recognizes that a significant need exists in many parts of the west for a clean and safe water supply. Further, it is our goal to work with those communities as well as with other Federal, State and local entities to address those needs in a cost effective manner.

Question. Do you have construction authority under this Initiative?

Answer. Currently no new construction authority is included under this initiative.

Question. Part of your money for the Western Water Initiative is to be spent on "Preventing Water Management Crisis." Aren't you creating a crisis in rural water with your Budget request?

Answer. No, the Administration conducted a Program Assessment to evaluate the program's effectiveness. Once the areas related to program effectiveness are addressed, funding for the program in the future will be assessed.

We have determined that the program could be more effective and welcome the opportunity to work with you on some overall approach and goal setting for the program.

Question. Your Environmental and Interagency Coordination Activities Budget and your Environmental Program Administration Budget are reduced from your fiscal year 2003 request. What is the reason for the reduction? It would appear inconsistent with your Western Water Initiative.

Answer. The funding reductions to these programs are unrelated to the Western Water Initiative. Programs are evaluated each year and appropriate funds are requested according to the need.

PART

Question. Could you provide the subcommittee with a copy of the papers on rural water that Reclamation submitted to OMB as a result of the PART review process that indicate your views on the rural water projects in the Bureau's Budget? What is Reclamation's position on providing rural water under Congressional authorized projects to Indians and non-Indians?

Answer. I am pleased to provide the materials that Reclamation submitted to OMB during the PART review process.

Reclamation recognizes that a significant need exists in many parts of the west for a clean and safe water supply. Further, it is our goal to work with those communities as well as with other Federal, State and local entities to address those needs in a cost effective manner. We also recognize the legislative requirements that Congress has placed on us for certain projects. However, through the PART evaluation, it was determined that clearly defined goals and criteria were needed in order to efficiently and effectively meet the needs of the beneficiaries as well as to stretch the limited Federal funds that are available for this purpose. The Department is in the process of preparing a legislative proposal which the Administration plans to submit to Congress to provide the programmatic structure and guidance that is necessary to move this effort forward.

RURAL WATER LEGISLATION

Question. When the Secretary of the Interior appeared before the Senate Energy and Natural Resources Committee a couple of weeks ago on the Department's Budget, she made reference to the Department developing some proposed legislation on rural water. Can you provide some details on that proposal and the time frame for sending it to Congress? Will the Dakota Water Resources Act of 2000 be exempt from this legislation?

Answer. The Department is in the final stages of drafting legislation to establish a structured rural water program within the Bureau of Reclamation. While Reclamation has been directed by Congress to plan, develop and construct 13 specific and individual rural water projects since 1980, we have been extremely limited in our ability to work with these and other communities that are in need of assistance prior to the passage of the specific project authority. This has resulted in inefficiencies and increased costs. It would establish overarching programmatic goals, set criteria and provide greater coordination among the various Federal, State and local programs related to rural water.

It is unclear at this point whether the Administration's proposed legislation would exempt the Dakota Water Resources Act of 2000. Many of the projects and activities

authorized in that Act are underway and we are working diligently with the State, the Garrison Diversion Conservancy District and the other entities in the region on these activities. As the proposed legislation moves to Congress, we look forward to working closely with you and other members with an interest in this important issue.

Question. From your description of the legislation, it would appear that what we are doing in North Dakota under the Dakota Water Resources Act would be a model for your legislation. Would you agree?

Answer. There are some aspects of the Dakota Water Resources Act that could be useful as a model for Reclamation's rural water program and we are looking carefully at how that program and others have worked to date.

Question. Why was no funding provided for the MR&I program for the Garrison Project?

Answer. The Garrison Diversion Unit was authorized August 5, 1965, amended in 1986 by the Reclamation the Garrison Reformulation Act, and further amended by the Dakota Water Resources Act of 2000. One of the components of the Garrison Diversion Unit is several MR&I projects in North Dakota that would serve several communities including four Indian reservations.

Reclamation's rural water projects, including those in North and South Dakota, were rated under the Program Assessment Rating Tool (PART) and received a rating of "Results Not Demonstrated." OMB found through the PART and Common Measures exercises that Reclamation's program needs stronger controls for project development, and that "lack of agency involvement during project development may result in a project that is not in the best Federal interest." OMB recommended that legislation be introduced which establishes a Reclamation rural water program with adequate controls and guidelines, and indicated that funding would be scaled back, including GDU MR&I programs, until such controls and guidelines were in place.

UNDERFINANCING

Question. Can you discuss the consequences of under-financing the water projects under construction in the Reclamation program?

Answer. The amount of underfinancing requested by Reclamation represents about 4 or 5 percent of the total scheduled program. We can reasonably expect to absorb that amount during a normal year due to non-budgetary delays. This is based on historical experience with such things as bad weather, construction delays, and environmental issues with projects.

Question. Are we going to find project sponsors coming in and asking for more money than they need because of this issue, just so they can go to bid on contracts?

Answer. I am not aware of any.

Question. How does this affect the Garrison Project?

Answer. At this point in time, we are not expecting any major delays to the Garrison Diversion Unit in fiscal year 2003 or 2004 due to underfinancing. Underfinancing is always applied in the manner that will cause the least negative impact.

Question. How do they make up for this funding in their contracts for work?

Answer. In a normal fiscal year, Reclamation has an appropriation available from Congress at the start of October, and has completed the process of identifying likely slippages in accomplishment by the end of November or December. General slippages are recovered in the next construction season.

Question. Is this figure spread evenly across-the-board to every line in the Bureau's Budget?

Answer. No, underfinancing will first be applied to projects and programs that are experiencing slippages due to the factors, such as construction issues, weather problems and environmental compliance issues.

INTERIOR'S TRUST RESPONSIBILITY

Question. What is Reclamation's view of carrying out the Department of the Interior's Trust responsibility to the four Tribes in North Dakota when it comes to water?

Answer. Reclamation takes its trust responsibility to Native American Tribes seriously as we carry out the agency's programs. Water development for the benefit of tribes is generally, in and of itself, not considered as a trust responsibility, except perhaps where Reclamation may be involved in implementing Indian water right settlements. As we implement the issues raised by the Rural Water PART recommendation, the Administration will address existing rural water authorizations, including the planning, design, construction, and operation and maintenance of rural water systems on the Standing Rock, Spirit Lake, Fort Berthold, and Turtle Mountain Indian Reservations.

Question. Some might say that by delaying or not funding Indian projects, it postpones a future Operation and Maintenance cost in the Bureau's Budget with regard to Indian water projects? Is this true?

Answer. Yes, an indirect effect of delaying or not funding the construction of Indian water projects will result in fewer facilities and a smaller increase in operation and maintenance costs in the Reclamation's budget for that year.

RED RIVER VALLEY

Question. Can you discuss the status of the studies for the Red River Valley? I am told that the Garrison Conservancy District and the Bureau have developed an understanding on time frames and we should know more later this year whether the schedule is working. Is that true?

Answer. Yes, Reclamation is diligently working with Garrison Diversion Conservancy District, the State agency designated by the Governor of North Dakota as their representative, to jointly prepare the Environmental Impact Statement. We are on schedule to complete the Environmental Impact Statement by December 2005.

Reclamation has several Environmental Impact Statement activities currently underway which include agency consultations, identification of purpose and need, developing a process for screening alternatives for detailed study, and data collection to define the affected environment. Needs and Options activities in fiscal year 2003 include data collection of historic water use, projecting future population, estimating future water needs, biota transfer studies, developing cost estimates for alternatives to be evaluated in the EIS, and conducting follow-up water user meetings to determine interest in the proposed project. Aquatic needs and recreation needs studies will also be completed this year. The naturalized flow database will be completed, models selected, and modeling initiated to determine available water sources and to identify shortages.

RECLAMATION'S CORE MISSION

Question. Mr. Keys, in your testimony, you stated that your fiscal year 2004 request has been designed to support Reclamation's core mission, which you said was to: "Deliver Water and Hydropower, Consistent with Applicable State and Federal Law, in an Environmentally Responsible and Cost Efficient Manner." But I would argue that your budget does not support this mission this year. A good example is how it funds projects designed to deliver water to communities and Tribes through the municipal, rural and industrial water programs authorized under the Dakota Water Resources Act. Under-funding water projects in the budget request for the last several years—and particularly the drastic cut in the fiscal year 2004 budget that you are presenting here today—is neither cost efficient nor environmentally responsible. The quality of the water that those on Indian reservations in my State must deal with poses a real risk to health and safety. I have pictures of a 6-month-old baby bathing in dirty water that is the color of coffee, and of people hauling water to many on the reservation that currently have no water supply. The water that is wasted when the Tribe tries to fill water bottles from a big tank with a hose is incredible, and the Tribe regrets that it does not have the resources for a more efficient system to preserve more of its precious water. Since you are not funding water delivery projects in North Dakota in a cost-effective and environmentally responsible manner, can you tell me some other ways that your fiscal year 2004 budget supports this mission?

Answer. The President's fiscal year 2004 request for the Garrison Diversion Unit in North Dakota is $17.314 million. It includes funding that will support activities such as the continued progress on the Red River Valley Water Supply Study and Environmental Impact Statement; construction of the Standing Rock Irrigation project; operations and maintenance of the Oakes Test Area; minimum maintenance to assure reliability of completed facilities; management of approximately 22,100 acres of Wildlife Development Areas and 34,862 acres at Lonetree Game Management Area and Kraft Slough developed to mitigate project impacts and enhance the environment; and ongoing work to mitigate project impacts on the Audubon and Arrowwood National Wildlife Refuges.

In addition, it provides funding to carry out the Secretary's responsibilities to operate and maintain the existing rural water facilities on the Standing Rock, Spirit Lake, Fort Berthold, and Turtle Mountain Indian Reservations. Funds are also provided to continue operation, maintenance, and replacement activities at Jamestown Dam and Reservoir.

The President's request also includes funding to continue operation, maintenance and replacement activities at Heart Butte Dam and Reservoir and Dickinson Dam

and Reservoir. Project benefits include flood control, irrigation, and recreation, fish and wildlife. Heart Butte reservoir provides a water supply for 7,188 acres of irrigation along the Heart River.

SCIENCE AND TECHNOLOGY BUDGET

Question. What role does your Science and Technology Budget play with regard to the rural Western States?

Answer. Within the Science and Technology (S&T) budget the Advanced Water Treatment line item is largely directed to research that benefits rural and Native American communities' water supply and treatment needs. For example, we are researching questions and developing desalination and water reuse technologies with an eye toward making the systems affordable, reliable, and appropriate for rural areas that need clean and safe potable water supplies. The S&T budget is primarily directed to research that benefits all of the western States in that it has application across Reclamation. The S&T program uses a steering committee to identify research needs and establish relative priorities across the Bureau. Our Great Plains office, which represents the lion's share of rural States, has a representative on that committee. In addition, each region receives a portion of S&T funding to direct to region-specific priorities.

DROUGHT ASSISTANCE

Question. In your budget document you state "Requests for emergency and planning drought assistance out weigh the funding available. There are still many interested States and tribes that have not developed drought contingency plans focusing on preparedness, mitigation, and response activities." Why do you continue to request such a little amount of money for this area ($900,000) when Congress repeatedly provides 4 and 5 times that amount when we finish with your budget?

Answer. Throughout the budget planning process, Reclamation must balance the multiple priorities of the budget against a number of factors, including the multiple priorities of the Department of the Interior. The requested amount represents a balance between this and other priority activities. The requested level of funding will meet the needs that are anticipated, keeping in mind that budgets are prepared as much as 2 years in advance. However, depending upon weather conditions, greater need and therefore greater requests have been received in recent years. When drought conditions have been most severe and demand is greater then the funds available, as has been the case over the past few years, we have directed the appropriated funds to emergency response, although we consider planning to be an important aspect of mitigating the effects of the continuing drought conditions in the West.

SUBCOMMITTEE RECESS

Senator COCHRAN. Commissioner Keys, it is good to have a westerner who talks with a southern accent and I am glad Sheffield, Alabama, taught you how to say things right.

Mr. Johnston, we appreciate your presence this morning and your contribution and your statement.

Thank you all very much. The hearing is recessed.

[Whereupon, at 12 noon, Wednesday, March 5, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2004

WEDNESDAY, MARCH 12, 2003

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

The subcommittee met at 2:32 p.m., in room SD–124, Dirksen Senate Office Building, Hon. Pete V. Domenici (chairman) presiding.

Present: Senators Domenici, Craig, and Dorgan.

DEPARTMENT OF ENERGY

OFFICE OF SCIENCE

STATEMENT OF DR. RAYMOND L. ORBACH, DIRECTOR

OPENING STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. The Senator from Nevada will probably be along shortly. Senator Craig, nice to have you here.

Today the subcommittee is going to review the Department of Energy's fiscal year 2004 budget request for, one, the Office of Energy Efficiency and Renewables, and the Office of Science and the Office of Nuclear Energy. In that regard, we will hear from Dr. David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy. We will hear from Dr. Ray Orbach, Director of the Office of Science, and Mr. Bill Magwood, the Director of the Office of Nuclear Energy and Science Technology.

All of these witnesses have appeared before the subcommittee before and are well known to us. We look forward to your testimony today.

Let me summarize just a moment. It will not take me very long, Senator Craig, and then we will go right to the witnesses.

The budget request for renewable energy under Mr. Garman is $444 million, an increase of $24 million, about 6 percent over the current year. However, more than all of the increases put toward the President's initiative, an initiative that may displace much of our dependence on foreign oil in years to come, the so-called hydrogen research for the hydrogen car.

Under this subcommittee, we would more than double the amount spent for that endeavor to $88 million. Unfortunately, many of the traditional areas of renewable research, such as biomass, renewable research, geothermal and wind, are proposed to be cut. And that is below current levels in order to fund this initiative.

I am not sure that will hold. But somehow or another, we will work it out.

I continue to believe in the importance of the balanced portfolio. Our country must increase the diversity of energy production in order to reduce our dependence upon unstable sources of foreign energy. Under any scenario, renewable energy technologies will play a dramatic role in our energy future, recognizing the priorities of the administration, while continuing to address the priorities of many of the Senators on this subcommittee may prove to be a real challenge this year.

However, in addition to what we just talked about, the budget request for nuclear energy has elements of both good news and bad news. For me, the most notable new development, and Larry Craig, I think you would be interested in this, is the administration's request for $63 million to continue the advanced fuel cycle initiative. I am very pleased that someone, somehow, has worked through the Office of Management and Budget, and the Executive Branch has finally recognized that this is a truly long-term initiative of great significance. And the sooner we start, the sooner we will find out if and when it will be available as part of the nuclear cycle.

We have long believed that the country must move ahead to the next generation of fuel cells that generate less waste, extract full energy benefit from each gram of fuel. This is a long-term effort that requires a much larger investment by the Department.

Senator Reid and I have worked hard in our position of chairman and ranking member and vice versa in this effort the last few years. And to see the administration embrace the importance is truly gratifying.

Generally, the whole area of R&D is a mix of good news and some of bad news. The administration, with much help from this subcommittee, has begun to correct many years of neglect. The Department has now in place the structure of a well thought-out R&D program and addresses the near-term goal of bringing a new plant online through nuclear power in 2010 while performing the R&D necessary for nuclear power to support growing demand for worldwide electricity over the next 50 years, a Generation IV program and advanced fuel cycle initiatives.

However, the request is not all good news, as the Department proposes the elimination of new funding for the Nuclear Energy Optimization Program. And perhaps you will address that for us a bit. I know you work for the administration. Nonetheless, we would appreciate your evaluation for us as to what that does to the program; that is the program of continued and maximum use of nuclear power plants.

Finally, the budget request for the Office of Science, it is only a little better than flat for the coming year. The Department of Energy is the Federal Government's largest supporter of physical science. And as such, I remain concerned about the tremendous imbalance in the Government's investment in physical sciences versus life sciences. NIH's budget has doubled in 5 years, while DOE's science can probably claim and prove that it has been slightly higher than inflation.

PREPARED STATEMENTS

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

The rest of my statement can be made a part of the record. Senator Cochran has a statement. It will be made a part of the record immediately following mine.

[The statements follow:]

PREPARED STATEMENT OF SENATOR PETE V. DOMENICI

Today, the Subcommittee will review the Department of Energy's fiscal year 2004 budget request for the Office of Energy Efficiency and Renewable Energy; the Office of Science; and the Office of Nuclear Energy.

In that regard, we will hear from Mr. David K. Garman, Assistant Secretary for Energy Efficiency and Renewable Energy; Dr. Ray Orbach, Director of the Office of Science; and Mr. Bill Magwood, Director of the Office of Nuclear Energy, Science and Technology.

All of the witnesses have appeared before the subcommittee before and are well known to us. We look forward to your testimony today.

This is the Subcommittee's second hearing this year but our first opportunity to review the Administration's budget request for the Department of Energy. Overall, the Administration is seeking $21.7 billion for programs and activities of the Department within the jurisdiction of this subcommittee. That is a $785 million increase over the current year enacted level of $20.89 billion (or approximately 4 percent).

That increase appears reasonable, but it must be viewed in its proper context. Almost all of the increases for the Department occur in the nuclear weapons and nonproliferation programs of the NNSA, in the Department's environmental clean-up programs, and in proposed funding for the Yucca Mountain project.

The programs we are reviewing today, which make up just over $4 billion of the Department's budget, would increase by less than inflation, or 2 percent over the current year enacted level.

The budget request for renewable energy research under Mr. Garman is $444 million, an increase of $24 million (6 percent) over the current year level. However, more than all of the increase is put toward the President's exciting hydrogen initiative that may displace much of our dependence on foreign oil by 2020. Hydrogen research under this subcommittee would more than double to $88 million in fiscal year 2004.

Unfortunately, many of the traditional areas of renewable research, such as biomass, geothermal and wind, are proposed to be cut below current year levels in order to fund the President's agenda.

I continue to believe in the importance of a balanced energy portfolio. Our country must increase our diversity of energy production in order to reduce our dependence on unstable foreign sources of energy. Under any scenario, renewable energy technologies will play a dramatic role in our energy future. Recognizing the Administration's priorities while continuing to address the priorities of many Senators on this subcommittee may prove to be a real challenge this year.

Likewise, the budget request for Nuclear Energy has elements of both good news and bad news. For me, the most notable new development is the Administration's request for $63 million to continue the Advanced Fuel Cycle Initiative.

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. Senator Reid and I have worked hard to sustain this effort for the last several years and I am pleased to see the Administration embrace this important initiative.

I am generally encouraged with the progress in nuclear R&D. The Administration, with much help from this subcommittee, has begun to correct many years of neglect. The Department now has in place the structure of well-thought-out nuclear R&D program that:

—addresses the near-term goal of bringing a new plant on line through the Nuclear Power 2010 program;
—while performing the R&D necessary for nuclear power to support the growing demand for electricity world-wide over the next 50 years through the Generation IV Program and the Advanced Fuel Cycles Initiative.

However, the request is not all good news, as the Department proposes elimination of new funding for the Nuclear Energy Plant Optimization program and a 50 percent cut to the well regarded Nuclear Energy Research Initiative. We will address these concerns and others as best we can.

Finally, the budget request for the Office of Science remains 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.

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

I will yield now to Senator Reid and any other Senator that would like to make an opening statement.

Thereafter, we will hear from Mr. Garman, Dr. Orbach, and finally Mr. Magwood.

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, I'd like to thank the Undersecretary and Directors for testifying before this committee today. The work you do is very important to my state and to me. I'd like to commend David Garman, the Director of the Office of Energy Efficiency and Renewable Energy, for the work he does with biomass research.

This scientific research is so important to a rural, agricultural state like Mississippi. Biomass energy is estimated to contribute over 7 percent of Mississippi's total energy consumption—that amount is double the national average. The majority of our lumber facilities burn wood waste to generate steam for industrial processes. Biomass offers special opportunities for benefitting Mississippi's economy by keeping energy dollars in our state and by providing jobs in rural areas where biomass is produced. By using their wastes for energy, disposal costs are avoided, and industries are better able to compete.

The principal biomass waste streams that occur in Mississippi are generated by agriculture (e.g., cotton gin waste), wood products manufacturing (e.g., sawdust and wood scraps), animal wastes from confined feeding operations, and municipal solid waste collections (e.g., paper and cardboard, demolition waste, lawn and tree trimmings).

Last year I visited a biomass plant in Winona, Mississippi and inquired about plans for using federal funds that were appropriated in the fiscal year 2003 omnibus bill. I learned that the Winona biomass project can enter its final stages of discovering the organism which will cause the heated biomass to turn into gas. Once that organism or "bug" is discovered, the plant can operate from start to finish where chips of wood can be input, burned and then gasified into ethanol. In a town like Winona, that sort of success has great economic development potential.

I am pleased to learn that the Department is concentrating its biomass research efforts on the catalysts needed for biomass gasifiers. Many communities, beyond the scientific community, will benefit from this work.

I would also like to commend the Mississippi Diagnostic Instrumentation and Analysis Laboratory at Mississippi State University. I am pleased to see that you're funding good science, like the joint Los Alamos-Mississippi State project that we hope will be useful for both DOE and Homeland Security. A continuing concern is how do we take this magnificent science and turn it into the new technologies DOE needs to accelerate cleanup. I am hopeful that you consider using organizations such as DIAL at Mississippi State to turn your science into technologies that will be used at the DOE sites.

Mr. Chairman, with your permission I have a question I'd like to submit for the record.

Senator DOMENICI. And I yield now to Senator Larry Craig for his comments. And then we will take the witnesses.

Senator Craig.

STATEMENT OF SENATOR LARRY CRAIG

Senator CRAIG. Well, thank you, Mr. Chairman. I will be brief. And I do appreciate a chance to speak now. I have to pull out about 3:00 to attend something else.

But first of all, I want to visit Bill Magwood. We have been working very closely since Secretary Abraham announced that the INEEL and Argonne-West would be DOE's lead lab for nuclear energy. And certainly the chairman has been a leader in advancing this cause for some time. He spoke to it a few moments ago.

But I do appreciate the hard work that you have put into the transition at the Idaho National Engineering Environmental Laboratory and the new mission that we are talking about. I have looked at the administration's budget request for nuclear, and I am pleased by what is there. It is much improved. The chairman just mentioned it. The previous administration had pretty much zeroed things out. If we are going to advance the cause of nuclear in the next generation, we have to get at it. You are getting at it, and we appreciate that.

Obviously last year, the Chairman and I met with you, the Vice President, Secretary Abraham. And we talked about Generation IV reactor development, to get it beyond the design or the study on papers to the actual step forward. And clearly, that is what we are about now. And we thank you for that. And, Mr. Chairman, I lay a great deal of the effort to your credit for the work you have done there.

But we must keep trying to fix the Argonne layoff situation. It is unacceptable to do it, if we are going to try to grow nuclear. You do not fire one year and hire the next year, when you have top quality scientists on board ready to go. And that is really an issue that I think has to get resolved as we move forward.

Dr. Orbach, I do appreciate your presence. I have read your testimony. Although the Office of Science program does not have a large presence in Idaho, you are doing a lot of extremely valuable work. I want to highlight one area, and that is fusion energy. Yesterday I introduced the Fusion Development Act of 2003. Senator Dianne Feinstein and I have worked cooperatively on that as cosponsors. President Bush has been focused on the movement of this Nation in a clean, sustainable hydrogen economy. That is certainly important.

We have invested a fair amount in it so far, and we are a ways down the road toward that. Obviously, continued development and infrastructure become a major hurdle to overcome. The President has acknowledged that fusion energy, if we can make it practical and affordable, will be one of the ways to get us to that hydrogen future. The other way is, obviously, nuclear energy. And I will be working on that front as well, as we work to craft this bill.

David, it is great to have you back before us. Between this committee and the Energy Committee, we have been seeing you quite often here on the Hill. And that is always appreciated. The work

you have done in the past year and of course the work you did for Senator Murkowski is well recognized.

We also had you recently on a visit to Idaho. And I appreciate your effort to take the time to better understand what we do out there and the kind of work that goes on. And while you were there, I suspect you heard us talk about some agriculture and some bioenergy initiatives.

The issue that the Governor, while Senator, worked with me on was fish-friendly turbines. They say it cannot be done. And while some of our friends do not like to admit it, the adjustment and the management of the Snake and the Columbia River systems is beginning to establish record fish runs. We have clearly stopped the decline in five of these critical species. And there is now movement upward. And part of that is beginning to understand, manage the river, retrofit many of these hydro facilities with fish-friendly turbines. That work began at Bonneville. It is working upriver. And it is critically important to the West, to all of us, and to the fisheries of our country.

So thank you very much for being here. We look forward to your testimony.

Mr. Chairman, thank you.

PREPARED STATEMENT OF SENATOR HARRY REID

Senator DOMENICI. Thank you, Senator.

Senator Reid's statement will also be made a part of the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR HARRY REID

Thank you, Mr. Chairman. I am glad to see that you are feeling a little better than you did last week. Senator Cochran filled in nicely for you at the hearing, but we all missed you.

Today is the second in a series of five budget oversight hearings for the Energy and Water Development Subcommittee. Last Wednesday, the Subcommittee heard testimony from the Bureau of Reclamation and the U.S. Army Corps of Engineers.

Today we will hear from three witnesses:

—Dr. Raymond Orbach, the Director of DOE's Office of Science;

—Mr. Bill Magwood, the Director of the Office of Nuclear Energy; and

—Mr. Dave Garman, the Assistant Secretary for the Office of Energy Efficiency and Renewable Energy.

Good afternoon, gentlemen, thank you for coming. Senator Domenici and I both appreciate you taking the time to join us. My duties on the Floor may require me to depart early today, but my staff will remain here and will report back on what transpires. I do have a series of questions for each of you and would ask, at this time, that they be made a part of the record. I hope each of you can respond quickly because the Chairman and I rely on your answers to help us make informed funding decisions.

I plan to keep my comments very brief today, but do want to highlight several issues concerning the budget requests for each of the three DOE offices represented today.

Dr. Orbach, I have reviewed the budget for the Office of Science and, by and large, I suspect that you and I share some of the same frustrations with it. The administration's budget request provides your office with a mere 1.4 percent increase. While I am somewhat comforted by the notion that the ramp-down in construction funding for the Spallation Neutron Source actually allows a research budget increase of closer to 4.5 percent, my overall impression is that the request is weak and shortsighted.

I hope that we are able to improve on that a little bit before Congress completes work this year. As I have said many times before, funding for research in the hard sciences is one of the very best and most appropriate investments of taxpayer dol-

lars that Congress can make. Very few things that we do here can make our country safer or more secure than maintaining a scientific and technological edge.

For many years now Chairman Domenici and I have watched as the last two administrations have sent ever-escalating budget requests up here for the National Institutes of Health that have far outstripped the increases requested for the Office of Science. The imbalance between funding for the physical science and the biological sciences was getting to be staggering, particularly because both disciplines rely on each other so much.

This year, the disparity has lessened, but not in the way I had hoped. Rather than the usual 14–15 percent increase for NIH, the administration has chosen to request an additional 7–8 percent. Again, over the long-term, this is very short-sighted.

I am, however, pleased that the administration has decided to take the long view on another important international effort, though. Earlier this year, the administration announced that the United States would re-join the international burning plasma fusion program, the so-called ITER project. This was a wise decision that I hope will be followed-up with robust budget requests.

I am also very pleased with the work you are doing on the Genomes to Life Program and with the impressive pace of the nanotechnology program.

You have been on the job now for nearly a year to the day and I hope you are enjoying your time in one of the greatest jobs our Federal Government has to offer.

Mr. Garman, my guess is that we are going to hear a lot from you on the subject of hydrogen today. The administration's initiative has certainly gotten a lot of attention, both positive and negative.

My inclination is to try to be as supportive as possible. I am pleased that the administration has decided to tackle a big, long-term renewable energy effort to complement the shorter-term focus on the deployment of promising technologies that dominates much of the rest of your budget.

My staff has been talking to me about the potential of the "hydrogen economy" for years, so I want to help as best I can. Obviously, the devil will be in the details in how this program comes together, but those are details that we can work out as we move forward.

One immediate concern that I do have is that it appears that you cut many of your other programs in order to accommodate the increases for hydrogen. Particularly hard-hit is your geothermal program, which is down $16 million.

I realize that you were probably told to go find the additional dollars for hydrogen at the very last minute, long after you thought your budget had been put to bed, but ultimately, your overall portfolio must be balanced.

Good luck as you move forward.

Mr. Magwood, as you know I have been very supportive of your programs during my years as Chairman and Ranking Member of this Subcommittee. I am supportive even though it sometimes puts me in an awkward spot due to that very visible word "nuclear" in your office's title.

I support strong budgets for you because, as I mentioned earlier, long-term, stable, investments in scientific research and development is what makes our Nation strong.

My biggest problem with nuclear power comes at the end of the fuel cycle. However, I firmly believe that investments in the future of nuclear power can produce reactors that are safer and will not produce the deadly waste streams that plague the current generation of reactors.

To the extent that there will be an on-going waste stream, it will be investments in the science that solves all or most of the disposal problem.

This is why I am pleased that your Advanced Fuel Cycle Initiative seems to be coming along nicely. Senator Domenici and I both have been interested in transmutation of waste for years, so we are both pleased that the Department is preparing to invest some resources in this area.

I need to be careful not to steal too much of Chairman Domenici's thunder in talking about what I know to be one of his favorite programs, so I will stop here.

Again, thanks to our witnesses for appearing today.

Senator DOMENICI. Let us proceed then with the witnesses. Let us start with Dr. Orbach.

STATEMENT OF RAYMOND L. ORBACH

Dr. ORBACH. Thank you, Mr. Chairman.

Senator DOMENICI. You are welcome.

Dr. ORBACH. I would like to thank you and the members of the committee for your support for the Department of Energy and specifically the Office of Science. This is the beginning of my second year now as director. And I have enjoyed my relationship with you very much.

I hope I can submit my testimony for the record and just make a few comments and introductions.

The investment of basic research of the Office of Science supports the work of more than 8,000 researchers and students at more than 250 universities and Department of Energy laboratories. This year we reached 18,000 users of our facilities. Our budget, as we have submitted it to you, is roughly half for the operation of those facilities, and then the other half for the research that is carried out across the country, and indeed the world. That half is about equally divided between universities and laboratory personnel.

We support as much research in the universities as we do in the laboratories. All of that, both the components for university and laboratories, are competed together with the peer review process, so that everybody has an equal chance at funding. Just because someone is in a research laboratory does not mean that they have an advantage over anyone else.

The Office of Science is privileged to be responsible for these large facilities. We think we complement the national effort because of our commitment to long-term funding, high risk with high payoff, and multidisciplinary teams.

Just to comment on our highlights of the budget, the areas that are priorities for the Office of Science; Senator Craig, as you have noticed, we have joined ITER now as a partner. We are pleased to take our place as a partner in this very important development. The consequences of fusion energy are recognized in the National Energy Policy on an abundant and clean source of energy.

High-performance computation remains a high priority. This budget contains $14 million to begin looking at different architectures so that we can find the structures that will enable us to solve major problems, scientific discovery through simulation and computation. We are working now with three, and we hope four, vendors to try their structures out on real science problems that we want to solve.

The Spallation Neutron Source, which will be the leading source for neutron science in the world for at least a decade or more, now that Europe has decided not to go in this direction, is well under way and on track and on budget. We look forward to that operation giving the United States primacy again in neutron science.

Four of our five nanotechnology centers currently are contained within the fiscal year 2004 budget. Nanotechnology is an opportunity that the Office of Science is pursuing aggressively. We are pleased that our scientists will have access to these world-class facilities that are nowhere else found but in the United States.

The life sciences, the Genomes to Life program is proceeding well. I want to thank you, Mr. Chairman, for your support for this program. We are now expanding it to produce the energy requirements that this country faces and also to help with carbon sequestration.

Finally, in this budget there is a new initiative for teacher education, for workforce development. We have a line item that will enable us to bring, on a pilot basis, teachers to our laboratories where we will work with them during the summer and then follow up in their classroom, providing support for them.

A program like this used to exist in the mid-1990's, and we are anxious to begin it again. We have quantitative evidence that the students whose teachers have gone through this program fare much better on examinations in both science and mathematics than a comparable category, a control group, of students whose teachers had not experienced these opportunities.

We have had some major accomplishments this year. We are very proud of Mr. Raymond Davis, Jr., for receiving the Nobel Prize in physics for his work on neutrinos. I think it marks the beginning of development in cosmology where we will be working at the very small in order to predict the behavior of the very large. Mr. Davis' citation from the Nobel Committee points that out as the beginning of the relationship between the experiments we do here on Earth and what we observe at the very large.

Finally, we have, through our materials program and our nanotechnology program, been able to accomplish something I think that all of us should take pride in, and that is restoring sight. We have been able to implant a small chip in the retina of a person who lost their sight over 30 years ago. By use of our materials sciences—this is not a simple task to keep electrical contacts stable in the vitreous humor of the eye—that person was able to see.

So far, we are operating only at a small number of pixels, only 16. But we have underway a 1,000-pixel implant, which will enable a person who was blind to read a large-print newspaper. Over 200,000 Americans each year suffer from retinal disease. This program, we hope, will combine the material science characteristics of the Office of Science with the medical profession, showing again how the physical sciences can aid the medical profession in accomplishing their goals.

PREPARED STATEMENT

This is a great opportunity for us to present our programs to you. I want to thank you again for your support. This concludes my testimony. I will be pleased to answer questions.

Thank you.

Senator DOMENICI. Thank you very much. Your statement will be made a part of the record.

[The statement follows:]

PREPARED STATEMENT OF RAYMOND L. ORBACH

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to testify today about the Department of Energy's (DOE) Office of Science fiscal year 2004 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 2004 request represents a sound investment in our Nation's future. Through this budget we will strengthen core research programs, increase operating time at major scientific user facilities, and expand our capabilities for the future.

This budget requests $3,310,935,000 for the fiscal year 2004 Science appropriation, an increase of $47,059,000 over fiscal year 2003 (see Figure 1), for investments

in: Advanced Scientific Computing Research (ASCR), Basic Energy Sciences (BES), Biological and Environmental Research (BER), Fusion Energy Sciences (FES), High Energy Physics (HEP), Nuclear Physics (NP), Science Laboratories Infrastructure, Safeguards and Security, Workforce Development and Science Program Direction.

These investments in basic research directly support the work of more than 8,000 researchers and students at more than 250 universities and at DOE's national labs. In addition, another 18,000 researchers annually take advantage of the major scientific user facilities operated on behalf of the Nation. The Office of Science is the steward of 10 national laboratories, which conduct and collaborate on the multi-disciplinary research that is essential to providing sustained progress toward the most difficult scientific questions and to ensuring that our Nation is able to respond rapidly in times of need.

These researchers will advance the frontiers of nanoscale science; pursue the key questions at the intersection of physics and astronomy identified by the National Academy of Sciences; develop the knowledge base for bringing genomes to life with the potential to harness microbes and microbial communities to improve energy production and environmental remediation; advance the goals of the Administration's Climate Change Research Initiative and the National Energy Policy; begin negotiations to participate in the international fusion project—ITER; develop a new generation of computing architecture to identify and address performance bottlenecks in existing and planned systems; and bring the full potential of scientific computation to bear on the Department's scientific problems.

The Office of Science is the single largest supporter of basic research in the physical sciences, providing approximately 40 percent of all Federal funds in this area over the past decade. It is also the steward, and by far the principal funding agency, of the Nation's research programs in high energy physics, nuclear physics and fusion energy sciences, as well as being the Federal government's largest source of support for materials and chemical sciences. The Office of Science also supports unique or critical pieces of U.S. research in scientific computation, climate change, geophysics, genomics, and the life sciences.

Research projects supported by the Office of Science are selected on the basis of peer review and evaluation for quality, relevance and performance as emphasized in the President's Management Agenda and R&D Investment Criteria. These diverse and multidisciplinary programs rely upon the advice of the scientific community in developing daring and innovative research directions and facility capabilities. As a result, the program oversees one of the strongest research portfolios in the world—a strategic investment in the future technological strength and agility of the Nation.

The Council on Competitiveness noted in its report Competitiveness 2001, Strengths, Vulnerabilities and Long Term Priorities, that, "Given the rising bar for competitiveness, the United States needs to be in the lead or among the leaders in every major field of research to sustain its innovation capabilities." Beginning with the impact on technology development of scientific discoveries in chemistry and electromagnetism at the end of the 19th century, scientific discovery has become the source of new technologies that are critically important to economic progress, energy and national security. We are in a period of rapid technological change. Advances in computing, communications and scientific instruments—many of them developed by SC—have transformed our society including the conduct of science. As a result, there are new scientific opportunities today that promise revolutionary technologies to come.

FIGURE 1.—OFFICE OF SCIENCE FISCAL YEAR 2004 PRESIDENT'S REQUEST

(B/A in Thousands)

	Fiscal Year 2002 Approp.	Fiscal Year 2003 President's Request	Fiscal Year 2004 President's Request
Advanced Scientific Computing Research	150,205	166,557	173,490
Basic Energy Sciences	979,560	1,019,163	1,008,575
Biological and Environmental Research	[1] 554,125	484,215	499,535
High Energy Physics	697,383	724,990	737,978
Nuclear Physics	350,589	382,370	389,430
Fusion Energy Sciences	241,100	257,310	257,310
Science Laboratories Infrastructure	37,125	42,735	43,590
Science Program Direction	149,467	137,332	150,813
Workforce Development	4,460	5,460	6,470
Safeguards and Security	45,770	43,744	43,744

FIGURE 1.—OFFICE OF SCIENCE FISCAL YEAR 2004 PRESIDENT'S REQUEST—Continued

(B/A in Thousands)

	Fiscal Year 2002 Approp.	Fiscal Year 2003 President's Request	Fiscal Year 2004 President's Request
SBIR/STTR	[2] 99,668	.....	.....
Total Office of Science	3,309,452	3,263,876	3,310,935

[1] Includes $68,822,000 of one time projects.
[2] Includes $36,391,000 from other programs.

FISCAL YEAR 2004 SCIENCE PRIORITIES

The fiscal year 2004 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 agencies and are illustrative of the wide array of scientific talent and resources that DOE brings to bear on critical national challenges:

—Enter negotiations with representatives of the European Union, Japan, Russia and other international partners on construction and operation of a burning plasma experiment—the International Thermonuclear Experimental Reactor (ITER).

—Continue to build on its leadership in high performance computing and networking to bring the full potential of scientific computation to bear on the Department's scientific and technical challenges. It will initiate a Next Generation Computer Architecture program to identify and address performance bottlenecks in existing and planned systems.

—Continue construction of the Spallation Neutron Source, proceed with construction of three Nanoscale Science Research Centers (NSRCs) and initiate work on two others. These NSRCs—located at national laboratories in New York, Tennessee, Illinois, New Mexico and California—will provide scientists with an unmatched set of tools to design and build complex nanoscale materials.

—Exploit its unique capabilities at the intersection of the physical sciences, the life sciences and scientific computation to continue and expand its effort to understand how the instructions embedded in genomes control the development of organisms, with the goal of harnessing the capabilities of microbes and microbial communities to help us to produce energy, clean up waste, and sequester carbon from the atmosphere.

—Initiate a Laboratory Science Teacher Professional Development program for K–14 teachers in science and mathematics. Teachers will be competitively selected for a 4–8 week mentoring program by both scientists and master teachers at a national laboratory, followed by both additional 1 week mentoring visits and long term continuing support.

—Exploit the capabilities of the world's finest set of research facilities in particle physics to attempt to find the answers to questions about matter and energy at the most fundamental level. What gives elementary particles their great variety of masses? Are there extra dimensions of space beyond the three we know? Why is there so little antimatter in the universe when we expect equal amounts of each were created in the Big Bang? What is the Dark Energy that causes the recently observed acceleration in the expansion of the universe and comprises fully two thirds of the mass and energy budget of the universe? What were the properties of the early universe before quarks and gluons condensed into protons and neutrons?

SCIENCE ACCOMPLISHMENTS

The Office of Science can trace its roots to the original legislation creating the Atomic Energy Commission in 1947, which had a charter to use fundamental research in nuclear physics and other physical sciences towards ". . . improving the public welfare, increasing the standard of living, strengthening free competition in private enterprise, and promoting world peace." More than five decades later, the Office of Science can point to an extraordinary and diverse array of scientific discoveries that have led to dozens of Nobel Prizes, a draft map of the Human Genome, the creation of "Bucky Balls," discovery of the quark structure of matter and the "Accelerating Universe," major breakthroughs in medical diagnoses and nuclear medicine, and providing tools that allow researchers to "see" at the atomic and sub-

atomic scales, to simulate complex interactions and to collaborate across great distances.

That history of discovery (which is documented on the Office of Science website, www.er.doe.gov/feature__articles__2001/June/Decades/index.html) continues to this day, with major accomplishments in the past year that are the result of our long-term, high-risk, multidisciplinary research and strong management practices.

Two achievements in 2002 stand out as representative of the scope and magnitude of the research sponsored by SC. First is a technological miracle—restoring sight to the blind—being developed through an extraordinary marriage of biology and the physical sciences. The combination of diverse scientific disciplines such as these is a hallmark of Office of Science research and a particular strength of the DOE national laboratories. But realizing this remarkable technology also relies on the unique capabilities of industry (Second Sight, located in Santa Clarita, Calif.) and academia (the Doheney Eye Institute at the University of Southern California and North Carolina State University) in partnership with the national laboratories. In this project, specially designed MEMs (microelectro-mechanical systems) electrodes are positioned on the retinas of patients who have been blinded by disease, enabling them to convert light to electrical pulses that are received by the brain. Today's prototype enables a formerly blind patient to distinguish light from dark. Tomorrow's technology has the potential to restore almost full sight to the 200,000 people in the United States who are blinded every year by macular degeneration. This miracle of science is possible due to the long-term commitment of dedicated teams of scientists supported by DOE.

The second was the award of the 2002 Nobel Prize for Physics shared by Raymond Davis, Jr., whose sublime experiments led to the capture of solar neutrinos, proving that fusion provides the Sun's energy and leading to the creation of an entirely new field of research: neutrino astronomy. Davis did his groundbreaking work while a researcher at DOE's Brookhaven National Laboratory, which is home to multiple Nobel Prize recipients. This is the most recent of the Nobel Prizes that have been awarded to DOE-supported scientists.

In its announcement, the Royal Swedish Academy of Sciences said of Davis's accomplishment: "This year's Nobel Laureates in Physics have used these very smallest components of the universe (neutrinos) to increase our understanding of the very largest: the Sun, stars, galaxies, and supernovae. The new knowledge has changed the way we look upon the universe."

SCIENCE PROGRAMS

ADVANCED SCIENTIFIC COMPUTING RESEARCH

Fiscal Year 2002 Appropriation—$150.2M; Fiscal Year 2003 Request—$166.6M; Fiscal Year 2004 Request—$173.5M

The Advanced Scientific Computing Research (ASCR) program underpins DOE's ability to accomplish its mission through scientific computation. The ASCR program supports research in applied mathematics, computer science and high-performance networks and provides high-performance computational and networking resources to enable the advancement of the leading edge science that the DOE mission requires. ASCR delivers the power of advanced scientific computation and networking to the wide array of scientific disciplines supported by SC.

In fiscal year 2004, ASCR will embark on research to identify, address and correct bottlenecks that presently constrain DOE's capabilities in modeling and simulation. A research portfolio in Next Generation Computer Architecture will be initiated to assess novel computer architectures and their prospects for achieving optimal performance for cutting-edge scientific simulations.

In fiscal year 2004, the ASCR program will continue to develop the underlying mathematical algorithms, software building blocks and infrastructure for the "Scientific Discovery through Advanced Computing," (SciDAC) program. SciDAC is an Office of Science research endeavor to produce the scientific computing, networking and software that DOE researchers will need for sustained progress at the scientific forefront in areas of strategic importance to the Department. The scope of the SciDAC program will be extended to include new activities to address the urgent need for a quantitative understanding of matter at the nanoscale.

The ASCR program will also maintain the vitality of its basic research efforts in applied mathematics, computer and computational science, and network research to bolster the foundation for continued success in advancing scientific frontiers through computation.

In fiscal year 2004, the Genomes to Life research activities in partnership with Biological and Environmental Research will be expanded to include new research

in the applied mathematical sciences that will enable new computational techniques for the study of regulatory networks and metabolic pathways for microbial systems.

Finally, in fiscal year 2004, ASCR will provide high performance computing and networking resources at the levels needed to meet Office of Science needs. The National Energy Research Scientific Computing Center, as a result of an enhancement in fiscal year 2003, will be operated at 10Tflops to meet the computational needs of nearly 2,400 users. ESnet will be operated to provide state-of-the-art network services and capabilities to DOE-supported researchers nationwide to collect, analyze, visualize and distribute large-scale scientific data sets.

BASIC ENERGY SCIENCES

Fiscal Year 2002 Appropriation—$979.6M; Fiscal Year 2003 Request—$1,019.2M; Fiscal Year 2004 Request—$1,008.6M

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 United States scientific community.

In fiscal year 2004, construction will proceed on three Nanoscale Science Research Centers (NSRCs), project engineering design will be initiated on the fourth NSRC, and a Major Item of Equipment will be initiated for the fifth and final NSRC. NSRCs are user facilities for the synthesis, processing, fabrication, and analysis of materials at the nanoscale. The five NSRCs will be located strategically at national laboratories across the country in New York, Tennessee, Illinois, New Mexico, and California. These facilities, in conjunction with existing user facilities at these national laboratories, will provide a strikingly unique suite of forefront capabilities where the Nation's leading scientists can design and build complex nanoscale materials all in one place.

The five NSRCs will be the Nation's critical focal points for the development of the nanotechnologies that will revolutionize science and technology. They will provide state-of-the-art nanofabrication equipment and quality in-house user support for hundreds of visiting researchers. The Centers will provide an environment for research of a scope, complexity, and disciplinary breadth not possible under traditional individual investigator or small group efforts. As such, the DOE Centers will be the training grounds of choice for the top graduate students and elite postdoctoral associates who will lead the future of scientific research.

A high priority in fiscal year 2004 is continued construction of the Spallation Neutron Source (SNS) to provide the next-generation, short-pulse spallation neutron source for neutron scattering. The project, which is to be completed in June 2006, is on schedule and within budget with over half of the work completed as of the end of fiscal year 2002. At the end of fiscal year 2004, construction of the SNS will be 80 percent complete.

BIOLOGICAL AND ENVIRONMENTAL RESEARCH

Fiscal Year 2002 Appropriation—$554.1M; Fiscal Year 2003 Request—$484.2M; Fiscal Year 2004 Request—$499.5M

Today, we have unprecedented opportunities to use advances in biology, computation, engineering, physics, and chemistry, to develop new solutions for challenges in energy, the environment, and health. The Biological and Environmental Research (BER) program is bringing these diverse fields together at DOE laboratories, universities, and private research institutes to find innovative approaches to address DOE challenges.

In fiscal year 2004, the Genomes to Life program continues to develop novel research and computational tools that, when combined with our genomics, structural biology, and imaging research provide a basis to understand and predict responses of complex biological systems. Other BER efforts in the Life Sciences include Human Genome research and DNA sequencing and Low Dose Radiation research.

BER contributions to the President's Climate Change Research Initiative include research in climate modeling, atmospheric composition, and regional impacts of climate change. Carbon cycle research will work toward understanding what fraction of carbon dioxide emissions are taken up by terrestrial ecosystems. New in fiscal year 2004 are ecological research efforts to begin to bridge the knowledge gap between molecular level effects and the responses of entire ecosystems to natural and human-induced environmental changes.

A key challenge in Environmental Remediations Science is to understand the subsurface environment and to then develop innovative options for clean up and protec-

tion. In fiscal year 2004, BER research will continue to develop new cleanup strategies, including bioremediation of metals and radionuclides and the treatment and disposal of high-level radioactive wastes stored in large underground tanks. The Environmental Molecular Sciences Laboratory is maintained at the leading edge of computational capabilities for enhanced modeling of environmental and molecular processes.

Because of DOE's diverse capabilities across a range of scientific disciplines, BER Medical Applications research will continue to provide the medical community with novel devices and technologies to detect, diagnose, and treat disease. One example is research that will develop the capability to detect genes as they are turned on and off in any organ in the body with enormous impacts in developmental biology and the diagnosis of disease.

FUSION ENERGY SCIENCES

Fiscal Year 2002 Appropriation—$241.1M; Fiscal Year 2003 Request—$257.3M; Fiscal Year 2004 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 National Energy Policy states that fusion power has the long-range potential to serve as an abundant and clean source of energy and recommends that the Department develop fusion. It is the consensus of fusion researchers worldwide that the next frontier in the quest for fusion power is the creation and study of a sustained, burning (or self-heated) plasma. The Fusion Energy Sciences Advisory Committee (FESAC) has concluded that the fusion program is ready to proceed and has recommended joining the ongoing negotiations to construct the international burning plasma experiment, ITER, a strategy endorsed by the National Research Council (NRC) of the National Academy of Sciences. Following these recommendations, and an Office of Science reviewed cost estimate for the construction of ITER, the Administration decided to join the ITER negotiations.

To be successful, the ITER negotiations must resolve not only citing of the project and an agreed-upon financial and procurement arrangement, but also satisfactory management and oversight arrangements. In these negotiations, the United States will strive for a robust management structure and an oversight program based on the principles of equity, accountability and transparency to ensure both the success of the project and the best use of taxpayer dollars.

In light of the Administration decision to join the ITER negotiations, many elements of the fusion program that are broadly applicable to burning plasmas will now be directed more specifically toward the needs of ITER, while some longer range technology development activities will be curtailed. The majority of existing and proposed program elements, however, already contribute to tokamak science, thereby providing a strong base for our future contributions to and ability to benefit from ITER.

Four areas characterize the FES program activities for fiscal year 2004 and beyond. These are Burning Plasmas, which will include our efforts in support of ITER; Fundamental Understanding, which includes theory, modeling, and general plasma science; Configuration Optimization, which includes experiments on advanced tokamaks, advanced magnetic configurations, and inertial fusion concepts, as well as facility operations and enabling R&D; and Materials and Technology, which includes fusion specific materials research and fusion nuclear technology research. Integrated progress in all of these thrust areas is required for ultimate success in achieving a practical fusion energy source.

The fiscal year 2004 budget supports a balanced fusion science program. The fiscal year 2004 budget request supports research in alternate confinement concepts, to include the final design and initial fabrication of the National Compact Stellarator Experiment facility at Princeton Plasma Physics Laboratory, facility upgrades and an increase in facility operations, research in inertial fusion energy and basic plasma science, as well as a focus on the use of high-end computational simulation.

HIGH ENERGY PHYSICS

Fiscal Year 2002 Appropriation—$697.4M; Fiscal Year 2003 Request—$725.0M; Fiscal Year 2004 Request—$738.0M

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. Until 2007, when Europe's Large Hadron Collider (LHC) is scheduled to begin operations, the United States is the primary world center for HEP research. In fiscal year 2004, the HEP program will concentrate on facility utilization, including direct support for researchers, as well as incremental facility upgrades.

In fiscal year 2004, the Fermilab Tevatron Collider Run II will be in full swing. The Run II program will enable many advances and discoveries at the energy frontier, including: possible discovery of the long-sought Higgs particle, thought to be the key to understanding why particles have mass; providing even greater information about the heaviest known particle, the top quark, discovered at Fermilab in 1995; possible discovery of an entirely new class of particles that have been predicted, by many theories, to be present in Run II data; or unfolding of the as yet undiscovered space-time dimensions that have been postulated to complete the unification of fundamental interactions. A series of planned upgrades to the Tevatron accelerator complex, the major detectors, and computing facilities will continue in fiscal year 2004 in order to enable a vigorous physics program that will maintain Fermilab's scientific leadership through the end of the decade. The NuMI/MINOS project, scheduled for completion in September 2005, will provide a world-class facility to study neutrino properties and make definitive measurements of neutrino mass differences.

Building on the outstanding performance of the B-factory at the Stanford Linear Accelerator Center (SLAC), the HEP program will increase support for operation of the B-factory in fiscal year 2004 to break new ground in exploring the source and nature of matter-antimatter asymmetry in the B-meson system. The upcoming round of experimental results may provide evidence for new physics beyond the Standard Model of particle physics. Incremental upgrades are also planned in fiscal year 2004 for the accelerator to improve physics output and for the computing capabilities to cope with high data volumes.

Continued U.S. participation in the LHC project at CERN is a high priority in fiscal year 2004. The U.S. contributions to the LHC accelerator and the ATLAS and CMS detectors are on schedule and within budget for the scheduled start-up date of 2007. Focus of this effort will begin to shift in fiscal year 2004 from construction to pre-operations for the U.S.-built detector components and to developing the software and computing infrastructure necessary to exploit LHC physics.

Non-accelerator experimentation is a growing part of HEP research and offers many exciting opportunities for the future. Progress continues on particle astrophysics experiments and R&D in partnership with NASA. Collaborations on the Alpha Magnetic Spectrometer (AMS) and the Large Area Telescope (LAT), part of the Gamma-Ray Large Area Space Telescope (GLAST) mission, will be engaged in full detector fabrication and assembly in fiscal year 2004. The SuperNova Acceleration Probe (SNAP) will begin fabrication of detector prototypes in support of a 2006 Conceptual Design. These experiments are working toward solving key mysteries in astrophysics and cosmology, including dark energy, high energy gamma ray sources, and antimatter in space, all of which play a role in the story of the origin and fate of the Universe. Other non-accelerator experiments are located at ground level, such as the Pierre Auger project and the Supernova Cosmology Project, or deep under ground, such as neutrino detectors.

In addition, the program continues to support advanced technology R&D in fiscal year 2004 geared toward future accelerators, including a high-energy, high-luminosity Linear Collider. In January 2002, the HEPAP Subpanel on Long Range Planning stated that such a collider should be the highest priority of the U.S. HEP program.

NUCLEAR PHYSICS

Fiscal Year 2002 Appropriation—$350.6M; Fiscal Year 2003 Request—$382.4M; Fiscal Year 2004 Request—$389.4M

The Nuclear Physics (NP) program supports fundamental nuclear physics research, providing about 90 percent of Federal support for this field. NP research advances our knowledge of the properties and interactions of atomic nuclei and nuclear matter in terms of the fundamental forces and particles of nature. It also supports the scientific knowledge-base, technologies and trained manpower that are needed to underpin DOE's missions for nuclear-related national security, energy, and the environment.

The NP program seeks answers to questions in three broad areas. (1) The basic constituents of nuclei, the neutrons and protons (nucleons) are themselves each com-

posed of three quarks and the gluons that "carry" the strong force between them. Yet, these quarks are "confined" and cannot be found individually in nature. Understanding this confinement and the transition from a nucleon to quark description of nuclear structure is a central question of the field. (2) The early universe, up to a millionth of a second after the "Big Bang," is believed to have been a soup of quarks and gluons, a quark-gluon plasma. Creation of microcosms of this primordial matter in the laboratory is now being attempted in order to answer how the universe evolved at the very beginning of time. (3) The chemical elements are believed to have been created in stars and supernovae explosions, yet the nuclear reactions involved in this process involve nuclei far from the naturally occurring ones on earth. To answer how the elements were made (nucleosynthesis) requires producing exotic radioactive nuclear beams. Understanding the dynamics of supernovae also requires understanding the properties of the elusive neutrino which can only be detected in massive detectors.

In fiscal year 2004, the NP program will focus on enhancing the operations of the program's user facilities, especially the Relativistic Heavy Ion Collider (RHIC), so as to bring all operating facilities to about 83 percent of optimal utilization. This will increase beam hours for research by about 5 percent over the fiscal year 2003 Request. Nuclear Theory, new Low Energy instruments, and increased support to non-accelerator research such as neutrino experiments are also strongly supported.

In addition to increased operations at RHIC, fiscal year 2004 funding will support an aggressive experimental program with the newly completed G0 detector at Thomas Jefferson National Accelerator Facility (TJNAF) to begin to map out the strange quark contribution to the structure of the nucleon. The MIT/Bates research program with the BLAST detector is being initiated in fiscal year 2003 with completion planned in fiscal year 2004. The two Low Energy user facilities (ATLAS and HRIBF) will also increase running schedules in fiscal year 2004 for nuclear structure and astrophysics studies.

In fiscal year 2003–2005, the Sudbury Neutrino Observatory (SNO) will make 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.

SCIENCE LABORATORIES INFRASTRUCTURE

Fiscal Year 2002 Appropriation—$37.1M; Fiscal Year 2003 Request—$42.7M; Fiscal Year 2004 Request—$43.6M

The Science Laboratories Infrastructure (SLI) program plays a vital role in enabling the continued performance of world-class research at the Office of Science laboratories by funding line item construction projects to maintain the general purpose infrastructure (GPI) and the clean-up and removal of excess facilities. In fiscal year 2004, SLI will support six ongoing projects and one new start—seismic safety and operational reliability improvements at SLAC. Excess Facilities Disposition (EFD) will continue disposition of both contaminated and non-contaminated excess facilities, resulting in reduction of costs and risks while freeing-up valuable land. The fiscal year 2004 Budget Request also includes funding for the Oak Ridge Landlord subprogram.

SAFEGUARDS AND SECURITY

Fiscal Year 2002 Appropriation—$45.7M; Fiscal Year 2003 Request—$43.7M; Fiscal Year 2004 Request—$43.7M

Safeguards and Security reflects the Office of Science's commitment to maintain adequate protection of cutting edge scientific resources. In fiscal year 2004, Safeguards and Security will enable the Office of Science laboratories to meet the requirements of maintaining approved Security Condition 3 level mandates for the protection of assets. Integration of security into the laboratories' systems and continued risk management are also supported. In addition, critical cyber security tools and software will be purchased to respond to the ever changing cyber threat.

WORKFORCE DEVELOPMENT

Fiscal Year 2002 Appropriation—$4.5M; Fiscal Year 2003 Request—$5.5M; Fiscal Year 2004 Request—$6.5M

Workforce Development for Teachers and Scientists supports three subprograms: Pre-College Activities such as the National Science Bowl; the Undergraduate Research Internships for undergraduate students wishing to enter science, technology and science teaching careers; and Graduate/Faculty Fellowships for K–16 teachers of science, technology, engineering, and mathematics (STEM). Each of the subpro-

grams targets a different group of students and teachers in order to attract a broad range of participants to the programs and expand the Nation's supply of well-trained scientists and engineers. Focus of this program is on the Physical Sciences and other areas of research which underpin the DOE missions and have, over the last decade, seen a marked decline in the numbers of undergraduate degrees awarded. Initiated in fiscal year 2004 is the Laboratory Science Teacher Professional Development program that will provide long-term scientific community support from our National Laboratories for K–14 STEM teachers.

SCIENCE PROGRAM DIRECTION

Fiscal Year 2002 Appropriation—$149.5M; Fiscal Year 2003 Request—$137.3M; Fiscal Year 2004 Request—$150.8M

Science Program Direction enables a skilled, highly motivated Federal workforce to manage SC's research portfolio, programs, projects, and facilities in support of new and improved energy, environmental, and health technologies, and to provide continuous learning opportunities. Science Program Direction consists of four subprograms: Program Direction, Field Operations, Technical Information Management (TIM) and Energy Research Analyses (ERA).

The Program Direction subprogram supports Federal staff in Headquarters responsible for directing, administering, and supporting the broad spectrum of scientific disciplines. The Field Operations subprogram is the funding source for the Federal workforce in the Field complex responsible for providing business, administrative, and specialized technical support to DOE programs. The TIM subprogram collects, preserves, and disseminates the scientific and technical information of the DOE. The ERA subprogram provides the capabilities needed to evaluate and communicate the scientific excellence, relevance, and performance of Office of Science basic research programs.

As part of a restructuring effort, the Office of Science will focus on its Federal human capital in fiscal year 2004 to effectively respond to the science needs of the future and to the challenge of an anticipated 50 percent turnover of retirement-eligible senior scientists over the next 5 years. Also in fiscal year 2004, the Office of Science continues to support a corporate DOE information management system, the Electronic R&D Portfolio Management Tracking and Reporting Environment (ePME), which enables end-to-end tracking of research projects, information sharing across programs, and snapshots of the Department's R&D portfolio. ePME will integrate with the e-Grants functions of e-Government, the Department's e-Financial Management System, and the e-Procurement Modernization System.

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, exploring the key questions at the intersection of physics and astronomy, and opportunities at the intersection of the physical science, the life sciences and scientific computation to understand how the instructions embedded in genomes control the development of organisms, with the goal of harnessing the capabilities of microbes and microbial communities to help us to produce energy, clean up waste, and sequester carbon from the atmosphere. The Office of Science is also pushing the state-of-the-art in scientific computation, accelerator R&D, plasma confinement options and a wide array of other technologies that advance research capabilities and strengthen our ability to respond to the rapidly changing challenges ahead.

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 2004 budget request for the Office of Science.

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

Senator DOMENICI. With that, we will proceed now to you, David. Mr. Garman, nice to have you here. How do you like your work?

OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

STATEMENT OF DAVID K. GARMAN, DIRECTOR

Mr. GARMAN. Oh, I like it a great deal, Mr. Chairman, and thank you. And thank you, Senator Craig, for your kind words. I appreciate this opportunity, and I appreciate the support of the subcommittee for our work.

As you know, funding for activities in my office is split between the Energy and Water Development and the Interior Appropriations bills. Our overall budget request for fiscal year 2004 is $1.32 billion, a bit more than our request for fiscal year 2003. However, our fiscal year 2004 request for activities in the Energy and Water Development Appropriations is $37.2 million over the amount we requested for fiscal year 2003.

As the Chairman noted, our most notable expansion is in the area of hydrogen and fuel cell vehicles research and development, resulting from the President's Hydrogen Fuel Initiative announced during his State of the Union Address. I will say just a few words about hydrogen before highlighting other elements of our proposal.

Our hydrogen technology subprogram is a key component of the President's Hydrogen Fuel Initiative. Our fiscal year 2004 request is $48.1 million above our fiscal year 2003 request. This does not include additional funds that have been requested for hydrogen in the Offices of Fossil and Nuclear Energy. Our total hydrogen request is over $100 million. These funds would be used to establish a national research effort on hydrogen storage, to enhance technology development for hydrogen production from renewables and distributed natural gas, to accelerate work on codes and standards development, to accelerate work on hydrogen education, and to validate some hydrogen infrastructure technologies to support fuel cell vehicles and their test and evaluation.

The increase in funding is designed to enable the industry to make a commercialization decision on hydrogen fuel cell vehicles and infrastructure by 2015. We believe this can help bring affordable hydrogen fuel cell vehicles to the showroom floor by 2020.

For our solar energy technology program we are seeking $79.7 million, essentially the same as our fiscal year 2003 request. We want to continue our work to bring down the cost and improve the reliability of solar photovoltaic systems.

Our wind energy technology program has been successful in bringing down the cost of electricity generated from wind. Wind energy systems have been the fastest growing source of electricity worldwide for over a decade and are now providing cost-competitive power in high wind speed areas. As a result, our focus for wind R&D has shifted to larger blades and turbines using advanced materials that will allow economically viable development in the lower wind speed areas that are present more evenly across the Nation.

In fiscal year 2004, we are requesting $41.6 million for wind energy, which is $2.4 million less than our fiscal year 2003 budget request. This request is in alignment with our projected needs to achieve our goals.

For our hydropower technology work, we are requesting about $7.5 million, the same level of funding we requested last year. As Senator Craig pointed out, our work in this area focuses on improv-

ing the environmental performance of hydropower plants by developing turbines that reduce fish injury and improve downstream water quality.

Geothermal energy offers promise as a base load renewable energy resource, particularly in the Western United States. Our program focuses on exploration and reservoir technologies and drilling research to enable industry to locate and produce new geothermal fields at greatly reduced cost. In fiscal year 2004, we are requesting $25.5 million for these activities, $1 million less than our fiscal year 2003 request.

Biomass and biorefinery systems present some interesting challenges and opportunities for us. We know how to make power, as well as a variety of individual fuels, chemicals, and products from biomass. But we do not know necessarily how to do it affordably and competitively. We believe that the synergies of an integrated biorefinery that makes both power, products, and fuels cannot only help us reduce our dependence on imported oil, but expand economic opportunities in rural areas of the country.

For the first time, we have brought together a diverse industry together and produced a vision, an R&D road map, that is helping us to restructure our biomass program and to focus on the most promising long-term opportunities for these technologies.

We have also dramatically improved the collaboration between the Department of Energy and the U.S. Department of Agriculture. In that connection, the farm bill has provided $14 million in mandatory biomass funding, which we are going to jointly manage with the Department of Agriculture under the direction of the Biomass Research and Development Board established under the Biomass R&D Act of 2000.

In fiscal year 2004, we are also requesting almost $77 million for electricity reliability, slightly more than our fiscal year 2003 request. That program consists of four main areas, including high temperature superconductivity, transmission reliability research, distribution and interconnection energy storage research, and the renewable energy production incentive.

We are creating a new program office in the Department bringing various transmission-related activities together. We look forward to presenting more information to you about that in the weeks ahead.

PREPARED STATEMENT

For now I ask that my full statement appear in the record. I am happy to answer any questions the committee may have, either now or in the future.

Senator DOMENICI. It will be made a part of the record. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF DAVID K. GARMAN

Mr. Chairman, Members of the Subcommittee, I appreciate the opportunity to testify before you today on the fiscal year 2004 budget request for the Office of Energy Efficiency and Renewable Energy (EERE).

As you know, the EERE budget is split between Energy and Water Development and Interior Appropriations Bills. Our overall budget request for fiscal year 2004 is $1,320,000,000 compared to $1,318,651,000 requested in fiscal year 2003. Our fis-

cal year 2004 request for our Energy and Water Development programs totals $444,207,000, or 34 percent of EERE's budget, compared to $407,000,000 requested in fiscal year 2003. The most notable programmatic expansions are in the area of hydrogen and fuel cell vehicles research and development (R&D), reflecting the priorities and recommendations of the President's National Energy Policy, the Department of Energy's (DOE) mission, EERE's Strategic Plan, and the EERE's Strategic Program Review.

This request reflects EERE's streamlined new organization. Two years ago, EERE was divided into 31 programs, in 17 offices, stovepiped into 5 market sectors. Overlapping layers of management and duplicative and inconsistent business systems generated significant inefficiencies and made it difficult to ensure accountability and the most cost-effective application of taxpayer funds. Responding to the President's Management Agenda and our own Strategic Program Review, we launched a dramatic restructuring of the EERE program in June 2002. This restructuring streamlined our organization, eliminating up to four management levels, and centralizing administration functions into a single support organization with a focus on developing consistent, uniform, and efficient business practices. This is arguably the most dramatic restructuring in EERE's history.

—The restructuring combined all the hydrogen and fuel cell activities, formerly scattered across two market sectors and three programs, into a single program for greater efficiency and synergy.

—The restructuring combined all the bioenergy-related activities, formerly scattered across three market sectors and three programs, into a single program focused on advanced biorefineries. If successful, this research will allow waste plant matter to be turned into high value chemicals, fuels, and power.

—The fiscal year 2004 budget is fully aligned with EERE's new management structure and strategic goals, allowing a strong linkage between congressional appropriations and the performance and productivity of EERE's research and development (R&D) and deployment activities.

The fiscal year 2004 budget supports EERE's R&D and technology deployment efforts to provide Americans with increased energy security and independence through utilization of diverse domestic supplies, greater freedom of choice of technology, and reducing the financial costs and environmental impacts of energy utilization.

As Secretary Abraham noted recently, the Department has ". . . an ambitious, long-term vision of a zero-emissions future, free of reliance on imported energy." We must call upon science, technology, and the research talents in our national laboratories, universities, and industry to help us move beyond today's energy choices towards carbon-free generation of electricity and fuels, including hydrogen.

Secretary Abraham has also made clear that all missions at the Department flow from our core mission to support national security. This EERE fiscal year 2004 budget demonstrates that the Department takes its responsibility toward national security seriously as it does its responsibilities toward science and technology. The Department has taken a deliberate and integrated approach to its research and development portfolio, using the strengths of all DOE programs to address this central mission. Clearly, environmental security and economic security underpin national security and each is sustained by science.

What is more, there is only one way to build an integrated budget and that is to engage in a vigorous and disciplined planning process that forces programs to set priorities.

Our EERE fiscal year 2004 budget request has been developed with these challenges and opportunities in mind.

THE PRESIDENT'S HYDROGEN FUEL INITIATIVE

Mr. Chairman, the big news in our fiscal year 2004 budget is, of course, the President's Hydrogen Fuel Initiative, which directly supports EERE's number one priority to dramatically reduce or even end dependence on foreign oil.

Our nation currently imports 55 percent of our oil—a dependence that is projected to rise to 68 percent by 2025. Since two thirds of the 20 million barrels of oil we consume each day is used for transportation, we must focus on finding alternative, domestic fuels to power our transportation system if we ever expect to reverse this trend.

In his recent State-of-the-Union address, President Bush announced a groundbreaking plan to transform our nation's energy future from one dependent on foreign petroleum, to one that utilizes the most abundant element in the universe—hydrogen. The concept for this initiative is simple, yet profound—create automotive operating systems that run on hydrogen rather than gasoline. The benefits will be

considerable and widespread. Hydrogen can be produced from diverse domestic sources, freeing us from a reliance on foreign imports for the energy we use at home. Hydrogen can fuel ultra-clean internal combustion engines, which would reduce auto emissions by more than 99 percent. And when hydrogen is used to power fuel cell vehicles, it will do so with more than twice the efficiency of today's gasoline engines—and with none of the harmful emissions. In fact, fuel cells' only byproduct is pure water.

On February 6, 2003, at an event on energy independence in Washington, D.C., featuring new uses for fuel cells including automobiles, the President reiterated his commitment to his new Hydrogen Fuel Initiative stating, "The technology we have just seen is going to be seen on the roads of America. And it's important for our country to understand that by being bold and innovative, we can change the way we do business here in America; we can change our dependence upon foreign sources of energy; we can help with the quality of the air; we can make a fundamental difference for the future of our children."

During his speech on energy independence, the President also provided details of his initiative stating, "We must make hydrogen more plentiful and produce it in the most efficient, cost-effective way. That is one of our challenges . . . We must increase the capacity of hydrogen storage systems. And we must put in place the infrastructure to get hydrogen to the consumers. There would be nothing worse than developing a car and having no place for somebody to find the fuel. People aren't going to buy many cars if they can't refuel their car."

To support the President's vision we need to make the necessary research and development investments to develop vehicles powered by hydrogen fuel cells and the infrastructure to support them. The President's Initiative will accelerate research and development on hydrogen production, delivery, storage and distribution, and establish the necessary safety-related codes and technology standards. In addition, it will accelerate the demonstration of fuel cell vehicles and hydrogen infrastructure so that these technologies can be validated under real world conditions.

The government's role here is clear. We will coordinate and cost-share the high-risk R&D work of numerous private sector partners and our national network of science laboratories. Government coordination of this undertaking will also help resolve one of the difficulties associated with development of a commercially viable hydrogen fuel cell vehicle: the "chicken and egg" question. Which comes first, the fuel cell vehicle or the hydrogen production and delivery-refueling infrastructure to support it? The President's Initiative, in conjunction with FreedomCAR—the public-private partnership with U.S. automakers launched last year to accelerate the development of practical, affordable hydrogen fuel cell vehicles—answers the question by proposing to develop both systems in parallel. By so doing, federal investments will help to advance commercialization of hydrogen fuel cell vehicles and infrastructure by 15 years, from approximately 2030 to 2015.

To meet this challenge, the President's fiscal year 2004 budget request commits $1.7 billion over five years for the FreedomCAR partnership and Hydrogen Fuel Initiative. This includes $1.2 billion for hydrogen and fuel cells—$720 million in "new" money (i.e., not included in baseline projections of spending). EERE's overall fiscal year 2004 budget request for the FreedomCAR partnership and Hydrogen Fuel Initiative is $256.6 million. There is an additional $15.5 million for hydrogen production research requested by the Offices of Fossil and Nuclear Energy, and $0.7 million requested by DOT Research Special Projects Agency.

Mr. Chairman, we stand on the cusp of revolutionary change in personal transportation in this country—and the world. The President has completely recast this Nation's vision of personal transportation by describing a future where vehicles will be fueled by hydrogen—and he is taking the steps necessary to lead us to that future.

FISCAL YEAR 2004 ENERGY AND WATER DEVELOPMENT BUDGET REQUEST

For fiscal year 2004, we request a $37,207,000 increase above our fiscal year 2003 amended budget request.

Let me now briefly review the portfolio of Renewable Energy Resources programs within the Office of Energy Efficiency and Renewable Energy. Before I begin, I'd like to highlight how the President's Management Agenda has helped us focus our resources and become better stewards of the taxpayers' dollars. For example, the R&D investment criteria help us guide budget decisions to ensure we fund only activities that can provide real public benefits and that the private sector would not undertake without our help. And the budget-performance integration initiative, through the Program Assessment Rating Tool (PART), has helped us to focus on continuing to improve our performance goals, and to identify program planning and management strengths and challenges.

Two years ago, the President's Management Agenda pointed out that Federal government R&D programs in general "do not link information about performance to our decisions about funding. Without this information, decisions about programs tend to be made on the basis of anecdotes, last year's funding level, and the political clout of local interest groups." This year, our funding request is in better alignment with what it will take to achieve our goals.

Hydrogen Technology

The Hydrogen Technology Subprogram is a key component of the President's Hydrogen Fuel Initiative.

The program works with industry to improve efficiency and lower the cost of technologies that produce hydrogen from renewable energy resources and natural gas. 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.

In fiscal year 2004, we request $87,982,000 ($48,101,000 more than our fiscal year 2003 budget request) for the Hydrogen Technology Subprogram (there is an additional $15.5 million in the Offices of Fossil and Nuclear Energy for a total of $103.5 million). This will be used to establish a national research effort on hydrogen storage; to enhance technology development for hydrogen production from renewables and distributed natural gas; to accelerate codes and standards development; to create a major hydrogen education effort; and to validate hydrogen infrastructure technologies to support fuel cell vehicle test and evaluation.

Our fiscal year 2004 budget request represents a significant consolidation and realignment in the Hydrogen, Fuel Cells, and Infrastructure Technologies Program when compared to the fiscal year 2003 budget request. This budget request reflects the functional priorities of the program: hydrogen production and delivery, hydrogen storage, hydrogen infrastructure validation, safety and codes/standards related to hydrogen and its infrastructure, and education and crosscutting analysis. The new budget structure consolidates all electrolyzer research and development under production and delivery.

In addition, the fiscal year 2004 request proposes that all fuel cell activities be performed under Interior and Related Agencies Appropriation. This is a change since some fuel cell work was requested under Energy and Water Development Appropriation in fiscal year 2003. Also, all hydrogen production, delivery, and storage work is proposed to be under the Energy and Water Development Appropriation request in fiscal year 2004. This is a change since some hydrogen storage and off-board natural gas reforming work was requested under Interior and Related Agencies in fiscal year 2003.

The increase in funding for fiscal year 2004 compared to the fiscal year 2003 request enables hydrogen production, storage, and infrastructure technology goals to be accelerated 15 years to enable industry to make a commercialization decision regarding hydrogen infrastructure and fuel cell vehicles by 2015.

Specific fiscal year 2004 program activities include:

—Accelerating development of low-cost, small-scale reformers and separation technology to enable hydrogen generated from distributed natural gas to achieve $3.00 per gasoline gallon equivalent by 2005 and to be competitive with gasoline by 2010 ($1.50 per gasoline gallon equivalent, delivered, pre-tax).

—Accelerating and expanding research on the production of hydrogen from renewable resources to reach a 2008 goal of $2.55 per gasoline gallon equivalent at the plant gate.

—Creating a national research effort in hydrogen storage technologies, based on low pressure, solid state materials, to enable achievement of 2010 goals of 2.0 kWh/kg (6 percent by weight hydrogen storage capacity), 1.5 kWh/l and $4/kWh.

—Conducting operations of the Las Vegas fueling station to determine emissions and system efficiency. Initiating limited "learning" demonstrations of hydrogen refueling stations to support fuel cell vehicle test and evaluation.

—Providing leadership in developing safety-related codes and standards and conducting necessary coordination with the international community so that U.S.-based technology can compete globally.

These efforts support the Hydrogen Fuel Initiative, and will enable the development of hydrogen fuel cell vehicles for the showroom floor by 2020. Success of these programs will begin to eliminate the need for imported oil, while simultaneously beginning to eliminate emissions and significantly reducing greenhouse gases from

America's transportation fleet without affecting the freedom of personal mobility we demand.

Solar Energy Technology

The EERE Solar Energy Technology Program develops solar energy systems that are more efficient, reliable, and affordable for converting sunlight into electricity, space heat, hot water, and lighting. A primary objective of the program is to increase the value of solar energy by putting it at the point of use, making it an integral part of super efficient, state-of-the-art residential and commercial buildings and industrial establishments.

In fiscal year 2004, we request $79.7 million for the Solar Energy Technology Program, which is level funding with our fiscal year 2003 request. The fiscal year 2004 activities are as follows:

Under Photovoltaic (PV) Energy Systems, we will increase technology development to support module and systems reliability improvements. In thin film modules, we will increase funding for accelerated lifetime testing and diagnostics to determine failure modes in pre-commercial products. In systems, we will increase funding for the inverter initiative to accelerate attainment of a next-generation grid-tied inverter with a greater than twenty-year lifetime. We will begin the second year of three-year contracts under the PV Science Initiative with universities to develop next-generation PV materials and devices that have the potential for dramatic cost reductions. The PV Science Initiative will more fully develop new ideas and concepts that can replace conventional technologies with a new generation of lower-cost, easier-to-manufacture technologies. In the Thin Film Partnership, the program will continue funding the most promising industry cost-shared contracts on technologies making the greatest achievements.

In Solar Building Technology Research, we will continue development of a polymer water heater capable of operation in cold climates and test a hybrid solar daylighting system.

The Concentrating Solar Power subprogram will be phased-out in accordance with the National Academy of Science recommendations.

Zero Energy Buildings

The focus of the Zero Energy Buildings concept involves efforts to integrate renewable energy systems into building designs and operations, such as integrating photovoltaic, water heating systems and/or space conditioning systems. These buildings use renewable energy sources so that the buildings produce as much energy as they consume on an annual basis.

In fiscal year 2004, we request $4.0 million for the Zero Energy Buildings program, $4.0 million less than our fiscal year 2003 budget request. The program will evaluate its activities to ensure no duplications or overlaps with Interior-funded efforts in the Building Technologies Program.

As part of the reorganization of EERE in fiscal year 2002, Zero Energy Buildings activities have been moved from the Solar Energy Program to the Buildings Technologies Program. This shift will enable more effective access to the residential and commercial building industries for Zero Energy Buildings technology developers and expand the range of opportunities for industry participation and cost sharing. The Zero Energy Buildings activities will continue to maintain effective technical coordination with the Solar Energy Program.

In fiscal year 2004, we will focus on completing the evaluation and monitoring of first generation Zero Energy Buildings homes, built by leading homebuilders, to verify a 50 percent reduction in annual utility bills to $600 per year for an average sized home in a temperate climate.

Wind Energy

Wind energy systems have been the fastest growing source of electricity worldwide for over a decade, and are now providing cost-competitive power in high wind speed areas. As a result, the Department's focus for wind energy R&D has shifted to advanced technologies to allow economically viable development in the nation's more widespread lower wind speed areas. These areas are on average five times closer to major load centers, providing an opportunity to relieve transmission constraints as a major wind energy barrier, and over twenty times more abundant than currently-economic high wind areas. Under the Technology Viability key activity, the program is underway with a broad range of cost-shared public/private partnerships coupled with laboratory supporting research and testing to achieve low wind speed development goals for both large turbines used for utility scale wind farms, and for smaller (<100 kilowatt) turbines for use in distributed power applications. The Technology Application key activity targets remaining technical and institutional barriers to wind energy use, including grid systems integration, resource as-

sessment, outreach to states and stakeholders, and support for near-term industry needs such as certification testing.

In fiscal year 2004, we request $41,600,000 for the Wind Energy subprogram, $2.4 million less than our fiscal year 2003 budget request. The request is in alignment with our projected needs to achieve our goals.

In fiscal year 2004, the Wind Energy subprogram will select and commence several new industry partnership projects for concept studies, component development, and/or full system development under competitive solicitations issued in 2003 for both large wind turbines and small, distributed power scale turbines. It will also conduct research efforts in wind turbine aerodynamics, structures, materials, advanced components, and wind characteristics to support development of new and improved tools and technology for low wind speed system design and applications. Advanced systems integration studies will assess opportunities for coordinated operation of wind and hydropower generation, and production of hydrogen from wind and hydropower.

Hydropower

In the case of hydropower, the program focuses on improving the environmental performance of hydropower plants by developing turbines that reduce fish injury and improve downstream water quality. The Department has engaged the expertise of the national laboratories to study and better understand hydropower's biological and environmental effects. Study results have been critical to the development of design thresholds for industry to use in their efforts to improve existing turbine designs.

In fiscal year 2004, we request $7,489,000 for the hydropower subprogram, the same level of funding as our fiscal year 2003 request.

Under Technology Viability: Advanced Hydro Turbine Technology, we have increased funding in fiscal year 2004 by $500,000 to support testing of new prototype hydro turbines.

Under Technology Application: Low-Head/Low-Power R&D, we have decreased funding in fiscal year 2004 by $500,000, to reflect a shift in funding to higher-priority testing of new prototype hydro turbines under Technology Viability.

In fiscal year 2004, the hydropower subprogram will develop and test full-scale (greater than 1 MW) prototypes of retrofit and new environmentally friendly turbine designs under competitively selected public private partnerships awarded in prior years. The Department will also complete the low head/low power resource assessment of all 50 states, identifying the undeveloped hydropower resources that could be developed without building new impoundments.

Geothermal Technology

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 focuses on exploration and reservoir technologies, and drilling research because better understanding of geothermal resources and cost-effective means of accessing those resources will enable industry to locate and produce new geothermal fields at greatly reduced cost.

In fiscal year 2004, we request $25,500,000 for geothermal program activities, $1 million less than our fiscal year 2003 budget request.

In fiscal year 2004, the program will step up work on Enhanced Geothermal Systems (EGS) cost-shared projects at three competitively-selected sites. In fiscal year 2004, we will increase funding for EGS by $2.5 million over our fiscal year 2003 budget request due to the high priority of this program area and budget projections supporting the field development phases of the cost-shared projects. The program will also support at least five cost-shared, competitively-selected, exploration projects initiated with industry to validate new technology and find and confirm new geothermal resources within the United States.

Biomass and Biorefinery Systems R&D

In fiscal year 2004, we are requesting $69,750,000 for Biomass/Biorefinery Systems, a $16,255,000 decrease from our fiscal year 2003 budget request.

For the first time we have brought a diverse industry together and produced a vision and R&D roadmap that has increased the level of industry investment. This roadmap has allowed us to begin the process of rebuilding the program and focusing on the most promising long-term opportunities for these technologies. We have dramatically improved the collaboration among federal agencies, especially the Department of Agriculture (USDA). In addition, the Farm Bill provided direction and funding to USDA to work with DOE in advancing biomass technologies. In fact, the Farm Bill provides $14 million in fiscal year 2004 mandatory biomass funding for

the Department of Agriculture, which DOE's Biomass Program will jointly manage at the direction of the Biomass Research and Development Board established under the Biomass R&D Act of 2000.

The Department has focused its R&D efforts to high-priority, long-term technologies, both within the Biomass Program and the entire EERE portfolio. Earlier last year, the EERE bioenergy activities were integrated into one office to help focus resources on a limited and more coherent set of goals and objectives, increasing collaboration with industry, reducing overhead expenses, and exploiting synergies among similar activities in support of a future biorefinery industry. This focus on a clear set of goals, substantial leveraging of research funding with industry, and the transfer to industry of a number of demonstration activities that industry should continue to pursue without federal support has allowed a reduction in the need for funding to achieve our goals.

Our fiscal year 2004 activities will include additional long-term, high-risk R&D in thermochemical conversion in support of biorefinery development. Efforts will continue on the testing of clean up and conditioning technologies and catalysts needed for biomass gasifiers. An industrial partner will validate the performance of an organism capable of fermenting multiple biomass sugars for ethanol production.

Intergovernmental Activities

Intergovernmental Activities support the program mission by providing consumers with improved choices for efficient and renewable energy products. Intergovernmental Activities are managed as part of the Weatherization and Intergovernmental Program, which is comprised of grant-related and technical assistance activities brought together through the reorganization of Energy Efficiency and Renewable Energy (EERE) in fiscal year 2002. Combining these activities will improve the Department of Energy's effectiveness in deployment of efficient and renewable energy technologies by streamlining administration of program funding and consolidating management of competitive awards. The former Renewable Implementation and Support activities have been given stronger focus by inclusion in the Weatherization and Intergovernmental Program.

The Intergovernmental Activities subprogram receives appropriations from both the Energy and Water Development and the Interior and Related Agencies subcommittees. Interior activities focus on energy efficiency measures, while Energy and Water Development activities focus on maintaining working relationships with international and Native American tribal governments that inform and assist consumers with renewable and efficient energy options.

In fiscal year 2004, we request $12,500,000 for Intergovernmental Activities, $2.307 million less than our fiscal year 2003 budget request.

—The International Renewable Energy Program promotes clean U.S. exports, expanding the market of U.S. industries and reducing the cost of energy to our trading customers while improving their environment, reducing air and water pollution and greenhouse gas emissions, and creating new jobs. In fiscal year 2004, we request $6.5 million for international activities (the same level of funding as our fiscal year 2003 request).

—The Tribal Resources Program provides assistance to Native American Tribes and Tribal entities in assessing energy resources, comprehensive energy plan development, energy technology training, and project development. In fiscal year 2004, we request $6.0 million to assist Tribes in ways to use renewable energy technologies on Tribal lands. Funds will be awarded competitively.

The U.S. Country Studies Program has completed its mission of showing how the United States could cost-effectively reduce global greenhouse gas emissions through energy efficiency and renewable energy exports and cooperative agreements with other countries. The funding has been shifted to support Administration initiatives such as the Energy Efficiency for Sustainable Development and the Global Village Energy Partnership Initiatives announced at the World Summit for Sustainable Development. DOE expects to leverage these investments with loans and private investments. The goal is to attain significant energy savings and environmental and quality-of-life improvements for the host countries and their governments and citizens.

Electricity Reliability

Electricity Reliability provides funds for our Distributed Energy and Electricity Reliability Program. This Program leads a national effort to develop a flexible, smart, and secure energy system through advanced technologies that improve capacity utilization of the transmission and distribution system and through tools that provide real-time information to system operators. This Program offers solutions

that bridge both the supply- and demand-side of the energy equation and the need to upgrade our electric energy infrastructure.

The National Energy Policy and the follow-up National Transmission Grid Study (NTGS) published in May 2002 identified critical needs to modernize the nation's electric delivery system. This budget initiates key responses to the 51 recommendations of the Grid Study including bottleneck assessment, interaction with FERC on standard market design and critical research and development needs. The fiscal year 2004 program consists of four main areas: High Temperature Superconductivity (HTS), Transmission Reliability Research, Distribution and Interconnection, Energy Storage Research, and Renewable Energy Production Incentive.

In fiscal year 2004, we request $76,866,000 for Electricity Reliability, $360,000 more than our fiscal year 2003 budget request.

For the HTS program, we request $47.838 million in fiscal year 2004 to develop applications of superconducting materials for the electricity delivery system. High temperature superconducting materials can be used to make wire conductors that are capable of carrying more current than existing conductors while having virtually no electric line losses of energy. The lack of electrical resistance of HTS materials makes it possible to have super-efficient generators, transformers, and transmission and distribution cables that reduce energy losses by half while using equipment that is about one-half the size of present electrical systems.

Transmission system operations have been made more complex by the growing volume of wholesale power transactions. As a result, data collection and visualization tools for utility planners and system operators are required that boost diagnosis and response times and increase the efficiency of market operations. The Transmission Reliability activity has developed and installed prototype voltage and frequency monitoring and visualization tools that allow transmission operators to immediately recognize and correct system problems. Other reliability tools are being installed, such as prototype satellite-synchronized devices that afford operators a real-time view of system conditions, provide information for reliable operation of the grid, and enable more efficient operation of competitive electricity markets. In fiscal year 2004, we request $10.720 million to expand R&D on grid monitoring, data collection, and visualization tools.

The Transmission Reliability R&D subprogram request is proposing a new initiative in fiscal year 2004—the National Transmission Infrastructure (NTI) Initiative, with requested funding of $3.0 million. This initiative responds to the NTGS. The NTI Initiative addresses the technical and market-related recommendations in the NTGS that call specifically for DOE actions. Actions include "national-interest" transmission lines assessment, and advanced technologies for relief of transmission congestion, including sensors, monitoring and control for real time operation, advanced conductors, analysis of new system configurations and dynamics, and demand response. In addition, increased emphasis will be placed on field validation and testing and on providing more technical assistance to states and regions on topics such as regional resource and transmission planning.

Interconnection, communications, and control systems are needed to allow for a more "plug & play" design that can revolutionize energy markets and create new products and services for industrial, commercial, and governmental consumers who are interested in hassle-free distributed energy solutions. The Distribution and Interconnection (formerly DER Electric Systems Integration) activity is developing standards, conducting tests, and performing analysis for the interconnection and integration of distributed energy technologies for customers and electric distribution systems. It includes activities to develop the microgrid concept, to analyze the impact of high levels of penetration of distributed energy devices on the distribution system, and to address technical, institutional, and regulatory barriers to the expanded use of distributed energy resources. In fiscal year 2004, we request $7.249 million for this Subprogram.

The Energy Storage Research activity addresses important challenges in the efficient operations of electric generation, transmission, and distribution systems. As a peak shaving tool during times of transmission overload, or during price peaks, energy storage allows more efficient allocation of energy resources without necessarily producing additional emissions. Energy storage systems can be used to provide back-up power and power quality support to consumers, potentially saving billions of dollars in downtime costs, damaged equipment, and disrupted operations. In fiscal year 2004, we request $5.0 million for Energy Storage Research activities to support higher priority Transmission Reliability research and development, and take advantage of potential synergies with expected developments under the Vehicle Battery Program, which significantly increased its funding request for fiscal year 2004.

The Renewable Energy Production Incentive Program stimulates electricity production from renewable sources owned by States or smaller private sector groups.

In fiscal year 2004, we request $4.0 million, the same funding level as our fiscal year 2003 budget request.

Departmental Energy Management Program (DEMP)

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 2004, we request $2.3 million for DEMP activities, $700,000 less than our fiscal year 2003 budget request. DEMP will audit facilities to identify energy conservation opportunities; provide funding for best practices identification and dissemination; and accomplish energy conservation retrofits through direct funding and alternative financing.

National Climate Change Technology Initiative (NCCTI)

In response to the President's commitment of the United States to develop a sensible, science-based approach to the issue of climate change, facilitate progress toward achieving climate change goals, near-term and long-term, and implement the President's National Climate Change Technology Initiative, the Department has requested in fiscal year 2004 a total of $40 million for the NCCTI Competitive Solicitation program. Funding is requested in four R&D program accounts, as follows: Energy and Water Development: EERE (Energy Supply—$15 million) and NE (Energy Supply—$2.3 million); and Interior and Related Agencies: EERE (Energy Conservation—$9.5 million) and FE (Fossil Energy R&D—$13.2 million).

These funds will be used to support a NCCTI competitive solicitation aimed at exploring concepts, technologies and technical approaches that could, if successful, contribute in significant ways to: (a) future reductions in or avoidances of greenhouse gas emissions; (b) greenhouse gas capture and sequestration (permanent storage); (c) capture and conversion of greenhouse gases to beneficial use; or (d) enhanced monitoring and measurement of greenhouse gas emissions, inventories and fluxes in a variety of settings.

The NCCTI competitive solicitation is intended to spur innovation and accelerate technical progress on climate change technology development. The competitively selected research will complement DOE's existing portfolio of climate change-related R&D activities, and will be consistent with their missions, goals and objectives. The Climate Change Technology Program will manage the NCCTI competitive solicitation.

Facilities and Infrastructure

The Facilities and Infrastructure budget addresses capital investments at two DOE laboratory sites: the National Renewable Energy Laboratory (NREL), and Oak Ridge National Laboratory (ORNL).

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 facilities technology commercialization. In fiscal year 2004, we request $4.2 million for operating expenses.

For ORNL in fiscal year 2004, we request $750,000 to complete the design of a new multistory building of approximately 52,000 square feet to provide facilities for EERE R&D activities. This building will be a state-of-the-art facility designed to operate as a demonstration of energy efficiency technology. Energy Star certification will be sought for applicable portions of the building.

Fiscal year 2004 funding is requested to award the Architectural-Engineering contract for the project design and to provide project management. This budget provides half of the requested amount for Project Engineering and Design. Because industry will directly benefit from this facility, we are requiring 50 percent industry cost share for all phases of the project, including building design, as recommended in the National Transmission Grid Study. The project also is consistent with the ORNL Strategic Facilities Plan and complementary to the Facilities Revitalization Project of the DOE-ORNL Office of Science initiative to modernize their national laboratories.

Program Direction

Program Direction provides the federal staffing resources as well as associated properties, equipment, supplies and materials required for supporting the responsive management and oversight of programs. Program Direction also funds support service contractors, equipment, travel, and crosscutting activities.

In fiscal year 2004, we request $16.577 million, $390,000 more than our fiscal year 2003 budget request.

CONCLUSION

Mr. Chairman, Members of the Subcommittee, we welcome the challenge and the opportunity to play a vital role in this Nation's energy future and to support our national security.

This completes my prepared statement. I would be happy to answer any questions you may have.

Senator DOMENICI. Mr. Magwood, you are last, but not least. Congratulations on the nuclear work. And we finally got some good funding in some big areas this year. It took about 3 years, but we are there now. Proceed to give us a summary, and your statement will be made a part of the record.

OFFICE OF NUCLEAR ENERGY, SCIENCE AND TECHNOLOGY

STATEMENT OF WILLIAM D. MAGWOOD, IV, DIRECTOR

Mr. MAGWOOD. Thank you, Mr. Chairman. This is an exciting year to be here before you speaking about the nuclear energy program. As you have observed, we have gone through a difficult time over the years. After many years of planning and many years of talking to our stakeholders in the research community, it is a pleasure to be here with a budget that really lays the groundwork for the future.

The programs proposed in our budget reflect the administration's commitment to nuclear energy and one that is interested in doing what is necessary to get new nuclear technologies deployed in the United States and around the world. The salient change in our fiscal year 2004 budget request from previous years is the fact that we are now in the process, as Senator Craig mentioned, of integrating the Idaho National Engineering and Environmental Laboratory as part of our nuclear family. We are in the process of planning for the future of this laboratory and working with other labs across the country. I expect INEEL to become the center for our overall efforts to develop advanced nuclear reactor and fuel treatment technologies.

ADVANCED FUEL CYCLE INITIATIVE

One of the activities at INEEL, in association with many other labs that we expect to see grow over the years, is our budget proposal for the Advanced Fuel Cycle Initiative (AFCI) that you mentioned earlier. With the $63 million proposed in fiscal year 2004, this is one of the Secretary's capstone initiatives. Through this major research program, we will develop proliferation-resistant nuclear fuel treatment and transmutation technologies that can reduce the volume and toxicity of spent fuel. We think this is a very important objective.

There are many unique aspects of this program. It involves many of our national laboratories in a comprehensive and integrated fashion. It brings universities, particularly the University of Nevada-Las Vegas and Idaho State University, as key R&D partners. Most importantly, it leverages the experience and expertise of our international partners. Already, simply through signing cooperative agreements, we have gained $100 million worth of research data.

Senator DOMENICI. What is this on and from whom?

Mr. MAGWOOD. Working with our international partners through agreements we signed with France and Korea and most recently the European Union, we have gained access on——

Senator DOMENICI. On what subject?

Mr. MAGWOOD. Advanced fuel cycles.

Senator DOMENICI. Good.

Mr. MAGWOOD. Over $100 million worth of data has been available. This is very important.

GENERATION IV NUCLEAR ENERGY SYSTEMS

For AFCI to be successful, however, it is important that we move forward with Generation IV nuclear power systems. Two years ago, when we launched the Generation IV program to develop advanced reactor technologies, we were able to reach out to the international community. We now have a total of 10 countries in the Generation IV international forum, including the United Kingdom, Argentina, Brazil, Canada, France, Japan, Republic of Korea, Republic of South Africa, Switzerland and, of course, the United States working together on advanced technologies.

The work of the forum has been very intensive and very cooperative. We are very pleased with what we have been able to accomplish. The level of international cooperation has been extraordinary. As an example, a French scientist was assigned to the INEEL for a year to help formulate the Generation IV technology road map. More recently, just this week, in fact, the U.K. Department of Trade and Industry has assigned one of its senior officials, Ms. Helen Wiser, to work at the Department of Energy for the next 2 years. I am pleased to say that she is here with me today to see her first Senate hearing in the United States.

Last year, at a meeting in Japan, the Generation IV National Forum presented Secretary Abraham and other senior officials with the completed technology road map that identifies six important technologies for the future. One of these technologies, the Very High Temperature Reactor, is a technology that we are very interested in exploring. We believe that this technology could be the future source of cost-effective, commercial-scale production of hydrogen, the power of a growing economy, without emitting greenhouse gases and other pollutants.

NUCLEAR HYDROGEN INITIATIVE

That brings me to our other major new initiative, the Nuclear Hydrogen Initiative, which is part of the National Hydrogen Fuel Initiative announced by President Bush. Through this program, we expect to develop and demonstrate by 2007 new technology that can produce hydrogen that could in the future be coupled with Generation IV nuclear power systems. This is very challenging work, but it is work that we believe can and must be done.

NUCLEAR POWER 2010

Finally, it was around this time last year that Secretary Abraham announced the Nuclear Power 2010 Program. This effort is aimed at paving the way for the construction of new nuclear power plants by the end of the decade. We have started cooperative cost-

share projects with three utility companies, Entergy, Exelon, and Dominion Resources, to demonstrate the early site-permitting process. We expect that this joint government-industry effort will result in three applications to the NRC this summer to obtain permits for sites operated by our R&D industry partners.

In 2004, we will work with industry to respond to NRC questions as these applications achieve successful conclusion by 2005. While our tactical and regulatory demonstration work is proceeding well, it is clear that the business and financial issues facing prospective builders of nuclear power plants are the biggest hurdles that need to be overcome. This was highlighted by an independent study commission by the Department from Scully Capital last year. This financial advisory firm found that addressing key financial and business risks associated with building new plants is essential if we are going to see new plants in this country. We are continuing to discuss these risks with industry and hope to make future suggestions as to how those risks can be mitigated.

PREPARED STATEMENT

With that, I will keep my oral remarks brief and look forward to your questions.

Senator DOMENICI. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF WILLIAM D. MAGWOOD, IV

Mr. Chairman, Senator Reid, and Members of the Subcommittee, it is a pleasure to be here to discuss the fiscal year 2004 budget submission for DOE's Office of Nuclear Energy, Science and Technology.

Over the last 30 years, nuclear power has risen to become the second most important source of electric energy in the United States and at the same time, the most operationally economic. The benefits of nuclear power as a clean, reliable and affordable source of energy are a key to the economic and environmental underpinnings of this Nation. A central mission of the Department's nuclear energy research program is to help enhance the basic technology and, through some of the most advanced civilian technology research conducted today, chart a course to the next leap in technology. In fiscal year 2004, we are proposing a $388 million investment in nuclear research and development and for the Nation's nuclear science, technology and education infrastructure, a 6 percent increase over the current year appropriation.

This budget request responds to the President's priorities to deploy new generation capacity to fortify U.S. energy independence and security while making significant improvements in environmental quality. It builds on the important work started over the last 2 years to deploy new nuclear plants in the United States by the end of the decade, to develop advanced, next generation nuclear technology, to strengthen our Nation's nuclear education infrastructure, and it proposes exciting new priorities.

In fiscal year 2004, we propose to launch the Nuclear Hydrogen Initiative to use high temperature nuclear energy systems for clean hydrogen production as part of the President's Hydrogen Fuel Initiative. We are also proposing the Advanced Fuel Cycle Initiative with research aimed at developing proliferation-resistant fuel treatment and fuel cycle technologies that can reduce the volume and toxicity of commercial spent nuclear fuel and maximize energy from nuclear fuel.

During fiscal year 2002, we pursued significant management reforms in order to implement the President's Management Agenda (PMA), including a major reorganization to better reflect the Administration's priorities, improve overall management and reduce the number of primary organizational units from eight to three. To assure overall accountability, PMA performance measures were cascaded from the Director through our Associate Directors to the staff. We also placed great emphasis on developing meaningful R&D investment criteria and applying the criteria to our nuclear research initiatives. The nuclear program successfully recruited and hired new junior professional staff and we are working to put to new senior manage-

ment team in place at the Idaho Operations Office, who will oversee the Department's activities at the INEEL and lead the continuing transition of this laboratory back to its nuclear research roots.

The NE budget request also supports the infrastructure for production of medical research isotopes, space and national security power systems, and the site and security infrastructure for Argonne National Laboratory-West in Idaho. I will now provide you more detail on our nuclear R&D initiatives and the linkages between them.

ADVANCED FUEL CYCLE INITIATIVE

Of the issues affecting future expansion of nuclear energy in the United States and worldwide, none is more important or more difficult than that of dealing effectively with spent nuclear fuel. After a long and difficult process, the country is moving forward with a geologic repository, and we are on schedule to submit a license application to the Nuclear Regulatory Commission by the end of 2004.

With these successes, we are able to pursue research that can optimize the use of the first repository and possibly reduce the need for future repositories. As one of the Secretary's capstones, the fiscal year 2004 Budget proposes an aggressive research and demonstration program—the Advanced Fuel Cycle Initiative—with an investment of $63 million in fiscal year 2004 to explore advanced, proliferation-resistant nuclear fuel treatment and transmutation technologies that can reduce volume and toxicity of spent nuclear fuel for a geologic repository. If successful, these same technologies offer benefits of enhancing national security by reducing inventories of commercially-generated plutonium and enhancing energy independence by recovering the energy value contained in spent nuclear fuel.

The Department is proposing a research program leading to demonstrate proliferation-resistant fuel treatment technologies to reduce the volume and radioactivity of high level waste, and the development of advanced fuels that would enable consumption of plutonium using existing light water reactors or advanced reactors. With the President's request, the Department will continue work toward demonstration of proliferation-resistant fuel treatment technology and continue design of transmutation fuels for future use with current reactor technologies.

For the Advanced Fuel Cycle Initiative to be successful, advanced fuel treatment and transmutation research and development must be integrated with the development of Generation IV nuclear energy systems, particularly with those reactor technologies that can produce very high energy neutrons that would be needed to transmute a wide variety of toxic radioactive species. To support this goal, the Advanced Fuel Cycle Initiative will develop the advanced proliferation resistant fuels and fuel cycle systems for Generation IV reactors.

GENERATION IV NUCLEAR ENERGY SYSTEMS

Two years ago, we launched the Generation IV program to develop advanced reactor technologies for commercial deployment after 2010 but before 2030. These advanced reactors offer significant advances in sustainability, proliferation-resistance, physical protection, safety and economics. Development of these reactors is being pursued by the Generation IV International Forum, a group of ten leading nuclear nations (United Kingdom, Argentina, Brazil, Canada, France, Japan, Republic of Korea, Republic of South Africa, Switzerland, and the United States), which last year selected six promising technologies for joint research, development, and demonstration. While the Department has not yet decided upon which of these technologies it will eventually focus, all of the technologies are of considerable interest. The six innovative, next-generation technologies include two gas-cooled reactors, one water-cooled reactor, two liquid-metal-cooled reactors, and a molten salt-based reactor concept.

Key research objectives for these technologies will include such activities as demonstrating advanced fuels and materials. The goal of the initiative is to resolve the fundamental research and development issues necessary to establish the viability of these concepts. By successfully addressing the fundamental research and development issues, the concepts are highly likely to attract future private sector sponsorship and ultimate commercialization. In fiscal year 2003 and fiscal year 2004, the Department will establish international partnering agreements to guide joint research and begin research and development on several of the reactor concepts, including very high temperature reactors that would support cost-effective production of hydrogen.

NUCLEAR HYDROGEN INITIATIVE

Generation IV is closely linked to our new Nuclear Hydrogen Initiative, aimed at demonstrating economic commercial-scale hydrogen production using nuclear en-

ergy. Today, through electrolysis, we can convert water to hydrogen using electricity but we believe that for the future, very high temperature reactors coupled with thermo-chemical water splitting processes offer a more efficient technology for production of large quantities of hydrogen, without release of greenhouse gases.

The hydrogen initiative grew out of the success of our Nuclear Energy Research Initiative, in particular, two investigator-initiated projects that identified a number of advanced reactor concepts capable of producing large quantities of hydrogen with high efficiency and low cost. Since then, we have awarded three additional NERI projects to study nuclear production of hydrogen. Beginning this year and under the international component of NERI (I-NERI), we are working in cooperation with Commissariat d'Energie Atomique (CEA) on a three-year effort to develop laboratory scale demonstration of the thermo-chemical water splitting process.

The funds provided in fiscal year 2003 will allow us to accelerate the Nuclear Hydrogen Technology Roadmap so that by fiscal year 2004, we would begin implementing the research and development that is defined by the roadmap. We would also continue exploring laboratory scale demonstration of some of the key processes involved in nuclear hydrogen production, such as other thermo-chemical water splitting processes or high temperature electrolysis as well as development of high temperature heat exchangers.

NUCLEAR POWER 2010

The President's budget supports continuation of Nuclear Power 2010 in fiscal year 2004 to demonstrate, in cost-shared cooperation with industry, key regulatory processes associated with licensing and building new nuclear plants in the United States by the end of the decade. As concluded in a business case study conducted in 2002 by financial advisory firm Scully Capital, addressing key financial and business risks associated with building and licensing the first few nuclear plants is essential to proceeding with new nuclear plants in the United States.

In fiscal year 2004, the requested funds will continue to support the activities associated with submitting and achieving Nuclear Regulatory Commission (NRC) approval of early site permits and development of Combined Construction and Operating License applications.

Last year, the Department initiated cooperative cost shared projects with three generating companies—Entergy in Mississippi, Dominion in Virginia, and Exelon in Illinois, to demonstrate the new regulatory process for siting new nuclear power plants. These companies are pursuing applications for Early Site Permits for new plants at sites where they currently operate nuclear power plants—at Entergy's Grand Gulf site, Dominion's North Anna site, and at Exelon's Clinton site. The Early Site Permits will be submitted to the NRC by the end of this fiscal year and in fiscal year 2004, we will continue our support of these regulatory demonstration projects to achieve successful NRC staff review and approval of the siting application in 2005.

Key to the deployment of new nuclear power plants, besides a viable site, is selection of a nuclear power plant design and utility application for a combined Construction and Operating License from the NRC. In fiscal year 2003, the Department will solicit and award industry cost-shared projects to implement activities to achieve deployment of new nuclear power plants. This effort includes the necessary analysis and planning for technology selection and project cost determination, additional siting activities as appropriate, advanced reactor development and certification, and demonstration of the combined construction and operating licensing process.

UNIVERSITY REACTOR FUEL ASSISTANCE AND SUPPORT

The Department sponsors the University Reactor Fuel Assistance and Support initiative, which supports the enhancement of the U.S. nuclear science and technology educational infrastructure. The need for trained and qualified nuclear scientists has not diminished over the years, and in fact, because of increasing retirements in the nuclear field, demand today exceeds supply.

We are very pleased that the President's budget includes $18.5 million for this program for fellowships, scholarships, nuclear engineering research, and for critical support to university research reactors. In fiscal year 2002, the Department launched the Innovations in Nuclear Infrastructure and Education program, encouraging universities to form ground-breaking partnerships with national labs, the private sector, and other universities to strengthen nuclear engineering education and optimize the use of research reactors. In fiscal year 2002, DOE issued awards to four consortia of universities and their partners. In fiscal year 2003, DOE will be able to support an additional award and will continue support for this program in fiscal year 2004.

RADIOLOGICAL FACILITIES MANAGEMENT

This budget request also includes $63 million in funds to maintain critical research, isotope and space and national security power systems facilities at Oak Ridge National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory, and Brookhaven National Laboratory in a safe, secure, and cost effective manner to support national priorities.

The fiscal year 2004 budget request also includes $13 million in funds transferred from the National Nuclear Security Administration to continue the Uranium–233 project at Oak Ridge National Laboratory. This project is aimed at stabilizing materials left over from the Cold War to address a Defense Nuclear Facilities Safety Board recommendation, while extracting isotopes from the uranium that are needed for very promising medical research.

INEEL—DOE'S COMMAND CENTER FOR NUCLEAR R&D

Finally, this budget supports the Secretary's realignment of the mission of the Idaho National Engineering and Environmental Laboratory to focus the future of the site on nuclear research and development. As the Department's leading center of nuclear research and development, this laboratory is the "command center" for our efforts to develop advanced reactor and fuel cycle technologies, including development of space nuclear power and propulsion technologies.

While the nuclear energy program involves the collective talents of universities, the private sector, international partners, and our national laboratories—Argonne, Los Alamos, Sandia, and Oak Ridge among them—the rebuilding of the Departments' nuclear program underway today would not be possible without the dedicated scientists, engineers and supporting staff of the Idaho National Engineering and Environmental Laboratory.

Clearly, environmental cleanup will remain a major focus of the Department for the near-term but real progress is being made that will clear the way for expansion of nuclear research and development. With this year's budget, $110 million has been transferred from the environmental cleanup program to the Department's nuclear program to manage laboratory infrastructure and security.

This year's budget request combines the infrastructure for the INEEL previously funded by the Office of Environmental Management, for the Test Reactor Area landlord, and for the infrastructure of Argonne National Laboratory West under the Idaho Facilities Management program. Similarly, the Safeguards and Security program, combines the security funds INEEL and Argonne-West, into a single program. With significantly challenges to security since September 11th, we are very pleased that our current-year appropriation is substantially higher than last year and that the fiscal year 2004 request, at $54 million, is about 13 percent higher than this year.

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 DOMENICI. I have a series of written questions which we will submit. We would appreciate your answering them as soon as you can.

And we would like to just talk with you for a little while here. Dr. Orbach, about 5 years ago, a number of science initiatives directed at the lagging activities of the United States in nuclear energy and nuclear activities were started by this subcommittee. One of the least noticed but most important is the study, which you were in charge of, to evaluate the low-level radiation and its actual effects rather than the formula-extracted radiation expectations that have been in existence for a long time using linear projections.

Can you talk about that study for a minute? How is it going? And are you certain that it is moving ahead such that when we are finished, those who have never wanted this done and always thought we should stay stuck on that linear formula will be satisfied that it is done neutrally by peer excellent scientists?

LOW-LEVEL RADIATION

Dr. ORBACH. Yes, we currently have 53 research projects at laboratories and universities on low-level radiation. We have learned already that your last comment is correct, namely that the extrapolation from the high-end radiation to low doses simply is not accurate, does not work, and misses the essential biology. We found already in our probes and our research programs that there are intercellular activities that take place. One cell influences another. So the conventional idea that radiation would act only on the DNA of a particular cell simply does not hold up at these low levels. We have been able to look at adaptive responses, how cells adapt to radiation, bystander effects, how cells adjacent to cells that suffer radiation damage are affected. Individual genetic responses to radiation at this level are very different, and there may well be a genetic difference among individuals. We are mathematically modeling radiation risk, as well.

We have received about 50 proposals for new research that will be peer reviewed later this spring. New emphasis for this research is to look at whole systems, rather than single cells. This peer review process will be done fairly and independently. As a consequence, those projects selected will be on the basis of scientific merit alone.

Senator DOMENICI. But, Doctor, while I appreciate your knowledge on it and the fact that it is very widespread and exciting, on the other hand, the importance of this is to determine at a point in time, sometime, whether or not that formula is the right one to be using for low-level radiation doses.

As you know, that formula has supplied the information for nigh on decades now as to what the negative effect might be of a certain dosage of low level radiation. The consequence of that might not seem like much, as we discuss here, but it is generally perceived as dramatic in America.

It determines how much cement you have to put on a site that has once been exposed to low level radiation, so there is no fear on the other side of it. It establishes cleanup standards for all of the waste sites, because there has been such enormous fear that if that formula has been used and what we have done by way of spending money and the like to assure safety is rather extravagant even to an undisciplined eye and ear and mind, and now we have to kind of prove it over the years or we have the constant excessive costs that are attributable to the residue of nuclear activity.

So where are we in that regard? Five more years? Ten more years? Will we come to some finality, as I have described it here?

Dr. ORBACH. I believe we will achieve a finality. I would like to provide for the record our best estimate of when we might be able to achieve that. What we have already discovered is what you have just stated, namely that the extrapolation is not an accurate way of describing the effects of low-level doses of radiation. To make that quantitative into standards of the sort you described, I would——

Senator DOMENICI. It would be awhile.

Dr. ORBACH [continuing]. Need to look at it, and I will respond back to you with that.

[The information follows:]

LOW DOSE RADIATION RESEARCH PROGRAM

The Low Dose Radiation Research Program has the challenge of conducting research that will inform the development of future national radiation risk policy for the public and the workplace. The Program has challenged scientists to quantify and understand the mechanisms of molecular and cellular responses to low dose exposures to radiation, currently 0.1 Gee (10 rads) or less, doses well below those previously studied using older, less sensitive research tools. Indeed, for the first time, some of our scientists have actually been conducting research at radiation doses that overlap or approach the maximum allowable radiation doses above background for the public (100 mrem/year above background) or for nuclear workers (500 mrem/year above background).

Mathematical models are, and will continue to be, used to predict health risks from low doses of radiation by "integrating" information obtained from human epidemiologic studies and from laboratory research. Beginning in 1999, we asked an initially skeptical research community to study biological effects at very low doses. They have risen to the challenge with increasingly important and relevant ideas submitted and progress made each year. Most scientists in the field believe that we still do not know enough about the biological consequences of low dose radiation exposure to be able to completely model human health risk. However, this year the Low Dose Program is challenging scientists in the risk modeling community to begin a systematic evaluation of how the new data from research in this program can (or cannot) be used in new mathematical models that estimate the health risks of low dose radiation exposure. The program issued a call for new research, DOE Notice 03–20, on February 19, 2003, that builds on our previous research and is designed to jump start this process of biologically-based risk modeling. This exciting new research opportunity will also provide valuable feedback on additional laboratory research that is needed to make biologically-based risk modeling a reality.

Our best estimate of the time required to reach sufficient understanding of the biological consequences of low dose radiation exposures to resolve the uncertainty and controversy surrounding the use of the linear no-threshold model is based on current budget levels, progress we have made to date, and the anticipated progress of current and future research. The new modeling research that will be funded later this year will require approximately 1½ to 2 years to complete. The results of this research will lead to new laboratory-based research aimed to fill remaining critical gaps in the information needed to develop the new biologically-based risk models for radiation exposure, a process that typically takes 3 years. Finally, results of this research will again be used to develop improved biologically-based risk models. Under current levels of funding, we estimate a total of 6 to 7 years is required to accomplish the research described above.

Given budget uncertainties as well as the uncertainties of research, progress could be somewhat faster or slower. As scientists, we never know if the next experiment will yield an unexpected breakthrough. If one or more critical breakthroughs occur over the next few years, progress could certainly be faster. At the same time, we cannot know for certain prior to the completion of ongoing and planned research if additional research will be necessary. If another round of laboratory research and modeling is required at the end of the process described above, it could, instead, be closer to 10 years before we have a definitive answer. We are certainly encouraged by progress that has been made to date and anxiously await the research results that will be forthcoming in the future.

Senator DOMENICI. I would like to know that. And, sir, I would also like to know that for those who have complained about it not being the right way to do it—and I would like to hope that every step of the way you have gone to the scientific community and attempted to get the right answer. See, this is the real Achilles heel for the anti-nuclear people. The anti-nuclear people do not want this study to succeed, because so long as that formula is used, it is enormously expensive to do anything that has low-level radiation.

And if it is wrong, which most scientists say it is, we ought to conclude that it is. So some would like you not to succeed. And I

urge you, as the head person, to be aware of that and make sure that it is succeeding.

Dr. ORBACH. I commit myself to that. This is a study based solely on the science, on the quality of the science. And the judgments will be on that basis alone.

Senator DOMENICI. Now you have another part of the science—Senator, would you like to participate? Do you want to make an opening statement or ask questions?

Senator DORGAN. No. I am just listening to you. As soon as you are finished, I will ask some questions. But why do you not proceed?

Senator DOMENICI. Thank you.

NANOSCIENCES

You have another very exciting activity within your domain of the nanoscience centers. Now there is no question that scientists that know, obviously including the great Dr. Davis who you have alluded to from Rice University, I believe, that got the Nobel because of research on nanoscience—and that was in the very early stages, very early determinations. But they have all concluded that this is something very fundamental in terms of its capacity to offer new and exciting things to be done and ways to do things going beyond the atomic structure that we currently assume is part of everything. We go inside of it, which is the nano part.

Now we have five centers. One is in my State, a combination of Sandia, Los Alamos, an Air Force laboratory? Then you have four more?

Dr. ORBACH. Yes.

Senator DOMENICI. Now are you in charge of those centers, or how are they being managed?

Dr. ORBACH. Yes, my office is in charge of those centers. They are administered through the Basic Energy Sciences Program within the Office of Science. All five of those centers were accomplished through, again, a peer review process. Each of them have held open workshops of the order of 400 scientists coming to each of the workshops. We have just had a very large meeting last week in Washington to talk about the initiatives.

Each of the five, although, obviously, there has to be overlap, because some of the fundamentals are similar, choose their own areas of expertise where they can make the greatest contribution. The two laboratories in your State, for example, will be looking at the nano electronics area. This is because of the extraordinary expertise that both Los Alamos and Sandia have in that area. They will be looking not only at electronics, but also photonics, at the nano scale.

So what we do is to build on the local strength of the laboratories to focus on specific areas of interest. The Luhan Center at Los Alamos is now the largest spallation source for neutrons in the United States, and that is closely coupled to the nanotechnology initiative. So we can do, not only statistics, but also dynamics in situ while the materials are being grown.

We also are pursuing similar approaches using our light sources, or the spallation neutron source that is under construction at Oak Ridge.

So each of the centers has its own flavor and its own focus. This will give the United States leverage over any other country in the world because, where it is true that each country is investing in what I call table-top nanotechnology, the United States is using very large facilities in intimate relationship to the nanotechnology growth and determination, physical property determination, centers so that, as we grow them, we can study their properties.

This is something that no other country will have access to on their own soil and will give, we believe, American scientists and engineers and our companies a great advantage.

Senator DOMENICI. And those centers are funded, albeit in small amounts, in this budget.

Dr. ORBACH. Yes, the three centers are funded for construction, including the one in New Mexico. The other two centers are either in the engineering design stage at Brookhaven National Laboratory, or we have an arrangement with the State of Illinois where they will build a building at Argonne and we will provide the equipment.

So the latter two are in the initial stages. By 2008 all five laboratories are expected to be up and running.

Senator DOMENICI. They had a meeting here, did they not, pretty recently, the nanoscientists?

Dr. ORBACH. Yes, indeed.

Senator DOMENICI. I was there.

Dr. ORBACH. I think you were one of the principal spokesmen.

Senator DOMENICI. Let me ask, on the other part of little things, microengineering, is that a specialty within the Department, or are those things being done just by the laboratories on microengineering or micromachines?

MICROMACHINING

Dr. ORBACH. The micromachining is an integral part of this. It is a way of getting down to the nano scale.

Senator DOMENICI. Yes. I understand.

Dr. ORBACH. It is being funded by ourselves, as well, yes.

Senator DOMENICI. Have you seen a micromachine put on a chip?

Dr. ORBACH. I have seen the micromachines producing chips. I do not think I have seen one on a chip. That is wonderful.

Senator DOMENICI. Have you seen—you have not seen a micro engine working on a chip?

Dr. ORBACH. Oh, yes, indeed. You can produce little motors now at the micron level or submicron level, which is very exciting.

Senator DOMENICI. And you know how you have a chip now that has all the different things we talk about being on there? Micromachines are now so small and so controlled that you take a piece of material, much like the foundation of a chip, and you put on it scores and scores of little, tiny engines. And they are called microengines. And when they put the proper machinery on it to expand the size, you can actually watch these little, tiny, tiny machines work. They work just like a turbine, in and out. And they are trying to figure out in due course what you will use them for.

Dr. ORBACH. Oh, these have phenomenal applications. For example, in medicine——

Senator DOMENICI. Right.

Dr. ORBACH [continuing]. These machines can be placed inside the body at the cellular level.

Senator DOMENICI. Right.

Dr. ORBACH. Very exciting.

Senator DOMENICI. And you may properly instruct the machine so that, for instance, they will remove the plaque in your heart instead of having surgery. At least they are thinking about that kind of thing.

Let me complete just two more questions, and then move to nuclear. And then I will yield to the Senator.

Let us talk about nuclear for a minute, one more with you. Who is in charge more or less of moving ahead to see that the United States is not, on the one hand, moving with a hydrogen engine and on the other hand leaving us without a way to make hydrogen in large quantities? We do not find hydrogen around. We have to go make it.

And my understanding is, right now, there are only a couple ways to make it. One is natural gas. And we surely would not want to do that, I would not think. By creating huge new uses, there is going to be a shortage of natural gas soon. And the other would be some kind of nuclear reactors. Is that your area, or your area, or whose?

HYDROGEN

Mr. GARMAN. Actually, we are working on it together.

Senator DOMENICI. Who is together?

Mr. GARMAN. In the Department of Energy, the Office of Science, the Office of Energy Efficiency and Renewable Energy, the Office of Nuclear Energy, and the Office of Fossil Energy are all working together in a coordinated way. We have, in fact, been producing what we call our hydrogen posture plan, which is a way to describe to the Congress and the world precisely how we are working together to tackle some of the daunting technological challenges that we face, not only in production, but in storage.

There is no one entity in the Department that should do that. We do hydrogen, but we depend on the work in his lab, for instance, to find a breakthrough in a hydride material to solve a storage problem. So we are going to work very closely together on all of these issues.

Senator DOMENICI. Well, it should not surprise you, if we do an energy bill, and we are well on the way to having one written, we are surely going to have a major section on the research and development of the car engine and whatever the United States is going to need to produce the hydrogen in the future.

Senator DORGAN. Senator, would you mind if I could ask a question about that?

Senator DOMENICI. Go ahead.

Senator DORGAN. I have to be upstairs at 3:30.

Senator DOMENICI. Sure.

Senator DORGAN. If I would be able to ask a question following up on the one you just asked——

Senator DOMENICI. Go ahead.

Senator DORGAN [continuing]. And then perhaps one of Dr. Orbach, as well.

The issue of hydrogen production is one in which you can produce hydrogen from natural gas. You can also produce hydrogen from nuclear. But hydrogen is ubiquitous. It is everywhere. You can produce hydrogen through electrolysis by separating the hydrogen and oxygen in water. In fact, this past weekend I rode on a commercial bus that was on the city streets of a city out west that was a fuel cell bus being powered by hydrogen. The supply of hydrogen on a demonstration basis came from several different sources; one from solar energy, second from electrolysis, third from natural gas. And there are many other ways to produce hydrogen, as well.

But Mr. Garman is quite correct, that we need to evaluate both production, transportation, and storage, all of which are important in moving towards this area.

And I agree with you, Mr. Chairman, that stationary engines are important, as well as the issue of how to use fuel cells to power vehicles. And I am really anxious to work with you on this. I think we can make a real difference, both on the Energy Committee and also on the Appropriations Subcommittee dealing with these issues.

Senator DOMENICI. We will.

Senator DORGAN. The President has put his administration on course in support of this, which I think is very important. I have indicated I think it is timid in terms of funding, but I do not mean that as a heavy criticism, because it is no small feat to have this administration say, "Let us move in this direction." I just want to make that point, because I am very excited about this and want to work with Mr. Garman and you and others on it.

Can I just ask a question about the funding of other renewables? I asked you the question the other day, Mr. Garman, and indicated my concern about reduction in funding of biomass, level funding or slightly reduced funding in solar, wind, and some other areas. Has the decision to move toward fuel cells or a hydrogen-based economy meant that you have had to reduce what otherwise would have been provided for other renewables?

OTHER RENEWABLES

Mr. GARMAN. No, sir. I do not believe it has. We looked at each of these programs independently. After you apply the congressionally-mandated reductions to the 2003 levels, funding for solar is down $4.1 million. But we still have $80 million to work with. Funding for wind is down $700,000. So we still have a very robust request in this area. In hydropower, funding is actually up a couple million dollars. And in geothermal funding, it is down $3.4 million. But again, we still have a robust $25.5 million program to work with.

We do have a significant reduction in the biomass program of some $17 million in this account. That is substantial. We think that with the availability of the Department of Agriculture money, which was not available to us before, and the fact that we are revamping and restructuring this program to achieve greater results with the money we have, we have a very strong and vibrant biomass program. The biomass program is emerging to be the strongest it has been in years.

Senator DORGAN. Well, some of us want to watch those renewable programs carefully. I am pleased you are there. I have a lot of confidence in your ability.

Mr. Chairman, Mr. Garman came out to North Dakota and spoke to a wind energy conference. Seven hundred and fifty people showed up at a wind energy conference. They are very, very interested in the possibilities there.

So, Mr. Garman, I look forward to working with you on a range of these issues.

I would like to ask Dr. Orbach, you were at Riverside, as I recall——

Dr. ORBACH. Yes.

Senator DORGAN [continuing]. Prior to this appointment. And we have talked previously about micro and nanotechnologies. I note the five centers. And I note the granting process that you are involved in with grant funds. You are well aware of my concern about where the grants in this country go from the Federal Government. We have a process that is kind of a perpetual process of renewal. Those large institutions that get the grants will always get the grants, because they are the major part of the peer review of who is going to get grants in the future.

If you take California, Texas, Massachusetts, and New York and take a look at the amount of research money that goes from the largest researcher in the world, that is, the Federal Government, to those States, it predicts where future economic opportunities and future centers of excellence will be. And so I am very concerned about making sure that the great talents in the rest of the country are put to use on micro and nanotechnologies, as we proceed. And I know you are familiar with that, given the work that you were interested in at Riverside. I hope that you will keep that in mind in your current position as well.

In your testimony, you say the two major achievements for 2002, and you talk about them. Can you give me a notion of what you think you might be telling the committee next year about the two major achievements for 2003? What is out there that you think is really fascinating, right on the edge, that is going to be something that represents significant breakthroughs?

SCIENCE ACHIEVEMENTS

Dr. ORBACH. Well, if I could address the first part of your question, because I feel very strongly about it. Our responsibility in our office is to our Nation. If we are not careful, we are going to leave States behind in economic development. I have been working very hard through EPSCoR through the other programs we have in the Federal Government, to encourage economic development for every State.

Your State has some absolutely first-class people and investments. The investment that I visited personally at North Dakota State University was impressive. Your Caterpillar relationships up there already show that you can work and work well.

The program I was involved in was a sharing program between the North Dakota State University and the University of California Riverside. That program is underway. We are encouraging in the nanotechnology area scientists from all over the country to partici-

pate. And it is hard when the facilities are not available immediately and locally. So we are encouraging partnerships to enable that to happen. You will see me work very assiduously on the spreading of economic development opportunities across this Nation. Otherwise, we will leave States behind, and that is not acceptable.

If you ask a scientist what is going to happen in a couple of years, it is always with some trepidation that they will respond, because we have been wrong so often in our expectations.

I can say that there will be something exciting at this hearing next year. My guess is that it will be in the biological area, for example, Genomes to Life. The work there on hydrogen production, carbon sequestration, the new initiatives that we are looking at in the nanotechnology area in biology are going to be extraordinary.

Some of our large machine designs are also coming along. The light source at Stanford, which is a free electron laser, will increase the intensity in the X-ray, hard X-ray region by 10 orders of magnitude. We may enable biologists to be able to look at a single molecule and determine structure, rather than having to grow a single crystal, as they do now.

Senator DORGAN. Do you have one publication, Dr. Orbach, that describes some of the really interesting areas of research?

Dr. ORBACH. Yes, we do. I would be delighted to provide that to you. Thank you.

[The information follows:]

ACCOMPLISHMENTS AND AWARDS

BASIC RESEARCH WITH HISTORIC RESULTS

The Office of Science maintains our Nation's scientific infrastructure and ensures U.S. world leadership across a broad range of scientific disciplines. It supports research and development programs enabling the Department of Energy to accomplish its missions in energy security, national security, environmental restoration, and science.

Office of Science research investments have yielded a wealth of dividends, including significant technological innovations, medical and health advances, new intellectual capital, enhanced economic competitiveness, and improved quality of life for the American people.

Research supported by the Office of Science has made major contributions to development of the Internet; magnetic resonance imaging (MRI) and medical isotopes; composite materials used in military hardware and motor vehicles; and x-ray diagnostics of computer chips and other high-tech materials.

Office of Science research investments also have led to such innovations as the Nobel Prize-winning discovery of new forms of carbon, non-invasive detection of cancers and other diseases, improved computer models for understanding global climate change and new insights on the fundamental nature of matter and energy.

Research sponsored by the Office of Science has produced many key scientific breakthroughs and contributed to this Nation's well-being:

—Helping to Develop the Internet
—Computing for Science's Sake
—Pioneering the Human Genome Project
—Expanding the Frontiers of Discovery
—Improving the Science of Climate Change Research
—Enhancing National Security
—Improving Energy Security
—Medical Imaging
—Restoring Sight to the Blind
—Enabling World-Class R&D

HELPING TO DEVELOP THE INTERNET

The Office of Science helped develop the Internet. Really!

In 1974, the Office of Science first connected its geographically dispersed researchers through a single network, a revolutionary, cost-effective mechanism that provided supercomputing power to civilian researchers and established a network model adopted by other Federal Government agencies and States for their researchers.

Later, the Office of Science collaborated with DARPA, NSF and NASA to transform the many independent networks of the 1980's into a single integrated communications network that was the basis for today's commercial Internet.

More recently, the Office of Science created the multicast backbone (M-Bone), the Internet videoconferencing virtual network that launched a new era in scientific collaboration in the early 1990's by linking anyone with a workstation with audiovisual capabilities and a high-speed connection to the Internet.

COMPUTING FOR SCIENCE'S SAKE

The Office of Science long has been respected as the world leader in developing and using advanced computers as tools for scientific discovery and to achieve breakthroughs in targeted applications disciplines.

It pioneered the transition to massively parallel supercomputing (involving 1,000 or more processors), producing the software, scalable operating systems and other technologies needed and demonstrating its value in fields ranging from seismic imaging to materials modeling.

The Office of Science also installed the first supercomputer available to the civilian research community that broke the peak performance barrier of 1 teraflop—or a trillion operations per second—and developed the first civilian scientific application to achieve actual performance over 1 teraflop.

PIONEERING THE HUMAN GENOME PROJECT

The Office of Science initiated the Human Genome Project in 1986.

It also developed DNA sequencing and computational technologies that made possible the unraveling of the human genetic code and published a complete draft of the DNA sequence of the human genome in 2001.

This historic undertaking to discover the genetic blueprint of human beings will enable scientists to identify more genes responsible for diseases and develop new and diagnostic and treatment possibilities.

Now the Office of Science is harnessing the biotechnology revolution to develop clean energy and repair damage to our environment through the Genomes to Life Initiative.

EXPANDING THE FRONTIERS OF DISCOVERY

The Office of Science funded the research that led to one of the great intellectual achievements of the 20th century: the discovery of all but one (the electron) of the most fundamental constituents of matter, namely quarks and leptons, which confirmed the Standard Model—physicists' current theory of matter and the forces of nature—and led to 13 Nobel Prizes.

The Office of Science supported the 1996 Nobel Prize-winning discovery of a new form of carbon, known as "Bucky Ball," which is spurring a revolution in carbon chemistry and may lead to a profusion of new materials, polymers, catalysts, and drug delivery systems.

Now the Office of Science is underwriting research to solve the mystery of "dark energy," perhaps responsible for the remarkable recent finding that the expansion of the universe is accelerating, rather than slowing due to gravity as expected.

IMPROVING THE SCIENCE OF CLIMATE CHANGE RESEARCH

The Office of Science initiated the Climate Change Research Program in 1978 to evaluate the environmental and health consequences of long-term energy solutions. This was the first research program in the U.S. to investigate the effect of energy-related emissions of greenhouse gases, especially carbon dioxide, on climate and the environment.

The Office of Science also has developed software and computer systems to model and simulate environmental conditions and project climate change under varying emissions scenarios.

The Office of Science's climate change research program is the third largest in the United States—and the only one that is focused specifically on improving the scientific basis to understand, predict, and assess the effect of energy-related emissions on climate and the environment.

ENHANCING NATIONAL SECURITY

The Office of Science has funded research leading to technologies that make our lives safer in many ways. These include:

—neutron detectors that can identify concealed nuclear weapons and land mines and are used for arms control and nonproliferation verification;

—new holographic computerized imaging technology that identifies hidden weapons, even non-metallic ones, through the clothing of airline passengers;

—smoke detectors that sense smoke by detecting changes in the ionization of the air; and

—advanced sensors that can detect explosives, narcotics, and chemical and biological agents—and many other innovations that will contribute to homeland security.

IMPROVING ENERGY SECURITY

The Office of Science has contributed to improved energy savings through several discoveries, including:

—lithium batteries that offer high-energy storage capacity and an environmentally benign alternative to the harmful lead used in conventional batteries;

—new and improved metals, plastics and other composite materials used in military hardware and motor vehicles; and

—superconducting wires that can lead to more efficient types of power generation, transmission, and electrical devices—and thereby save energy and reduce emissions.

In addition, the Office of Science's research into fusion energy is poised to pay big dividends. Scientists are figuring out the way the sun and stars produce their energy—and that can have broad applications for mankind, since fusion power holds important promise as a clean, inexhaustible energy source.

MEDICAL IMAGING

The Office of Science is responsible for key advances in positron emission tomography (PET) and magnetic resonance imaging (MRI), which permit non-invasive and improved detection and diagnosis of medical conditions.

RESTORING SIGHT TO THE BLIND

The Office of Science is now sponsoring research and development of an artificial retina, which can restore sight in blind patients with macular degeneration, retinitis pigmentosum, and other eye diseases.

A microelectronic chip implanted in the eye captures light signals and visual information, bypasses damaged photoreceptors, and electrically stimulates viable layers of the retina, thereby enabling the blind to see.

ENABLING WORLD-CLASS R&D

Throughout its history, the Office of Science Development has designed, constructed and operated many of the most advanced research and development facilities in the world, which keep the United States in the forefront of scientific discovery and technological innovation.

These include neutron scattering facilities, synchrotron radiation light sources, the superconducting Tevatron high-energy particle accelerator, the world's first linear collider, the continuous electron beam accelerator, the relativistic heavy ion collider (the highest-energy "atom smasher" in the world) and a Tokamak fusion test reactor.

[CLERK'S NOTE.—Attachments included with the preceding information have been retained in subcommittee files.]

Senator DORGAN. Well, let me again say I will be anxious to work with you.

And, Mr. Chairman, thank you for allowing me the opportunity to——

Senator DOMENICI. You are welcome.

I noticed when you mentioned the location of these science facilities, you mentioned the four big States. One little State does all right, New Mexico.

Senator DORGAN. I just did not want to advertise it.

But I know how well New Mexico does, Mr. Chairman.

Senator DOMENICI. That is because we have those big nuclear laboratories and have to put up with all that nuclear stuff for so long. Such a terrible burden; that is what some people think. They want to close them up. If they have any more Los Alamoses or Sandias, open them up in our State. That would be fine.

I am just kidding, you understand.

Let me just say to all of you that I am very, very pleased with the way the whole Department is growing in terms of science. I am somewhat concerned that we move ahead as quickly as possible in the nuclear research areas, because there seems to me to be no way out for us and for the world but to find a new generation of nuclear power plants.

And, Mr. Magwood, I know that you are charged with that. And we will try in our new energy bill to even broaden that authority and move on with it. You are charged under the Energy Department to move ahead with the next generation. You call it nuclear power IV. What does that phrase mean in terms of moving ahead with that research?

GENERATION IV NUCLEAR ENERGY

Mr. MAGWOOD. I think you are referring to the Generation IV Nuclear Energy Systems Initiative.

Senator DOMENICI. Correct.

Mr. MAGWOOD. While we have very good technologies available today that are available to the market, the technologies such as the AP 1000, the ABWR from U.S. companies, and others that are available internationally, there is a prospect that we might be able to develop new advanced technologies that deliver on the original promises of nuclear energy, that is, technologies that are incredibly safe and present no conceivable hazard to people outside of the plant site, technologies that are extraordinarily economic and competitive even with natural gas, and technologies that eliminate the issues about proliferation.

We believe this is possible in a new generation of technologies. What we have accomplished so far is that the international community has agreed on what those technologies might be. Now is the time, as you have mentioned, to move from the planning stage, now that we have decided what those technologies could be, to the laboratory and ultimately to the field to prove that these technologies work.

Senator DOMENICI. Well, do you feel comfortable with the level of funding in the budget? Are there one or two items that you would like to share with us, either on the record or later, that are of importance to you with reference to being underfunded, as far as moving us forward in the nuclear area?

Mr. MAGWOOD. We really are on the very beginning of what I think is a very exciting time for our activities. There are things that we will be able to do as time goes on that will require more funding. For where we are right now, I think we are doing okay. I am very pleased with the budget request that we have put forth. I believe that as our plans become public, there will be opportunities in the future that will require additional resources, but I think well-deserved resources.

DOMESTIC ENRICHMENT

Senator DOMENICI. Let me just stay with you for a minute. The Department has commented on the need for a new domestic enrichment capacity as a means of maintaining a reliable and economical U.S. enrichment industry. One of the ventures that is being bantered around as an opportunity to accomplish this is led by the European consortium of Urenco, a company with a proven record in centrifuge enrichment technology. I know that you are familiar with that company and with that process, are you not?

Mr. MAGWOOD. Yes, I am.

Senator DOMENICI. Do you have any concern that the efforts of Urenco to build a new facility in the United States would in any way pose a national security concern?

Mr. MAGWOOD. No, none at all.

Senator DOMENICI. Do you believe that the development of new enrichment capacity is sufficiently important to the United States, as far as our energy security, that the development of this facility by Urenco should be encouraged and facilitated by the Department of Energy?

Mr. MAGWOOD. Absolutely. We are doing everything we can to help at this stage.

Senator DOMENICI. That is already happening.

Mr. MAGWOOD. Yes.

ADDITIONAL COMMITTEE QUESTIONS

Senator DOMENICI. I thank you. And I thank all of you. And the questions we give you, please answer them as soon as you can.

[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

INTERNATIONAL THERMONUCLEAR EXPERIMENTAL REACTOR PROJECT WITHIN FUSION

Question. Dr. Orbach, each of the sub-programs funded under your office are looking and planning towards substantial new research investments or construction of the "next big user facility" that will occupy the construction wedge that has been filled in recent years by the SNS construction project, and will be filled in the next few with the construction of the nanoscale science centers. Almost all of these projected expenditures are beyond what is contemplated in the projected baseline for the Office of Science. I would like to go over some of those with you.

Dr. Orbach, you've outlined the Administration's recommendation for the United States to rejoin the international fusion energy experimental program, called ITER (for the International Thermonuclear Experimental Reactor.) Our participation in ITER will cost $1 to $1.5 billion over the next 10 years. The Administration has proposed taking a very timid step down that path by requesting only $2 million for fiscal year 2004. When will the big expenditures come?

Answer. Assuming that the negotiations proceed as planned, construction of ITER is currently planned to start in 2006, so we would expect to request construction funding in our fiscal year 2006 budget proposal. Also, the Administration has requested $12 million for fiscal year 2004.

Question. Why should the Congress or our international partners for that matter, believe the Department will secure the resources to both make our international contributions and maintain a healthy program here in the United States?

Answer. Secretary Abraham has stated publicly his intention to request additional funds for the construction of ITER as well as for the maintenance of a robust domestic fusion program. Further, President Bush said on February 6, in the context of the Hydrogen Fuel Initiative, that he looked forward to working with you on a successful effort on the ITER project.

Question. Is the Administration prepared to request the increased budgets in future years to meet this large commitment without negatively impacting other Science programs?

Answer. The Administration will continue to request budgets that honor our commitment to the ITER project while maintaining a strong research program across the Office of Science.

Question. Since ITER represents only one of several promising fusion research directions, will the Department continue to fund alternatives to the "tokamak" path towards fusion that is the focus for ITER?

Answer. Yes, the Secretary restated his commitment to a robust domestic program as he announced the President's decision to join the ITER negotiations. Part of that robustness is the continuation of our program in innovative confinement concepts as we strive to prepare for the most attractive energy embodiment of fusion in the future.

ADVANCED COMPUTING

Question. Last year, Japan raced ahead of the United States in the high-performance computing wars when it completed the world's fastest computer—the 40 teraflop Earth Simulator. As you are aware, the Japanese Earth Simulator was based on vector architecture that the U.S. supercomputing industry had largely abandoned. What does the United States need to do to catch up?

Answer. As you may know, much of the U.S. computer industry takes exception to premise that we have lost leadership (broadly defined) in high-performance computing because of a single Earth Simulator. Nevertheless, I take your question as addressing leadership in the areas of computational science for which the Earth Simulator has been designed, such as climate change. To revitalize and/or ensure ongoing U.S. leadership in strategic areas of computational science, we need to initiate an aggressive R&D program based on a strategy to deliver world class supercomputers for scientific applications. The program must be coordinated with DOE-NNSA and other Federal agencies with high-performance computing missions, to leverage existing investments in high performance computing and to establish a single, inter-agency strategy for high-performance computing. We expect to participate in this endeavor by supporting academic researchers, national laboratory scientists and engineers in partnerships with the U.S. computer industry to tailor computer designs and to provide the software programming infrastructure needed to ensure maximum performance of codes on complex scientific systems. We need to establish a computing capability to solve key DOE civilian science mission problems that is at least a factor of 50 greater than the present.

Question. What kind of supercomputing platforms do you need for the types of problems you are challenged with in the Office of Science?

Answer. Our computational scientists need supercomputing platforms that are easy to use and are free of the bottlenecks that presently constrain the performance of their codes on scientific applications. Due to the breadth of the Office of Science research portfolio, we envision our high-performance computational needs will be met by a suite of super computer architectures and software programming environments. We expect this suite of architectures will consist of high-performance variations of scalar systems, vector architectures and approaches that are currently considered novel.

Question. How will you get them and how much will it cost?

Answer. We will foster the development of these systems by working with all interested U.S. vendors to influence future offerings to meet the needs of our computational scientists. Supercomputer platforms will be acquired based on a competitive evaluation and review of systems offered by vendors. Performance on actual scientific applications will be one of several review criteria. Before we are in a position to evaluate prospective systems, we need to embark on a long-term commitment of establishing research partnerships between application scientists, computer scientists and supercomputer designers.

Although we expect to take advantage of commercial market drivers whenever feasible, we do recognize that these supercomputing platforms are likely to be in the specialty category of vendor offerings. Therefore, it is conceivable that each supercomputer platform could cost several hundred million dollars. Future special purpose architectures targeting certain applications might be cheaper if the full suite of partnerships mentioned above were supported.

Question. Credible experts argue that we will need to spend an additional $500 million over what we have planned for the next 4 years in order to catch-up. Do you agree?

Answer. The Administration is still in the process of developing a government-wide strategy for high-end computational science, so it is premature to directly answer your question.

NANOSCALE RESEARCH

Question. In fiscal year 2003, the Congress added $4.5 million to begin construction of the Center for Integrated Nanotechnology in my home State of New Mexico. This year, I am pleased to see the Department request $30 million more for the construction of this $75 million facility. The Department is also proceeding with construction of four other centers around the country. I am concerned that the current Science baseline budget does not include sufficient research dollars to effectively utilize the five nanoscale centers that will be constructed over the next few years—requiring an additional $350 million over the next 3 years. Are we building too many centers, too fast, without planning for the resources to utilize them?

Answer. The five Nanoscale Science Research Centers that are under construction (one joint with the State of Illinois) as well as their subsequent operations funding which includes user support and research support are all accommodated within the Science baseline budget presented in the President's Budget Request. These Centers are a high priority for the Administration and the Department, because they offer unique capabilities and build on the investments in the major synchrotron radiation light sources and neutron scattering facilities that are already in place at the Department's laboratories.

GENOMES TO LIFE AND OTHER FUNDING SHORTFALLS

Question. The Department wants to grow the "Genomes to Life" program in a way that will realize the promises of the Human Genome Project, but that will require $850 million to build the necessary research facilities. In addition, you have expressed your desire to grow the Science Teacher Workforce Development program. Furthermore, we are always under pressure to provide additional money for better utilization of our existing science facilities. So, my questions to you are as follows. How do we find the resources to do all of these things? Or have we "bitten off more than we can chew"?

Answer. The President's budget request before the Congress represents a substantial step in allowing us to exploit the scientific opportunities before us. The programs that you mention are multi-year efforts, and we have to continue to prioritize and make tough choices in these times of constrained budgets. 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, and beginning a new pilot program at Argonne National Laboratory to train K–14 science and math teachers.

SCIENCE EDUCATION

Question. Dr. Orbach, I appreciate the emphasis in your testimony on a $1 million pilot program for improving the science and math qualifications of teachers in our K–14 educational system in answer to the President's call for "qualified teachers in the classrooms." As you know, such programs were conducted some years ago by the DOE. I know from many personal testimonies that these programs were highly successful in New Mexico. I really question whether you need any pilot program at all. My recommendation is that you simply restart the successful programs of a few years ago at levels far higher than $1 million. Would you be willing to provide an estimate of how large a program the Department could undertake in fiscal year 2004 in this vital area?

Answer. Our National laboratories have continued to support fellowship and internship opportunities through their education and workforce development offices. In most respects, these offices have dramatically improved in their quality assurance and efficiency. Our entire application, placement, tracking and evaluation system is online. The President's fiscal year 2004 request allows for a robust pilot program.

FUNDING OF SCIENCE PROGRAMS

Question. Dr. Orbach, fiscal year 2004 is the third year of basically flat budget requests for the Office of Science. I think the Department and Administration must start requesting significant increases in the budgets for the Office of Science. Since that office is the largest supporter of research in most physical sciences, I fear that we are seriously jeopardizing the competitiveness of our Nation by short-changing

developments in these areas. In fact, our rush to fund health sciences through the NIH, without comparable funding to the Office of Science, may prevent us from realizing our goals in the health sciences. After all, many developments in health sciences also require advances in the physical sciences, we need strong health and physical sciences to truly enable advances. Do you share my concern that we must do more to increase the Nation's talent pool in the physical sciences and that increased budgets for the Office of Science are critically important in future years?

Answer. Senator, before answering, let me thank you for your strong support for science and education. I do share your concern. I believe that we need to do whatever we can to encourage U.S. students to choose careers in mathematics, science and engineering. It is for that reason that our budget request proposes a pilot program for training of K–14 mathematics and science teachers. I would point out, however, that when a combination of reduced requirements for funding in one time programs and large construction projects are taken into account, funding for the Office of Science in the President's budget requests for fiscal year 2003 and fiscal year 2004 represented increases for science well above the rate of inflation.

Question. Do you believe the United States is in danger of losing its global competitive edge to the Japanese or the Germans or the French because the Federal Government has ignored basic research funding for the physical sciences?

Answer. A strong program of basic research in the physical sciences and a scientifically literate workforce are essential to the continued innovation that underpins our global competitiveness, and I believe that the President's budget request for science will fund a strong and balanced program of scientific research for the Nation.

LOW DOSE RADIATION RESEARCH

Question. I helped 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, while the Low Dose Radiation Research program is effectively in its fourth year of funding and, as you correctly note, funding has always been at a level $4 to $8 million below that recommended by the Advisory Committee for the Biological and Environmental Research program, the low dose program is already having a substantial scientific impact. Building on decades of radiation biology research we can now study the biological effects of radiation with research approaches that are 10, 100, or even 1,000 times more sensitive than those previously used. Progress has been made in our ability to study lower, more realistic doses of radiation by a combination of knowledge from past research, from new, more sensitive technology, and from advances such as those provided by the Human Genome Project. Today, for the first time, scientists have actually been conducting research that overlaps or approaches the maximum allowable radiation doses above background for the public (100 mrem/year above background) or for nuclear workers (500 mrem/year above background). The BEIR VII committee bases their report on information received from expert scientific testimony and from peer reviewed scientific publication. To date, the Low Dose Radiation Research Program has resulted in over 190 new papers in the scientific literature. The director at the National Academies for BEIR VII is well aware of the Low Dose Radiation Research Program and has been given a list of publications resulting from the program. Thus, the BEIR VII will certainly consider the results of this research program in their deliberations.

Question. And is it resource constrained in its progress?

Answer. We believe that the original estimate made by the Biological and Environmental Research Advisory Committee for a 10-year, approximately $220 million research program, while unconstrained by the realities of tight budgets, is still a reasonable estimate to optimize progress through the normal, iterative process of scientific discovery. To date, including the current fiscal year (fiscal year 2003), the program has invested approximately $82 million in new low dose radiation research.

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 endeavors to support the most interesting and promising experiments in all fields of basic research consistent with its mission. We are aware of scientific opportunities presented by a wide range of possible underground experiments, though we have not received any formal proposals for such experiments. We are also aware that there is an ongoing scientific debate about the technical criteria for an underground site that is dependent upon the needs the various experiments. Nevertheless, the Office of Science is keenly aware of the Waste Isolation Pilot Plant's (WIPP) mission to dispose of defense-related transuranic waste to protect human health and the environment. WIPP is a critical facility for the Office of Environmental Management's (EM) efforts to accelerate cleanup at sites across the DOE complex.

Last year, as ordered by Secretary Abraham, EM completed a top-to-bottom review of its cleanup program and concluded that significant change was required in how the Department attacked risk reduction and cleanup of its sites. A major finding of the review was the need to realign the EM program so its scope is consistent with an accelerated, risk-based cleanup and closure mission. The review team underscored the necessity that EM should redirect, streamline, or cease activities not appropriate for accelerated cleanup and closure.

Utilizing WIPP to conduct science experiments, no matter how meritorious, would represent a major commitment of EM financial and administrative resources for implementation and oversight of these activities, which would not be consistent with the Administration's accelerated cleanup initiative. A laser-like focus on EM's core mission is needed to realize the cleanup of the Cold War legacy in our lifetime.

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. The Department's role in the new White House agenda for climate change Research will focus on improving climate models by resolving major uncertainties in estimates of the sensitivity of the climate system to various factors such as clouds and aerosols. Climate change research supported by the Department will also help resolve the magnitude and location of the North American carbon sink, and provide improved methods and models for assessing the environmental and economic costs and benefits of climate change, and of different options and strategies for mitigating the change. Enhancements of Global Climate Change Research that would take advantage of assets at DOE laboratories include climate modeling and ecological processes. Enhanced climate modeling research would enable researchers to take greater advantage of computing facilities and computer science capabilities at DOE laboratories, and to allow climate and carbon cycle modelers at DOE laboratories to more fully utilize the data and information coming from other DOE climate change research programs such as the Atmospheric Radiation Measurement program and Ocean and Terrestrial Carbon Cycle Research programs to develop, test, and improve fully-coupled climate models. Enhancement of research on ecological processes would provide the opportunity to more fully utilize the unique interdisciplinary capabilities and facilities at DOE laboratories in molecular biology, ecological genomics, ecology, and computer modeling and simulation. The research would investigate how complex ecological systems respond to climate and atmospheric changes and how their capacity to, for example, sequester carbon from the atmosphere and adapt to or recover from potential adverse impacts of such changes can be enhanced.

SCIENCE LAB INFRASTRUCTURE

Question. Dr. Orbach, the Office of Science manages 10 science labs that represent a Federal investment of tens of billions of dollars in the most advanced scientific user facilities in the world. The annual budget process seems to rarely reward the prudent and responsible program manager who reinvests in infrastructure to maintain the facilities. Two years ago this Committee initiated a Facilities and Infrastructure program for the NNSA to reinvigorate the NNSA weapons complex and it is starting to make a significant difference. Dr. Orbach, do you believe the Science facilities that you oversee need a significant infrastructure reinvestment to revitalize the Science Labs research facilities and would you be willing to budget for such an initiative?

Answer. The Office of Science has identified over $1.5 billion of line item projects to renovate, modernize and replace existing buildings and support facilities at the SC laboratories to better support our research missions. A complete listing and description of the projects can be found at the SC web site: http://www.science.doe.gov/SC-80/sc-82 under "Infrastructure Needs Assessment." I am working with the laboratories to develop a strategy for funding infrastructure improvements.

FUTURE NUCLEAR ENERGY BUDGET REQUIREMENTS

Question. Mr. Magwood, as I indicated in my opening statement, I am generally encouraged with the progress in nuclear R&D. The Department now has in place the structure of a well-thought-out nuclear R&D program that addresses the near-term goal of bringing a new plant on line through the Nuclear Power 2010 program; while performing the R&D necessary for nuclear power to support the growing demand for electricity world-wide over the next 50 years through the Generation IV Program and the Advanced Fuel Cycles Initiative. All of these initiatives require funding well in excess of what is provided in the current baseline?

Answer. We are confident that the fiscal year 2004 budget request for these programs will meet the near-term needs of these programs, most of which are at the early stages of development. We will evaluate future funding needs as we more precisely define the areas of work and implement these initiatives. Clearly, significant resources would be needed to support the development, design, and deployment of innovative technologies to achieve the economic and energy security benefits of the programs. Whatever course our activities take, we expect the funding the Department requests to be highly leveraged with our international and U.S. industry partners.

Question. What level of resources will be required to achieve the stated goals of each of these initiatives over the next 10 years?

Answer. The Generation IV Nuclear Energy Systems Initiative is in an early stage of development. The highest priority Generation IV project is pursuing advanced nuclear technology that can produce both cost-effective hydrogen and very efficient electricity production. The out-year funding plan for Generation IV activities is currently being developed. Discussions with potential collaborating partners are underway and we anticipate substantial cost-sharing with both industry and the international community. The estimated costs for AFCI research and development over the next 10 years are presently under review by the Administration and have not been finalized.

Question. What is the Department's funding strategy?

Answer. The Department is in the early stages of implementing the Generation IV nuclear energy systems initiative and the Advanced Fuel Cycle Initiative. Regardless, the Department intends to leverage a modest Federal investment with collaboration with our international partners.

Question. What kind of resources can we reasonably expect from international or industry collaborators?

Answer. We are currently exploring cost-sharing arrangements for the design, licensing, construction, and startup of the Very-High-Temperature Reactor (VHTR) with potential domestic and international partners, both private and government. Substantial cost-sharing is expected. Over the past 3 years, the AFCI program has established two major international collaborative agreements which have provided over $100 million worth of analytical and experimental data to the program. One agreement is with the French Commissariat à l'Énergie Atomique, and the other agreement is with the Paul Sherrer Institute in Switzerland. Also, the Secretary of Energy recently signed an agreement with the European Commission, which provides for collaborative AFCI research and development with European countries.

NUCLEAR HYDROGEN INITIATIVE

Question. Hydrogen technologies will only allow us to free ourselves from dependence on foreign oil if we can economically produce it in a manner that does not harm the environment. Current methods of producing hydrogen based on fossil-fuels are far too costly. I am hopeful that one or more of the Generation IV reactor technologies would allow us to generate hydrogen on a scale that would support a future hydrogen based economy. I commend the Department for requesting $4 million specifically for the nuclear hydrogen initiative. What level of resources would the Department need to develop and demonstrate on a pilot scale a nuclear reactor for hydrogen production?

Answer. The Department's new Nuclear Hydrogen Initiative is designed to develop and demonstrate advanced technology hydrogen production systems using nuclear energy. The Department plans to achieve this goal by constructing progressively larger scale demonstrations using non-nuclear heat sources, designed and optimized to be eventually driven by heat from a high temperature nuclear system. The Department is also exploring partnerships with industry and the international community that could support a full-scale prototypical system to demonstrate the commercial scale production of hydrogen. With funds provided by Congress in fiscal year 2003, we are currently developing a hydrogen technology roadmap which will define the development program leading to a pilot scale experiment. The funding estimates for a pilot scale facility will be developed over the next several months.

Question. Can we do it on the time-scale of the President's broader hydrogen timeline of 2015 to 2020?

Answer. We believe nuclear-based production of hydrogen could be deployed on the time-scale of the President's 2015–2020 hydrogen timeline.

NUCLEAR POWER 2010 INITIATIVE

Question. Three 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 $35 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 and provide an update?

Answer. The Department believes it is in the Nation's interest to deploy new base-load nuclear generating capacity within the decade to achieve the National Energy Policy objectives of energy supply diversity and security while minimizing the impact on the environment. To enable the deployment and operation of new, advanced nuclear power plants in the United States by the end of the decade, it is essential to demonstrate the new, untested Nuclear Regulatory Commission (NRC) regulatory and licensing processes for the siting, construction, and operation of new plant designs. In addition, research and development on near-term advanced reactor concepts that offer enhancements to safety and economics is needed to enable these new technologies to come to market.

In fiscal year 2002, the Department initiated the Nuclear Power 2010 program. This program is a joint government and industry cost-shared effort to identify sites for new nuclear power plants, develop advanced nuclear plant technologies, and demonstrate new regulatory processes that support a private sector decision by 2005 to order new nuclear power plants for deployment in the United States within the decade.

As an initial step in the Nuclear Power 2010 program to demonstrate untested regulatory processes, the Department is cooperating with three power generation companies—Exelon, Entergy and Dominion Resources—to demonstrate the Early Site Permit (ESP) process at sites where these companies currently operate nuclear power plants (Clinton Nuclear Power Station, Grand Gulf Nuclear Power Station, and North Anna Nuclear Power Station, respectively). This regulatory process is intended to approve sites for the construction of new nuclear power plants in advance of a utility commitment and order for the nuclear plant. Within the scope of these 50/50 cost-shared industry cooperative projects, the three power generation companies will develop and submit formal ESP applications to the NRC by fall of 2003. NRC's approval of the then-submitted ESP applications is expected in early 2006.

In 2003, the Department plans to expand its cooperation with the nuclear industry by soliciting additional cooperative projects with power companies or consortia of power and industry companies that implement power company plans to deploy new nuclear plants. Cooperative projects would include activities to demonstrate the

combined Construction and Operating License (COL) process and develop a standardized advanced nuclear plant designs.

The Department has also initiated in fiscal year 2003 a cost-shared project with industry to assess the construction schedule, manpower, and cost requirements of the new advanced nuclear plant designs being considered by power companies for near-term deployment and to identify promising improvements in construction methods and techniques to shorten the construction durations for these next new nuclear power plants.

Question. Does the Department still plan on initiating a cost-shared project with a utility to demonstrate the "Construction and Operating License" process?

Answer. The Department believes that demonstration of the combined Construction and Operating License (COL) process is essential to achieve near-term deployment of advanced nuclear power plants in the United States. In fiscal year 2003, the Department plans to issue a solicitation to seek proposals from power companies or consortia of power and industry companies for projects that enable a new nuclear power plant to be ordered and licensed for deployment in the United States within the decade. This project will provide for design completion of a standardized advanced reactor plant, preparation and submission of a COL application and support of NRC review, and hearings associated with the application.

Question. What recommendations can you provide to this committee as to how the government can address the financial and business risk associated with building and licensing new nuclear plants?

Answer. There are currently three ways that an electric generating company could finance a new nuclear plant: by obtaining commercial debt financing, through equity financing, or a combination of both. These options are not currently attractive because of significant financial barriers and risks associated with building the first few new nuclear plants. Last year, Sculley Capital, an independent financial advisory firm, conducted a study for DOE of barriers to new nuclear plant deployments and identified a range of financial assistance mechanisms that could address the financial risks associated with building the first few new nuclear plants. The study concludes that substantial cost improvements in the cost per kilowatt-hour would be realized following deployment of the first few plants, thereby allowing future builds to be fully competitive in the electricity marketplace. This study has sparked an ongoing discussion both inside the government and in the private sector, but no conclusions have yet been reached in either.

NASA'S NUCLEAR SYSTEMS INITIATIVE

Question. The fiscal year 2003 NASA budget proposed a "nuclear systems initiative" to develop new radioisotope power systems for on-board electric power on future space platforms. It would 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 up to $1 billion in the next 5 years. What has transpired over the last year?

Answer. A significant amount of planning and coordination between NASA and the DOE has taken place in preparation for NASA's Nuclear Systems Initiative, now named "Project Prometheus." Activities conducted under existing programs at DOE were focused to help prepare for the initiation of the effort. For example, with regards to the radioisotope power systems, a DOE contract was awarded to Lockheed Martin Astronautics for a Stirling Radioisotope Generator, and industry proposals for a Multi-Mission Radioisotope Thermoelectric Generator are now being evaluated by the Department. Also, the purchase of 1 kilogram of Pu-238 from Russia is underway.

With regard to the nuclear electric propulsion part of Project Prometheus, NASA Research Announcements (NRA's) were issued for power conversion and electric propulsion technology contracts. Initial space reactor power system screening activities were completed using an integrated team of specialists from DOE laboratories and NASA centers to assess combinations of reactor and power conversion technologies and a briefing on these screening activities was provided to industry. DOE labs have also supported definition of three reactor concepts for future consideration. A draft RFP was also developed by NASA with support from DOE for mission and technology trade studies associated with a Jupiter Icy Moons Orbiter Mission (JIMO) in order to prepare for possible future industry engagement.

These activities have helped to prepare for initiation of a coordinated effort between NASA and DOE as Project Prometheus now commences its first year.

Question. What role will be DOE's role in this exciting new effort?

Answer. DOE will continue as the executing agent for the development of Radioisotope Power Systems. These efforts will include the Stirling Radioisotope Gener-

ator (SRG), the Multi-Mission Radioisotope Thermoelectric Generator (MMRTG), the performance of safety analyses, and the procurement of additional Plutonium-238 as needed in support of the radioisotope program and potential future missions. For the development of space fission reactor technology, or the nuclear electric propulsion part of Project Prometheus, NASA and DOE are currently examining the best approach for management of the development effort within the Department. These reviews are ongoing and include consideration of possible participation by DOE's Offices Nuclear Energy, Science and Technology and Naval Reactors.

ADVANCED NUCLEAR MEDICINE INITIATIVE

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 was dropped to zero. The Department has also proposed changing the manner in which it provides radioisotopes to the research community. The Department proposed this on the theory that it could reach agreement with other sources (most likely NIH) to support this important mission. Has the Department secured such an agreement? If not, what are the prospects?

Answer. Department of Energy officials are at the beginning stages of discussion with officials of the Department of Health and Human Services, including the National Institutes of Health on the subject of obtaining support from NIH for production of isotopes associated with medical research sponsored by NIH. There is broad support for medical research in development of new radiopharmaceuticals both within the government and the private sector, and we are confident that as the benefit for this research is demonstrated that there will be increased support for offsetting the costs associated with the production of medical research isotopes.

Question. Would you comment on the record how a DOE sponsored revolving fund might be used to support this mission?

Answer. As was done with the Advanced Nuclear Medicine Initiative in fiscal year 2000, the revolving fund could be a suitable vehicle for supporting medical isotope research, including production of isotopes for such research.

ADVANCED FUEL CYCLE INITIATIVE

Question. I commend the Department for supporting the Advanced Fuel Cycle work that this committee has strongly supported over the last few years. Will you describe for the committee some of the successes of the AFCI program, its relationship to the Generation IV reactor program, and what your expectations are for the next few years?

Answer. The goals of the Advance Fuel Cycle Initiative are to develop fuels and fuel cycle technologies required for the Generation IV Nuclear Energy Systems Initiative and to develop advanced spent fuel treatment and transmutation fuel technologies to optimize the performance of the Yucca Mountain repository and delay or eliminate the technical need for a second repository.

In fiscal year 2002, the program had several important accomplishments. In the area of spent fuel treatment, the Department developed UREX+ technology and successfully demonstrated the separation of uranium from commercial spent fuel at a purity level of over 99.99 percent, which is equivalent to low-level Class C waste. Since spent fuel is made up of 95.6 percent uranium, this is clearly a major demonstration of the potential for reducing the volume of spent fuel destined for a geologic repository. Other major successes include the development and manufacture of advanced non-fertile fuels (i.e., fuel which does not produce plutonium during the fission process). Both nitride and metal advanced non-fertile fuels have been manufactured and have passed quality assurance standards necessary to qualify for irradiation testing in the Advanced Test Reactor. This activity directly supports Generation IV fast-spectrum reactor fuel development.

As described in the AFCI Report to Congress, issued in January 2003, the AFCI program is pursuing parallel paths, AFCI Series One and AFCI Series Two, to develop technologies both in support of the Generation IV program and spent fuel treatment and transmutation. AFCI Series One technology development is an intermediate term activity which is focused on the developing advanced spent fuel treatment technologies. Specifically, this technology separates various isotopic components from commercial spent nuclear fuel, including the extraction of uranium at a purity of greater than 99.99 percent for potential reuse, or storage as low-level waste. In addition, the program is developing proliferation-resistant fuel that can be recycled in existing light water reactors to extract energy and reduce the pluto-

nium inventory in the spent fuel. In fiscal year 2003, AFCI plans to demonstrate the separation of a plutonium-neptunium and cesium-strontium on a laboratory scale. The successful demonstration of cesium-strontium, at a high purity, can provide a unique advantage to the repository program because it will allow the repository to be operated in a cold condition, by isolating all the short-term heat long in one drift, or above ground. The program is also in the process of fabricating several specimens of oxide fuels containing various combinations of uranium, plutonium, and neptunium for potential use in existing light water reactors as a means extending the energy resource of spent fuel and to reduce the inventories of plutonium. These advanced oxide fuels are planned for irradiation testing in the Advanced Test Reactor (ATR) in fiscal year 2004.

AFCI Series Two technology development is a longer term activity (2020–2030 time frame). The main focus of AFCI Series Two is to develop advanced, non-aqueous technologies which are cost effective, environmentally sound, and capable of handling large volumes of fast reactor spent fuel. AFCI Series Two technology development also includes the development of advanced fuels for fast spectrum reactors—Generation IV reactors including the capability of these reactors for handling the transmutation mission. Application of AFCI Series Two transmutation technology can significantly reduce the long-term radiotoxicity and long-term heat load in the geologic repository.

The research and development being conducted in the AFCI program is focused on producing results that will provide decision makers sufficient information on cost, schedule, and waste streams to inform decisions in fiscal year 2007 regarding the need for a second repository.

CUTS TO NERI AND NEPO

Question. Mr. Magwood, I appreciate the significant increase in budgets requested for Nuclear Energy. But I'm surprised that a program like the Nuclear Energy Research Initiative or NERI, that is the largest supporter of university-based research in this vital field, is targeted for a cut of 50 percent. I am also concerned that the Nuclear Energy Plant Optimization or NEPO program is targeted for no funding, when the Nation depends strongly on our existing nuclear plants to avoid having to replace them with more polluting alternatives. Can you please discuss the rationale for halving the NERI budget and killing the NEPO budget just when we are undertaking other important ventures to secure a future for nuclear energy in the Nation?

Answer. First, I think it is important to make clear that we believe both the Nuclear Energy Research Initiative (NERI) and the Nuclear Energy Plant Optimization (NEPO) program are important and very successful programs. The programs have attracted significant international and private sector co-funding. Moreover, the important initiatives that we believe will form the base for our nuclear energy research program in the future—the Nuclear Hydrogen Initiative, the Generation IV nuclear energy systems initiative, the Advanced Fuel Cycle Initiative—all grew out of the success of innovative NERI research and development.

While the funds requested for NERI in fiscal year 2004 represent a reduction from previous years, the budget request will allow us to support those projects that are continuing in the NERI and International NERI programs. During the coming year, we will refine and detail our plans for the Nuclear Hydrogen Initiative, Generation IV, and the Advanced Fuel Cycle Initiative. Once this is done, the Department will be in a position to evaluate NERI in fiscal year 2005 in the context of our entire research portfolio.

Regarding the NEPO program, we have successfully leveraged a small Federal investment with industry to address technical issues associated with the long-term operation of the Nation's existing 103 operating nuclear power plants. The program has funded a total of 33 projects during its first 3 years, addressing issues such as plant aging and electrical generation optimization. Thus, it is our hope that industry, who invests between $80 and $90 million dollars annually on research, will choose to continue some of these projects.

UNIVERSITY REACTOR FUEL ASSISTANCE AND SUPPORT

Question. For the current year, the Congress provided $18.5 million for the University Reactor support program. Can you give me an update on this effort?

Answer. All current university programs efforts will be continued, including providing fuel to university research and training reactors, assisting university reactors to share their reactors with other universities and secondary schools for educational and training purposes, improving equipment and instrumentation at university re-

actors, and providing research grants to university nuclear engineering departments.

The Department continues to award numerous fellowships and scholarships to students pursuing a nuclear engineering or a health physics degree and assisting students at minority universities to achieve a degree in nuclear engineering by partnering with a majority nuclear engineering institution; helping to reinvigorate the radiochemistry educational program through assistance to graduates, post-doctorates, and faculty; and conducting outreach to college freshman and secondary school students and teachers through the American Nuclear Society by providing teacher workshops in the basics of nuclear energy and engineering.

Lastly, the Innovations in Nuclear Infrastructure and Education (INIE) initiative continues to maintain the Nation's university research reactor infrastructure by awarding the fifth INIE grant. The INIE program focus is to help strengthen the nuclear engineering infrastructure which is vital to producing the nuclear engineers the Nation requires for operation of its nuclear facilities, national laboratories, and universities.

Question. Will this budget request allow the Department to expand its support to the regional reactor consortiums?

Answer. The fiscal year 2004 budget request will enable the Department to continue support for five regional reactor consortiums. Four awards were made in fiscal year 2002, with the additional funds appropriated in fiscal year 2003; one additional award will be made. Two additional consortia have been selected for future award.

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. Can you provide an update on this effort and tell when you expect the RFP will be out?

Answer. The Department's project to treat its inventory of U233 will greatly reduce the high cost associated with the storage of this material and demonstrate the Nation's leadership in the effective and responsible management of fissile materials. Perhaps more importantly, this project will provide researchers all over the country with ready access to isotopes that have shown considerable promise in treatment of various forms of cancer.

The RFP was issued on June 13, 2002, and proposals were received on September 26, 2002. On February 14, 2003, the Department notified the bidders that were found to be in the competitive range required for the contract that their proposals would be evaluated for final selection. The evaluation process continues and we anticipate an award this summer.

LES

Question. Mr. Magwood, the Department has previously commented on the need for new domestic enrichment capacity as a means of maintaining a reliable and economical U.S. enrichment industry. One of the ventures to accomplish this is led by the European consortium Urenco, a company with proven centrifuge technology. I know you are quite familiar with the company and their technology. Do you have any concern on your part that the efforts of Urenco to build a new facility in the United States would in any way pose a national security concern?

Answer. The Administration places a high priority on ensuring nuclear non-proliferation safeguards are in place and that access to sensitive technology is controlled. The information available to the Department indicates that URENCO has acted responsibly with regard to the control of sensitive technology and the employment of non-proliferation safeguards.

The Department of Energy believes that LES's plans for the deployment of centrifuge technology in the United States are of considerable national benefit. Deployment of an LES plant will help assure the important energy security objective of maintaining a reliable and economical U.S. uranium enrichment industry.

Question. Do you believe that the development of new enrichment capacity is sufficiently important to U.S. energy security objectives that the development of a domestic facility by Urenco should therefore be encouraged and facilitated in some manner by DOE? If so, how?

Answer. The Department believes there is sufficient domestic demand to support multiple commercial uranium enrichment plant operators in the United States and that competition is important to maintain a viable, competitive domestic uranium enrichment industry for the foreseeable future. The U.S. Government has encouraged the three Allied government partners in Urenco (Great Britain, the Nether-

lands and Germany) to continue its plans to deploy a new commercial uranium enrichment plant in the United States.

COST OF DEPLETED TAILS DISPOSAL

Question. Pursuant to section 3113 of the 1996 USEC Privatization Act, DOE is obligated to accept depleted tails for disposal from domestic commercial enrichers, if the tails are declared low-level waste, and subject to the generator paying the cost of disposal. DOE has already agreed to accept post-privatization tails from USEC for disposal. Is this same option available for the depleted tails of any other commercial enrichment facility operating in the United States?

Answer. The NRC has not characterized depleted uranium tails as low-level radioactive waste; therefore, Section 3113 of the Privatization Act does not obligate the Department to accept commercially generated depleted uranium tails for disposal. The Department agrees with the NRC, and would not support an initiative to declare depleted uranium tails as low-level radioactive waste. Nevertheless, in view of the Department's plan to build DUF6 disposition facilities and the critical importance the Department places on maintaining a viable domestic uranium enrichment industry, the Department acknowledges that Section 3113 may constitute a "plausible strategy" for the disposal of DUF6 from the private sector domestic uranium enrichment plant license applicants and operators.

The Department has two agreements to accept depleted uranium generated by USEC. In the first case, the government received $50 million to accept 16,674 metric tons of depleted uranium generated by USEC during the privatization process. The second case is the June 2002 agreement between USEC and DOE. While DOE agreed to accept title (but not custody until the Department is ready to disposition) to 23,300 metric tons of depleted uranium hexafluoride as part of the agreement's consideration, USEC agreed to a range of important actions, including commitments to operate Paducah gaseous diffusion plant until replaced and to deploy advanced enrichment technology employing DOE technology.

Question. Would one or both of the two conversion facilities under construction be available on the same terms and conditions to any other commercial enricher?

Answer. No authority, procedures, or cost for such a service has been established. Were a commercial enricher to request such a service, the Department would give the request its full consideration.

Question. What do you project to be the per kilogram cost of accepting for processing and ultimate disposal depleted tails from commercial generators?

Answer. I note that Section 3113(3) of the USEC Privatization Act provides for reimbursement in an "amount equal to the Secretary's cost, including a pro rata share of any capital costs." As full costs of providing such a service have not been established, and the procedures to implement a service of processing DUF6 for ultimate disposition have not been created, it is not possible to project a meaningful cost estimate at this time. However, should a commercial company request such a service, the Department would fully consider its request.

Question. What is the per kilogram cost for the processing and disposal of the commercial tails that DOE has agreed to accept to date?

Answer. The actual marginal cost of processing and disposal of the depleted uranium hexafluoride generated by USEC has not been determined. Once the Department's conversion facilities have been built and are operational, a reasonable estimation of the marginal cost to process commercial tails can be calculated. These tails will be converted and dispositioned as part of the Department's inventories. It is expected to take 25 years to completely disposition the Department's depleted uranium stockpile. It should be noted that USEC will maintain custody of the tails the Department has agreed to accept under last year's Memorandum of Agreement until such time that they are accepted for processing.

HYDROGEN

Question. Mr. Garman, the grand promise in the President's vision of a hydrogen economy is dependent upon us finding a way to produce hydrogen economically and cleanly. Today, the primary method for hydrogen production is methane reformation, which results in significant releases of greenhouse gases. Options for future production will be built around either high temperature chemical processes, or high-temperature electrolysis. I know you are also looking to reduce the cost of producing hydrogen from renewable energy technologies. But, as I look at the issue, I am once again forced to the conclusion that nuclear power remains the most likely technology that will allow us to produce hydrogen in large quantities, economically and cleanly. What renewable technologies are most promising for the production of hydrogen?

Answer. As part of the Hydrogen Fuel Initiative, research underway in renewable hydrogen production technologies includes gasification and pyrolysis of biomass from forest, crop, and urban residues. Wind-powered electrolysis is another high potential pathway being researched, recognizing that 40 million tons of hydrogen per year (about half the U.S. light duty fleet energy requirement) could be produced using the wind resources of North Dakota alone, based on calculations by scientists at the lab. Water splitting through photolysis is being researched as well as solar-concentrated high temperature water splitting chemical cycles. Many of the aspects of solar-concentrated high temperature water splitting chemical cycles would be similar to methods using high temperature nuclear.

Finally, while hydrogen production from methane reformation (without sequestration) would result in carbon releases to the atmosphere, fuel cell vehicles using compressed hydrogen produced from natural gas would still use 50 percent less energy and emit 60 percent less carbon dioxide on a "well-to-wheels" basis compared to a gasoline-powered vehicle.

Question. How do they compare and contrast to the nuclear option?

Answer. Producing hydrogen from renewable energy sources or using the nuclear option can both potentially eliminate associated greenhouse gases. Nuclear-enabled high temperature chemical cycle water splitting is a promising route to hydrogen production with near-zero greenhouse gas emissions. This approach relies on the success of the next generation nuclear energy technology, i.e., Generation IV (GenIV). The GenIV nuclear reactor, would be the heat source for the high temperature cycle needed to produce hydrogen. This technology will require large central facilities and a hydrogen distribution network.

National energy security is assured through energy diversity. The renewable energy options being researched can support energy security through a diversity of feedstocks and processes. Renewable technologies such as biomass gasification or pyrolysis, ethanol reforming, wind powered electrolysis, and photo-electrochemial water splitting potentially offer the ability to provide distributed production at the point of use without an extensive hydrogen delivery infrastructure. In addition, renewable technologies such as high temperature chemical cycles using solar collectors as the energy source can help leverage the research being performed to develop the Generation IV nuclear technology.

BIOMASS R&D

Question. Mr. Garman, I note the 21 percent reduction the Department has proposed for biomass R&D. Among the renewable technologies under your purview, only biomass and hydrogen offer great promise in helping the country to wean itself off our dependence of foreign oil. As gasoline prices are projected to peak well in excess of $2 per gallon this spring, I find it odd that biomass took such a large hit. Can you explain your rationale?

Answer. The Department recognizes the tremendous potential of a well-focused biomass R&D program to develop biorefinery technologies that can produce fuels, power, and high-value chemicals and other products. Nevertheless, Congressionally-directed activities reduced the coherence of this program and significantly constrained the ability of our scientists and engineers to move these important technologies forward. Thus, when we made the tough choices about funding the most important research for our Nation's energy security, environmental, and economic goals, we decided to shift funds from the biomass program where the effectiveness of our R&D work was already reduced into other areas, particularly our longer-term hydrogen and fuel cell R&D.

EERE's budget reflects numerous factors: Administration priorities, efficiencies realized by combining all biomass research under one program, alignment with the Administration's R&D investment criteria, program performance, expected public benefits, and bringing to completion research on some technology applications that are ready to be commercialized. It is also important to recognize that in fiscal year 2004, DOE will continue collaborating with USDA in order to leverage both agencies' resources as we are doing in fiscal year 2003. In fiscal year 2003, under a joint solicitation required by the Biomass R&D Act of 2000, USDA will award $14 million and DOE $5 million for cost-shared R&D work identified in the Act.

Question. I also understand government-wide investment in biomass technologies is increasing in other departments, particularly USDA. But I do not believe Energy should cede its leadership role in technology development to another agency. Will you elaborate on the government-wide effort and Energy's role in that?

Answer. In fiscal year 2003, under a joint solicitation required by the Biomass R&D Act of 2000, USDA will award $14 million and DOE $5 million for cost-shared R&D work identified in the Act. USDA's focus is on environmental performance, eco-

nomic viability, and feedstock production. DOE's focus is on faster and cheaper conversion of biomass to fuels and other bio-based products, and on syngas clean-up and conditioning. DOE plays a lead role in seeking to reduce the production costs of sugars and syngas (sugars platform and syngas platform), intermediates needed in the production of several chemicals and fuels. In addition, DOE funds R&D on conversion processes for producing fuels, materials and chemicals that will leverage the two platforms.

HIGH TEMPERATURE SUPERCONDUCTIVITY CENTER

Question. Mr. Garman, I note that funding requests for Electric Reliability and High Temperature Superconductivity remain flat between fiscal year 2003 and fiscal year 2004. That surprises me a little, given the importance to the Nation of maintaining and improving reliability of our electricity supplies, and the potential immense impact that high temperature superconductivity can make to increase efficiency of many electrical processes. Are you confident that we are doing as much as we can do to improve our electric reliability and to utilize high temperature conductors as quickly as possible?

Answer. Yes, I am confident that we are doing as much as we should do. I agree that maintaining and improving the reliability of our electric supplies is a priority. The Electricity Reliability budget was increased by $360,000 in the fiscal year 2004 request, to $76.9 million. Within this budget, High Temperature Superconductivity R&D is $47.8 million, the same as our fiscal year 2003 request and $15.5 million (+48 percent) above the fiscal year 2002 level. We have also increased our fiscal year 2004 request for Transmission Reliability R&D by $3.0 million. The Department reduced its request for the Energy Storage program by $2.6 million, as mature technologies such as battery storage system are handed off to industry for commercialization, and as synergies with the transportation battery program are realized. In addition, the Department supports development of distributed energy technologies located closer to the point of end use, thereby increasing the chance that the electricity grid will stay in balance.

Question. Please provide an update of this effort and describe the types of commercial possibilities exist?

Answer. The Department recognizes the broad potential benefits of superconductivity in our future electrical system. The fiscal year 2004 request will support development of pre-commercial prototypes for 100-megawatt generators, longer distance power cables, fault current limiters, and larger-scale flywheel electricity systems. Also, the "next generation" of superconducting wire is expected to accomplish performance milestones needed for fiscal year 2005 use in equipment—a breakthrough for improving performance and reducing cost. Successful equipment research and development completion and availability of "second generation" wire will lead to commercial opportunities for advanced, cost-effective, power equipment that generally is half the size of conventional alternatives and has only half the energy losses. In addition, commercial possibilities also exist in defense applications of these technologies.

We note that the Department's budget for electricity reliability and high temperature superconductivity has grown by more that 50 percent since fiscal year 2001. We believe we can reach the end of the current research agenda by 2010, if we are able to focus our funding on achieving the goals and avoid directed projects that do not contribute to the goals.

Question. In order to achieve commercial successes, what level of investment should be made in R&D over what period of time?

Answer. The current level of funding is appropriate to bring about continual research advances, while still following a well-conceived research roadmap. Program successes include establishing world leadership in processing of "first generation" High Temperature Superconductivity wire as well as in development of advanced power equipment prototypes using this wire. Another success is the discovery at DOE laboratories of methods to make "second generation" superconducting wire, able to achieve program cost and performance goals, which are based on advancing the technology to the point where commercial success is possible. We believe we can reach the end of the current research agenda by 2010, if we are able to focus our funding on achieving the goals and avoid directed projects that do not contribute to the goals.

DEMONSTRATION PROJECTS

Question. Mr. Garman, the Department did not propose to continue funding for a number of demonstration projects that have been initiated over the last several years. I understand you are attempting to get more from your R&D dollars, and you

are not interested in duplicative demonstrations or funding projects that should properly be financed by the private sector. At the same time, this committee is well aware of unique cases where it is preferable to use appropriated dollars to demonstrate technologies before they become commercially attractive. Given these considerations, what criteria would you suggest to this subcommittee in evaluating the many requests for demonstration projects from Senators?

Answer. As you point out, there are unique cases in which it is appropriate to demonstrate technologies before they become commercially attractive. We strive to use the Administration's R&D investment criteria to guide all of our activities, including demonstrations. One criterion useful for evaluating demonstration proposals is the existence of significant market barriers to commercialization. These market barriers are conditions that do not satisfy the needs of a fully competitive market. Such a determination can only be made on a case-by-case basis, depending upon the market the technology faces. If the analysis indicates that we can reduce the market barriers, or validate the technology, we may propose a demonstration. Conversely, if we cannot show that there are market barriers forcing underinvestment by industry, we will not pursue the demonstration.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

DIAGNOSTIC AND INSTRUMENTATION LABORATORY (DIAL)

Question. Mr. Chairman, I'd like to thank the Undersecretary and Directors for testifying before this committee today. The work you do is very important to my State and to me. I'd like to commend David Garman, the Director of the Office of Energy Efficiency and Renewable Energy, for the work he does with biomass research.

This scientific research is so important to a rural, agricultural State like Mississippi. Biomass energy is estimated to contribute over 7 percent of Mississippi's total energy consumption—that amount is double the national average. The majority of our lumber facilities burn wood waste to generate steam for industrial processes. Biomass offers special opportunities for benefiting Mississippi's economy by keeping energy dollars in our State and by providing jobs in rural areas where biomass is produced. By using their wastes for energy, disposal costs are avoided, and industries are better able to compete.

The principal biomass waste streams that occur in Mississippi are generated by agriculture (e.g., cotton gin waste), wood products manufacturing (e.g., sawdust and wood scraps), animal wastes from confined feeding operations, and municipal solid waste collections (e.g., paper and cardboard, demolition waste, lawn and tree trimmings).

Last year, I visited a biomass plant in Winona, Mississippi and inquired about plans for using Federal funds that were appropriated in the fiscal year 2003 omnibus bill. I learned that the Winona biomass project can enter its final stages of discovering the organism which will cause the heated biomass to turn into gas. Once that organism or "bug" is discovered, the plant can operate from start to finish where chips of wood can be input, burned and then gasified into ethanol. In a town like Winona, that sort of success has great economic development potential.

I am pleased to learn that the Department is concentrating its biomass research efforts on the catalysts needed for biomass gasifiers. Many communities, beyond the scientific community, will benefit from this work.

I would also like to commend the Mississippi Diagnostic Instrumentation and Analysis Laboratory at Mississippi State University. I am pleased to see that you're funding good science, like the joint Los Alamos-Mississippi State project that we hope will be useful for both DOE and Homeland Security. A continuing concern is how do we take this magnificent science and turn it into the new technologies DOE needs to accelerate cleanup. I am hopeful that you consider using organizations such as DIAL at Mississippi State to turn your science into technologies that will be used at the DOE sites. Mr. Chairman, with your permission I have a question I'd like to submit for the record.

I am pleased to see that you're funding good science, like the joint Los Alamos-Mississippi State project that we hope will be useful for both DOE and Homeland Security. A continuing concern however is how do we take this magnificent science and turn it into the new technologies DOE needs to accelerate cleanup? Have you considered using organizations such as DIAL at Mississippi State to help bridge the "valley of death" to turn your science into technologies that will be used at the DOE sites?

Answer. The "valley of death" issue is a major concern of ours and we have been developing strategies to efficiently transfer scientific results to cleanup applications. First, we will work directly with site cleanup personnel to identify problem areas where science can make a significant impact and to further collaborate with the site on these specific issues. This will ensure that our scientific results are directly transferred to the sites for further development. We regularly conduct technical exchange workshops and find these invaluable, and will expand these at major cleanup sites. In addition, we have found that frequently, scientists want to take their work to the next stage themselves or at least provide technical support throughout the development. We encourage appropriate Environmental Management Science program researchers to develop partnerships with applied organizations, such as DIAL.

Question. What future plans do you have to work with DIAL?

Answer. The Environmental Management Science program will continue to select projects through competitive peer review that focus on the Department's cleanup problems. A key research area continues to be techniques to characterize and monitor contaminated sites. In partnership with the national laboratories and universities, DIAL is likely to be competitive in this area.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

SCIENCE

Question. In the fiscal year 2003 Conference Report, we instructed you to reprogram funds, if necessary, to respond to the challenge of the Japanese Earth Simulator Computer. I believe the Earth Simulator is a warning shot across the bow for American computing companies and research. Does your advanced computing strategy adequately address the need for a robust investment in American supercomputing to maintain American competitiveness?

Answer. The fiscal year 2004 budget request for Advanced Scientific Computing Research includes $14 million for research in next generation computer architectures (NGA) for scientific simulation. The NGA allows us to embark on an R&D investment strategy to provide future high performance computing resources that are optimized for scientific simulations in areas of strategic importance to the Department.

Question. Given the remarkable successes of the Human Genome Project, can you help the Committee understand the new science drivers behind the Genomes to Life program?

Answer. The Human Genome Project, and DOE's associated Microbial Genome Program, determined a representative human DNA sequence and the DNA sequences of a rapidly growing number of microbes (nearly 100), most with direct relevance to DOE mission needs in energy and the environment. While the availability of genomic DNA sequence information has revolutionized the way scientists think about and do biology it is only a first of what will certainly be many very large steps. An organism's DNA sequence is the blueprint, the complete set of genetic instructions, which biology uses to create a living, working organism. It gives scientists a complete list of all the parts (proteins for example) along with the genetic on/off switches and rheostats that the organism uses to make sure that all of its genes are active only at the right time and place. However, the DNA sequence doesn't tell us what all those parts do, how they actually work, how they interact with each other, how they are regulated, and how different organisms, microbes in the case of the Genomes to Life program, interact with each other. These uncertainties are the scientific drivers for the Genomes to Life program. In the end, we want to understand microbes of interest to DOE so well that we have computational models that accurately predict their behavior in response, for example, to environmental contaminants, elevated atmospheric carbon dioxide. With this understanding we can use those microbes to develop biology-based solutions to DOE needs—abundant sources of clean energy, new solutions for cleaning up DOE waste sites, removal of excess carbon dioxide from the atmosphere.

Question. We have a large capital investment in the Office of Science user facilities that serve many users at universities and laboratories. Are we operating these facilities at maximum capacity in the fiscal year 2004 budget to meet the needs of these scientists?

Answer. The science user facilities are operating in the fiscal year 2004 request between 83 and 100 percent of maximum capacity. It is always difficult to find the right balance among completing priorities for facility operations, research, construc-

tion, etc. We are satisfied that we have allocated the funding in the request to achieve the best balance possible.

Question. As I mentioned in my opening statement, I am pleased that the United States has resumed its participation in the ITER project. However, the dollar levels look very low for our first year participation. Are the funds in the budget adequate to fulfill our international requirements?

Answer. The proposed fiscal year 2004 participation is of a preparatory nature, 2 years in advance of the start of construction, planned for fiscal year 2006. In this sense, the $12 million request is sufficient to begin our involvement.

Question. As a follow-up, the U.S. participation seems fairly modest compared to that of several of the international partners. Are you satisfied that it appears that the United States will be just a junior partner in ITER? Is a larger role something we should aspire to?

Answer. As just noted, the proposed fiscal year 2004 level of funding does not necessarily presage the level of U.S. participation during construction. With regard to that participation, the Administration wishes to make a significant contribution to this project. The ultimate answer to your question of participation levels will depend on the final number of interested parties, and I will note that South Korea has recently expressed interest in joining the negotiations.

Question. Are you having any problems attracting top flight scientists to your labs given the deteriorating condition of many of these facilities? If so, what can Congress do to address the situation?

Answer. Recruitment of new staff is particularly critical at this time as the generation that helped build the labs retires and the labs compete in the job market to replace them. While it is always difficult in hot new areas like genomics and nanoscience, decaying facilities and sites, lack of adequate housing for post-doc and graduate students, and salary gaps are making recruitment even more difficult. I should add that retaining the current staff is not easy either.

We have anecdotal comments from Lawrence Berkeley, Brookhaven and Oak Ridge National Laboratories that scientists are, in fact, declining job offers based on the condition of working space offered them. Their concerns range from quality of facilities and equipment and appearance to location and amenities.

Berkeley, Brookhaven and Oak Ridge are our oldest laboratories. Overall, 24 percent of the building space at our laboratories is more than 50 years old. We have identified over $1.5 billion, $1.2 billion of this total is for buildings, of line item projects to renovate, modernize and replace our existing buildings to better support our research missions. A complete listing and description of the projects can be found at the SC web site: http://www.science.doe.gov/SC-80/sc-82 under "Infrastructure Needs Assessment." We appreciate the support from Congress of the President's funding requests to modernize the Science laboratories.

Question. A few years ago you office supported an education program. I see that your fiscal year 2004 budget proposes a new workforce development program. Does this program address the workforce development needs of the scientific community?

Answer. Our approach to science workforce development is to have a comprehensive plan to expand the pipeline of students interested in, attracted to, and retained into science and technology careers. To do so, we have a major effort in offering mentor-intensive internships to undergraduate students at our national laboratories drawn not only from the typical 4-year research institutions but also from non-research institutions and community colleges. We also have a Faculty and Student Teams program that is aimed at developing long-term relationships between the faculty of small non-research institutions and the scientists at our national laboratories.

Of particular interest to us, is the proposed Laboratory Science Teacher Professional Development program. If our Nation is to have a sufficient number of physical scientists and engineers, we need to address the serious declines in these majors among U.S. citizens. A number of commissions and studies have shown that the best route to stimulating student interest is through qualified and exciting teachers especially in the middle school years. Our teacher professional development program is aimed at attacking this problem through mentor-intensive research and focused science-discovery experiences for K–14 teachers. It will forge long-term relationships between the national laboratory scientists and our Nation's science teachers. Through this approach we believe we can produce a group of teachers who will be agents of change and inspiration to their students and local educational communities. We believe this comprehensive plan will utilize the unique human and scientific resources of the national laboratories to help support the future science workforce development of the Nation.

Question. What is so different about your office's approach to High End Computing? What are you doing to develop this important area and what are the benefits?

Answer. There are three major differences to our office's approach to High End Computing. First, we will conduct this effort within the context of an inter-agency strategy in High End Computing, to leverage resources and to provide the strong, broad commitment needed to sustain this long-term strategy. Second, we will engage our scientists with computer design researchers and with U.S. computer vendors through research collaborations, to evaluate computer system bottlenecks and to identify cost-effective solutions. Third, we will support research in the software programming environment to ensure that future supercomputer platforms are easy to use as soon as they become available.

Question. What actions have you taken in the last year to assure the integrity of the Lab Directed Research and Development process?

Answer. The Office of Science implemented the following policy changes to ensure that the LDRD program at its laboratories is executed in full compliance with all Congressional and DOE regulations.

—My office issued detailed guidance on the roles and responsibilities for Headquarters, DOE Site Offices/Operations Offices and the Laboratories regarding adequate reporting and effective oversight of the LDRD program.

—For the first time in the Office of Science, I can personally assure you that a single Federal official—the site office manager—will carry out a prospective review of the laboratories' proposed LDRD projects, ensure their relevance to DOE missions and concur in each project.

—Also, my office developed supplemental implementation guidance for reporting LDRD charges on other Federal agency funded work for others (WFO) projects and it is being implemented by each Site Office.

—The Office of Science provided the necessary data to the CFO's office for the annual LDRD financial report to Congress. This report provides information and analyses to comply with congressional requirements, and supports the conclusion that the LDRD funds clearly benefit the national security missions of the Department by providing innovative new research to underpin future mission capabilities.

—In addition, each year the Science laboratories analyze and report the benefits provided to defense and non-defense customer categories as a percentage of total LDRD project dollars. They demonstrate that LDRD benefits are commensurate with the percentage of funds received.

I have made a personal commitment to ensure that we are fully responsive to Congressional guidance on LDRD and will strive to make our improved processes work efficiently and effectively.

ENERGY EFFICIENCY AND RENEWABLE ENERGY

Question. I see that you have zeroed out funding for the Concentrating Solar Power portion of the solar energy budget. I have been told by many energy scientists, including researchers at the National Renewable Energy Lab (NREL), that CSP holds significant promise for long-term energy potential. Why have you given up on Concentrating Solar Power and what is it going to take to get you to focus on it again?

Answer. EERE's budget reflects numerous factors: Administration priorities, alignment with the Administration's R&D investment criteria, program performance, expected public benefits, and bringing to completion research on some technology applications that are ready to be commercialized. Concentrating Solar Power was identified as a low priority area because of a study by the National Academy of Sciences in 2000 that recommended: "[The Department] should limit or halt its research and development on power-tower and power-trough technologies because further refinements would not lead to deployment." The study also suggested that the Department reassess market prospects for solar dish/engine technologies. Based on these recommendations, the fiscal year 2003 budget began phasing out the CSP program, and the fiscal year 2004 budget terminates it.

In 2002, the Department sponsored two independent technical reviews of Concentrating Solar Power: the first by Sargent & Lundy (S&L), an engineering firm that conducts due-diligence studies in the power sector; the second a review by the National Research Council (NRC) of the S&L study. In November 2002, the NRC submitted its review of the initial S&L study. The NRC found that many of the conclusions from the S&L study were reasonable, but also identified several limitations and deficiencies in the S&L analysis, which S&L has agreed to address. We are awaiting the final report from Sargent & Lundy, and based on our review of that

and the NRC review DOE will reevaluate the possibility of future Federal support for CSP.

Question. In the last two conference reports we have carried language directing the National Renewable Energy Laboratory (NREL) to deploy some of their technologies in Nevada in partnership with industrial and university partners. It is my understanding that this effort is working out well for everyone involved, but I would be interested in your thoughts.

Answer. Within the scope of this Congressionally-directed activity, DOE and NREL staff identified a variety of RDD&D opportunities in fiscal year 2002 that the indicated Nevada constituencies might conduct to complement existing renewable program efforts and provide benefits to Nevada and the U.S. Southwest. In response to a targeted solicitation, nine proposals were selected for award from among 36 proposals. Work on eight of the nine projects commenced in October 2002. The ninth project with Pulte Homes for a Zero Energy Home demonstration project/information center has been delayed due to the departure of Pulte's project lead. Alternate builders are being sought to support Pulte's end of the project and complete the award negotiations. With the fiscal year 2003 appropriations only recently concluded, no new awards have been made. In general, the implementation process is proceeding smoothly but it is too early to characterize the possible program technology and regional energy benefits that may result from this funding.

Question. Biomass seems to have taken a substantial cut in the fiscal year 2004 request. By all accounts this program has been very successful. Why are you cutting back at this time?

Answer. The Department recognizes the tremendous potential of a well-focused biomass R&D program to develop biorefinery technologies that can produce fuels, power, and high-value chemicals and other products. Nevertheless, Congressionally-directed activities reduced the coherence of this program and significantly constrained the ability of our scientists and engineers to move these important technologies forward. Thus, when we made the tough choices about funding the most important research for our Nation's energy security, environmental, and economic goals, we decided to shift funds from the biomass program where the effectiveness of our R&D work was already reduced into other areas, particularly our longer-term hydrogen and fuel cell R&D.

EERE's budget reflects numerous factors: Administration priorities, efficiencies realized by combining all biomass research under one program, alignment with the Administration's R&D investment criteria, program performance, expected public benefits, and bringing to completion research on some technology applications that are ready to be commercialized. It is also important to recognize that in fiscal year 2004, DOE will continue collaborating with USDA in order to leverage both agencies' resources as we are doing in fiscal year 2003. In fiscal year 2003, under a joint solicitation required by the Biomass R&D Act of 2000, USDA will award $14 million and DOE $5 million for cost-shared R&D work identified in the Act.

Question. When you took over as Assistant Secretary 2 years ago, you expended a substantial amount of time and effort in reorganizing the Energy Efficiency and Renewable Energy office. One of the unique features of the final organization chart was the creation of a Board of Directors for EERE. You assured us at the time that the Board of Directors was going to be a panel of your brightest minds and was going to be afforded the opportunity to think big thoughts and advise you directly. More to the point, you assured us that it was not a burial ground for unwanted Deputy Assistant Secretaries. However, in the year since the reorganization went into place, two of your five Directors have left and the other three seem to be engaged in activities not always directly related to your office's mission. Do you still stand by the concept of a Board of Directors?

Answer. One of the innovations of the new EERE business model has been the creation of the Board of Directors. It has also been one of the early successes. Board members have represented EERE and the Department in international climate change deliberations, formed corporate strategies related to the FreedomCAR partnership and Hydrogen Fuel Initiative, and advised on how to reshape the budget to comport with new, emerging priorities. Proof positive of the importance of this unique governmental entity is that we are conducting a national search to replace the recently departing Board members and hope to have an announcement as to their replacement in the coming weeks.

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

SCIENCE

Question. Dr. Orbach, the Pacific Northwest National Lab (PNNL) and major Universities and research institutes in my State are valuable resources for the Genomes to Life program and I urge you to expand the use of those world class facilities. However, I also realize the Office of Science's Biological and Environmental Research program sustained real cuts into the base budget in the fiscal year 2003 Omnibus budget. For this budget year, I would like to work with the Chairman to include significant increases for the Genomes to Life program in the BER budget. Dr. Orbach, what would the Office of Science be able to do with additional funds for the Genomes to Life program?

Answer. Senator Murray, I believe that the fiscal year 2004 President's request for the Genomes to Life program provides robust funding, while balancing the needs of this exciting new program with other equally compelling programs being carried out within the Office of Science. In these very early days of research in the Genomes to Life (GTL) program we have three types of research needs. First, we need to fund large, multi investigator, multi institutional, multidisciplinary research teams to do the kinds of science required by a program whose technology, computational, and experimental challenges are as complex and diverse as those of the GTL program. We have already funded 5 large scientific teams ($5–7 million per year) whose research spans the four core goals of the GTL program (approximately one team per goal): (1) understand all the multi protein molecular machines in DOE-relevant microbes, (2) identify the genetic regulatory machinery that controls these machines, (3) understand complex, DOE-relevant communities of microbes since microbes generally work in communities and not alone, and (4) develop the computational resources needed to make all of this happen. To ensure a diversity of research approaches that is so important for fundamental discovery in science, we need at least two or more teams of scientists addressing each of these large, challenging goals. The fiscal year 2004 President's request includes an additional $29.2 million for GTL. These additional funds could, for example, support an additional large team of scientists focused on each of the four core GTL goals. Second, we need to fund a wide variety of cutting edge research projects that will help us develop many of the specific technologies and research tools that will be needed by our large GTL research teams, by planned GTL user facilities (see below), and, indeed, by tomorrow's scientists across all areas of biology. These individual investigator type projects are analogous to the many projects funded in the Human Genome Project that led to the development of the resources and technologies eventually used to actually sequence the human genome. Third, the proposed GTL plan calls for cost-effective, high throughput user facilities for carrying out much of the routine biology and generating the necessary resources of GTL (and for other areas of biology outside of GTL) just as the Human Genome project needed DNA sequencing factories. Four high throughput facilities are planned for (1) protein production, (2) imaging of microbial proteins, molecular machines, and communities, (3) proteomics, and (4) whole systems analysis.

Question. Dr. Orbach, does the fiscal year 2004 budget request have enough funds to have full utilization of EMSL including computer equipment?

Answer. The fiscal year 2004 budget request for the Environmental Molecular Sciences Laboratory (EMSL) includes $35,149,000 for operating expenses and $1,989,000 for capital equipment. The EMSL is expected to have sufficient funding to allow full utilization of the EMSL, including the new high performance computer.

SUBCOMMITTEE RECESS

Senator DOMENICI. And for all of you who came from the Department and others, thank you for being here.

Thank you.

[Whereupon, at 3:31 p.m., Wednesday, March 12, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2004

MONDAY, APRIL 7, 2003

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

The subcommittee met at 2:40 p.m., in room SD–124, Dirksen Senate Office Building, Hon. Pete V. Domenici (chairman) presiding.

Present: Senators Domenici, Cochran, Craig, and Reid.

DEPARTMENT OF ENERGY

OFFICE OF ENVIRONMENTAL MANAGEMENT

STATEMENT OF JESSIE HILL ROBERSON, ASSISTANT SECRETARY

OPENING STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. Today the subcommittee is going to review the Department of Energy's fiscal year 2004 budget request for (1) the Office of Environmental Management and (2) the Office of Civilian Radioactive Waste Management.

In that regard, we will receive testimony from Ms. Jessie H. Roberson, Assistant Secretary for Environmental Management, and from Dr. Margaret S.Y. Chu, Director of the Office of Civilian Radioactive Waste Management. Both of today's witnesses have testified before this subcommittee before. We welcome you back and we look forward to your testimony today.

For the Office of Environmental Management the Department has requested $7.2 billion, an increase of 4 percent from the current year of $6.9 billion.

Secretary Roberson, since you took this job 2 years ago you have done many impressive things. You have led and completed a top-to-bottom review, you have revised the clean-up estimates to take 35 years and $30 billion off the projected clean-up program, you have significantly narrowed the focus of the program, which was very much needed, you have shaken up the senior management of your office—I do not know that you want to say that. We will just say that for you—downsized the headquarters staff, and you have recompeted existing clean-up contracts, and perhaps most notably, secured increased budget requests from the Office of Management and Budget. That is truly borderline miraculous, considering that they always wanted us to do more with less.

You have successfully increased the amount of money that is going into this function, and now for fiscal year 2004 you are promising to get rid of the Idaho National Engineering and Environmental Laboratory by transferring it to the Office of Nuclear Energy and completely restructuring the budget to focus on your newly defined priority.

All of these we commend you for.

You have been nothing if not very busy during these first 2 years. You have proposed many changes in the programs. Many we have liked, some we are not so sure we like, but all have been vigorously pursued, and I believe your efforts will produce real successes in years to come.

Still you have many challenges ahead, and I am sure you will tell us about them today. You must continue to improve project management. The Department must ensure that the letters of intent and performance management plans produced over the last years are funded and—equally important—followed. The Department must convince the State regulators, jaded by years of broken promises, that the Department is a reliable partner in this clean-up, and the Department must learn to work more efficiently, even in an era of heightened safeguards and security concerns.

Your progress to date has been very good. I look forward to hearing about your plans for fiscal year 2004.

Now, regarding the budget request for the Office of Civilian Radioactive Waste Management, this year it is $591 million, an increase of $131 million, a 28 percent increase. After 20 years of scientific study, last year the President notified Congress that the Yucca Mountain site should begin the rigorous process of scientific and technical review leading to an NRC license for the facility. In July of last year, Congress accepted the President's recommendation, and the Yucca Mountain project now shifts its focus to licensing, building and operating the repository and related transportation infrastructure. This is a huge task, and no one knows that better than our Ranking Member, Senator Reid.

The country has decided to proceed with the construction of a nuclear waste repository, and it will cost close to $10 billion in the next several years to complete it. We are all going to have to work together to ensure a strong future for nuclear power in our country and the world. Economics and environmental protection will demand a major role for nuclear power, and an acceptable spent fuel management policy, but even if we are successful in developing alternative methods of treating spent nuclear fuel, the country must still have a permanent geological repository.

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 all the members of this subcommittee to put together the best possible appropriations bill.

I will now yield to my Ranking Member, Senator Reid. Thank you, Senator Reid.

STATEMENT OF SENATOR HARRY REID

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

Our subcommittee has spent a lot of time working with you, Secretary Roberson, and your staff on the administration's clean-up initiative last year. Obviously, I am happy to see that your budget request fully supports the accelerated clean-up program that has resulted from your efforts last year, but the hard part now begins. We need to turn to the higher dollar totals you are getting now and for the next few years into verifiable progress in getting clean-ups done more quickly and at lower cost.

There are members of this subcommittee and certainly the full committee from States that have much bigger clean-up programs than does Nevada, for sure, and if they have more questions, they will pursue those, the details of that, but your request this year includes a plea for some additional flexibility on the treatment of construction projects, and this is something I am confident Senator Domenici and I can consider.

Let me now talk to you, Dr. Chu. As I understand it, and I am almost certain I am right, this is your first opportunity to testify before this subcommittee. I am most interested in several statements that you made about the Department of Energy's plans for submitting a license application in December of 2004.

One of the most important conclusions of a report issued by the GAO a few years ago was that DOE never rebaselined the Yucca Mountain project. Your written testimony suggests the only thing standing between you and a license application in the fourth quarter of fiscal year 2004 is getting the full fiscal year 2004 budget request. This strikes me as somewhat unlikely, and I suspect it would strike the GAO as absurd, given the technical and financial difficulties that your office has faced for years, not you personally, but your office.

Even if you do file an application on time next year, your supporters are probably going to want to know how it is that you were able to get everything you needed to be done so correctly and promptly when Congress has not given you anything close to your budget request for more than a decade. All of us will want to know what you have done poorly or not at all in a rush to meet these milestones.

As you know, one of the biggest concerns about this project is this issue of transporting waste across the country. Last year the Secretary of Energy seemed to say that there is plenty of time to resolve transportation issues. This is exactly what he said. Because the site has not yet been designated, the Department is just beginning to formulate its preliminary thoughts about the transportation plan. There is an 8-year period before any transportation to Yucca Mountain might occur. This will afford ample time to implement a program that builds upon a record of safe and orderly transportation of nuclear materials and makes improvements to it where appropriate, end of quote.

Your testimony, though, paints a different picture, contrary to what the Secretary said. You indicate in your testimony you have been underfunded and as a result you have deferred critical work on transportation. I am more inclined to believe your testimony than that of the Secretary's. They are not compatible. One has to be more accurate than the other.

The transportation of nuclear waste has tremendous implication for the health and safety of all Americans. It is not an issue that should be used as an example for political purposes. The fact remains, you have not studied transportation and have no assurance that you can do this. I do not understand how you can consider beginning a licensing process for the repository when you do not know how you would transport this waste.

While we are on the issue of trust, I want to make this point about what I feel is the unfair treatment of Nevada. The issue has only been worse, and I am not talking about you personally, because you are new on the job and we have great expectations for you and, as you know, I released a hold that I had on you indicating that I thought you had good credentials and would try to be fair, and you indicated that you would be, and I have nothing to indicate that is not the case.

However, we have $600,000 in oversight funds for the State of Nevada from fiscal year 2002 that have not been released to the State, yet you are also holding half of the funding for the State's affected counties despite the fact that your own internal audits have revealed problems in only two of the counties, that is Nye and Lincoln Counties.

If the audits are revealing disallowed costs in one or two counties, I would prefer that you divert the funding to the other units of affected government rather than sitting on it all. I am not going to defend any counties that are spending Federal dollars inappropriately if that, in fact, is the case, but it is really unacceptable for you to hold all the monies because two counties are doing something allegedly wrong.

And to make matters worse, the DOE has failed to provide oversight funding for the States and counties in the fiscal year 2004 budget. We put some money in, but we should not have to do that. That should be part of the responsibility of you, because there is lofty rhetoric coming out of the Department all the time concerning partnering with our State and its counties, but cutting off all funds does not seem to fill me with any hope that you really care about what is taking place in Nevada.

PREPARED STATEMENT

You have explained to my staff that you called for a pause—that is your word, not mine—on funding, but I do not find any of that compelling and plan to reinsert funding in the fiscal year 2004 bill. I think that would be the right thing to do.

Chairman Domenici has never tolerated the Department treating his State or any other State or any locality shabbily, and I am going to continue the example set by Senator Domenici on how New Mexico has been treated with all the many things the DOE has there, with what I feel should be the treatment of the people of Nevada.

Thank you very much, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF SENATOR HARRY REID

Mr. Chairman, I appreciate you holding this hearing today to discuss the budget for the Environmental Management program and the Yucca Mountain program.

Like you, I am pleased to welcome Ms. Jessie Roberson, the Assistant Secretary for the Office of Environmental Management, and Dr. Margaret Chu, the Director of the Office of Civilian Radioactive Nuclear Waste.

Secretary Roberson, I am pleased you are here today. As the steward of the largest program office within the Department of Energy, you have a huge responsibility.

Our Subcommittee spent a lot of time working with you and your staff on the Administration's Clean-up Reform Initiative last year. Obviously, I am very happy to see that your budget request fully supports the accelerated clean-up program that has resulted from your efforts last year.

The hard part begins now. We need to turn the higher dollar totals you are getting now and for the next few years into verifiable progress on getting the clean-ups done more quickly and at lower cost.

There are several Members here from states that have much bigger clean-up programs than does Nevada, so I will allow them to pursue you on those details.

I see that your request this year includes a plea for some additional flexibility on the treatment of construction projects. This strikes me as something that Chairman Domenici and I can at least consider.

However, let me now turn my attention to today's other witness, Dr. Chu.

Dr. Chu, you have been on the job for just a little over a year now. For whatever reason, the Administration was not able to find a Bible and get you sworn in before last year's hearing despite your confirmation by the Senate, so I am glad you are finally getting your first opportunity to testify before this Subcommittee.

I want to talk for a few minutes about several components of your testimony.

I am most interested in several statements you make about the Department of Energy's plans for submitting a license application in December 2004.

One of the most important conclusions of a report issued by the General Accounting Office a few years ago was that the DOE never re-baselined the Yucca Mountain project.

Your written testimony suggests that the only thing standing between you and a license application in the fourth quarter of calendar year 2004 is getting the full fiscal year 2004 budget request.

This strikes me as unlikely, and I suspect it would strike the GAO as absurd, given the technical and financial difficulties you have faced for years.

I completely understand why you would be reluctant to take advice from me on a Yucca Mountain-related matter, but I am going to offer you some anyway: if you are not going to make the deadline, you should probably start laying that groundwork now. If you wait until next year, the folks you are going to anger are going to be the Members whose support you need most.

Additionally, even if you do file an application on-time next year, your supporters are probably going to want to know how it is that you were able to get everything you needed to do done correctly and properly when Congress has not given you anything close to your budget requests for the better part of a decade. All of us will want to know what you have done poorly or not at all in a rush to meet this milestone.

As you know, one of my biggest concerns about this project is this issue of transporting waste across the country. Last year, the Secretary seemed to say that there is plenty of time to resolve transportation issues.

Here is what he said:

"Because the site has not yet been designated, the Department is just beginning to formulate its preliminary thoughts about a transportation plan. There is an eight-year period before any transportation to Yucca Mountain might occur. This will afford ample time to implement a program that builds upon our record of safe and orderly transportation of nuclear materials and makes improvements to it where appropriate."

However, your testimony paints a very different picture. You indicate in your testimony that you have been underfunded and as a result you have "deferred critical work on transportation."

The transportation of nuclear waste has tremendous implications for the health and safety of all Americans.

It is not an issue that should be used as an example to make a political point.

How are we supposed trust you to secure the health and safety of Nevadans, when we can't even trust you to tell the truth about what you are doing with your budget.

The fact remains you haven't studied transportation and have no assurances that you can do this safely.

I do not understand how you can consider beginning a licensing process for the repository when you don't even know how you would transport all this waste or if you can even do this safely.

While we are on this issue of trust, I would like to make one final point about your program's treatment of the people of the Nevada.

In my view, the Department of Energy has shown little regard for the people of Nevada.

This issue has only become worse in the last few years. In fact, nearly $600,000 in oversight funds for the state of Nevada from fiscal year 2002 have not yet been released to the state. You are also holding on to half of the funding for all of Nevada's affected counties despite the fact that your internal audits have revealed problems in only two of them (Nye and Lincoln).

If the audits are revealing disallowed costs in one or two counties I would much prefer that you divert the funding to the other units of affected government rather than sitting on it. I will not defend any counties that are spending Federal dollars inappropriately, if that is in fact the case, but it is unacceptable for you to be withholding those funds.

To make matters worse, the Department of Energy has failed to provide oversight funding for the state and the counties in the state of Nevada in the 2004 fiscal year budget. For all of the lofty rhetoric coming out of the Department concerning partnering with our state and its counties, cutting off all funding does not fill me with hope that you really care about Nevadans at all.

I understand you have explained to my staff why it is that you have called for a "pause"—your word, not mine—in funding. However, I don't find any of that compelling and plan to re-insert funding into the fiscal year 2004 bill.

Chairman Domenici has never tolerated the Department treating his state or his localities shabbily and neither will I.

Senator DOMENICI. Senator Cochran.

STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Mr. Chairman, I would like to just make an opening statement and submit some questions for the record.

Mr.Chairman, I am pleased to be here today to hear the testimony of Secretary Roberson. She oversees a very important program within the Department of Energy, the Environmental Management program. That program is currently conducting testing on a type of technology which has the potential to expedite the clean up of nuclear sites. This process is called the "advanced vitrification system" and the research on it is conducted at Mississippi State University's Diagnostic Instrumentation and Analysis Laboratory (DIAL).

Following last year's hearing on this program, I was pleased to learn the Department had invested in the preparation of a work plan that would perform the engineering and design to bring the advanced vitrification system to a pilot plant for further testing. The advanced vitrification system technology has been tested and evaluated for the Department for several years at DIAL.

I commend the Administration for its efforts to reform the waste program and I am pleased that our subcommittee provided funds to demonstrate higher risk, high-payoff technologies, including the advanced vitrification system technology. This Committee has also continued to express its support for these systems, most recently in the fiscal year 2003 Omnibus Appropriations Conference Report. In that the Congress urged "the Department to consider continued evaluation, development and demonstration of the Advanced Vitrification System" and directed the Department to "develop the vitrification-in-the-final-disposal-container AVS system in accordance with the work plan."

Mr. Chairman, the government should continue to invest in advanced backup technologies that serve as an insurance policy and may be essential to the national defense. I look forward to hearing from Secretary Roberson on the progress she and Secretary Abraham are making to reform the Environmental Management program and achieve schedule and cost savings in the waste program. I am also interested in the status of the Department's evaluation of alternative technologies and I will have some questions regarding that effort and her intentions for implementing the Department's work plan for the advanced vitrification system technology.

Madam Secretary, I am here to ask a question really, but I will submit the questions I have for the record and ask you to submit your answers for the record so we will not unnecessarily delay the hearing, but at last year's hearing you may remember that I raised a question about some competing technologies that might be available in our clean-up efforts, and I was very pleased to learn at that hearing that you had directed the preparation of a work plan that could lead to the establishment of a pilot plant for competitive testing against other technologies.

This approach that is being tested now at Mississippi State University has the potential to provide reduced costs and competition that is needed in my opinion in this program. We put in the committee report last year a suggestion that this was an appropriate direction for the Department to move.

ADVANCED VITRIFICATION SYSTEM (AVS) AND RADIOACTIVE ISOLATION CONSORTIUM (RIC)

Much of the funding has shown that the potential of the advanced vitrification system at the Diagnostic and Instrumentation Laboratory at Mississippi State University is expected to provide analytical analysis that will answer questions and provide a testing history that could be used to compare with competing systems. I am hoping that you can give us an updated report on the status of this initiative and what your plans are for developing alternative technologies that offer a cost and schedule savings in this program. That is my purpose for being here.

Ms. ROBERSON. We will be glad to do that for you, Senator.

[The information follows:]

As you may be aware, the DOE Office of Inspector General issued a report on the Advanced Vitrification System (AVS) in August 2002, providing the following recommendations:

—Delay funding decisions on AVS until major uncertainties have been addressed;
—Develop specific, focused performance measures to more fully gauge progress in the evaluation and selection of an alternative or advanced vitrification technology; and
—Address all technical, programmatic, and financial challenges and uncertainties identified in previous studies during the upcoming business plan evaluation.

I have agreed with these recommendations and developed an Action Plan, which describes an approach to evaluate and develop immobilization alternatives for treating high-level waste (HLW) at Hanford. We have evaluated the technical and financial merits of AVS and other alternatives recommended by a technical panel. Those alternatives include an advanced Cold Crucible Melter and an Advanced Joule Heated melter. As part of the evaluation, questions regarding technical details of the AVS were provided to the Radioactive Isolation Consortium (RIC). Representatives from the RIC provided the Department with responses to the questions and participated in a review which was held on February 24–28, 2003, in Richland, Wash-

ington. The two review teams (technical and financial) are currently drafting their reports and will submit them to a DOE technical working group (TWG).

The TWG has the responsibility of reviewing the reports and making a recommendation to me for future research and development of immobilization alternatives to treat HLW. A decision is currently planned for June 2003. The Department has extended the period of performance and associated funding to the Radioactive Isolation Consortium (RIC) through the end of June 2003 to support this schedule.

Senator COCHRAN. I appreciate it. Thank you very much.

Senator DOMENICI. Thank you, Senator.

Secretary Roberson, will you proceed? Your testimony will be made a part of the record as if read. If you would abbreviate it, we would be pleased.

Senator REID. If I could just say this, I want to tell you how much I appreciate you holding a meeting on Monday. We should do more of these Mondays and Fridays when we do not have the Senate in session. We can do this uninterrupted. We are not running in and out of here. It is just such a better system, and I appreciate you doing this.

Senator DOMENICI. Thank you. The only problem is, you are among the few that appreciate it.

The other ones would rather not be at work on Monday, but I think it is a very good day, I agree with you.

Please proceed.

STATEMENT OF JESSIE HILL ROBERSON

Ms. ROBERSON. Thank you. Good afternoon, Chairman Domenici, members of the subcommittee, Senator Cochran, Senator Reid. I am pleased to be here today to discuss the President's fiscal year 2004 budget request for the Department of Energy's Environmental Management program.

Eighteen months ago, Secretary Abraham directed me to review from top-to-bottom the EM program and uncover those obstacles hindering efficient and effective clean-up of our sites. As you may be aware, the top-to-bottom review, which was published last February, concluded that EM had lost the focus of its core mission to remedy the legacy of the Cold War's impact on the environment. We had to take immediate action.

With the top-to-bottom review as the blueprint for the program, we have aligned EM's focus from risk management to risk reduction and accelerated clean-up and closure, the intended mission of the Environmental Management program from the start. We have made remarkable progress this year towards our goal of saving at least $50 billion over the life of the program and completing the program at least 35 years earlier, but we must not succumb to the idea that all problems are solved.

The momentum we have gained must not be compromised or allowed to weaken. We must stay the course. The actions and strategies we have implemented, while producing key results, must be given the chance to further evolve, bringing even greater gains in risk reduction and clean-up sooner.

Underpinning these strategies are several groundbreaking reforms that will propel us forward in our thinking and our actions. We are implementing a new acquisition strategy. We are aggressively using and managing the acquisition process as a key tool to

drive contract performance and risk reduction results. We have established 10 special project teams to carve new innovative paths for accelerated clean-up. Each team is formulating corporate-level initiatives and activity-specific actions to accelerate risk reduction further and in a much more improved manner.

We have implemented a strict configuration control management system that baselines a number of key critical program elements. Robust change control and monitoring of those key elements will facilitate a high confidence level that the direction of the program is on course and that our objectives are being accomplished.

The budget request before you is one of our most crucial reforms. This request, a cornerstone of our transformation, is a major step toward aligning performance with the resources needed to expedite risk reduction and clean-up. This budget request sets the foundation for budget planning and execution of the accelerated risk reduction and closure initiatives.

Today, the EM program is still very much a defense environmental liability, responsible for the disposition of many tons of special nuclear material, 88 million gallons of radioactive liquid waste, 2,500 metric tons of spent nuclear fuel, 135,000 cubic meters of transuranic waste, and well over 1 million cubic meters of low-level waste. I ask the committee to stay with us as we continue our quest to eliminate risks posed by these materials at a pace few of us could have imagined 2 years ago.

For example, just within the last week at Savannah River, the Defense waste processing facility was restarted on March 29, and completed its first canister pour with waste and a new glass FRIT. At Savannah River on April 1, the first 3013 cans for safe long-term storage of plutonium materials was produced in the FP line packaging and stabilization system 60 days ahead of schedule.

At Rocky Flats, the Plutonium Stabilization and Packaging System has produced 425 containers in the first 3 months of this year and is producing at a rate of 140 3013's per month, well ahead of the schedule for that campaign.

At Hanford, as of April 4, we are 97 percent complete in stabilizing plutonium residues and are expecting to finish that commitment 10 months ahead of schedule. We are also removing and stabilizing spent fuel from K basins at a rate more than five times greater than when we began operations and are about 54 percent complete.

At the Office of River Protection, waste retrieval from Tank C–106 commenced on March 31. At Fernald, contract modification was completed on March 28, making closure in 2006 an actual contract requirement and reducing the target cost by $400 million. Contract transition at Mound has been successfully completed and is focused on completing no later than March 2006. At Oak Ridge, equipment removal operations commenced in Building K–29 and ETTP, and at Idaho, the Advanced Mixed Waste Treatment project sent its first TRUPACT–II to WIPP on March 31.

None of these were viewed as realistic goals 2 years ago by our skeptics and critics. We view our job as not to let skeptics convince us of what we cannot do, but to demonstrate by our actions what we can do. New ideas and breakthroughs have grown from looking beyond the paradigm of risk management to the new focus of accel-

erated risk reduction. We are experiencing the realization that for the first time the goal of completing the current clean-up is within our grasp.

PREPARED STATEMENT

We are at a turning point in this program in spite of the challenges ahead, and there are challenges, challenges that have existed from the beginning of this program. We did not create them in accelerated clean-up. They have simply been lying in wait. We are taking these challenges on. Our momentum is building. I ask for your support of our fiscal year 2004 budget request of $7.24 billion to ensure our impetus does not diminish.

Thank you, sir.

[The statement follows:]

PREPARED STATEMENT OF JESSIE HILL ROBERSON

Mr. Chairman and Members of the Subcommittee, I am pleased to be here today to discuss the reform of the Department of Energy's Environmental Management (EM) program, our progress in implementing cleanup reform, and the importance of sustaining the momentum for the benefit of the many generations to come. I appreciate the opportunity to sit before you and share our actions of this past year and the opportunities that lie before us.

In 1996, Congress took a bold step that fundamentally altered the course of the cleanup program in the Department of Energy when it supported the accelerated closure of Rocky Flats. This was at a time when there was little reason and no demonstrated track record to believe that the Department could deliver on a challenge of this magnitude. Congress took further steps in 1999 when it created the Defense Facilities Closure Projects account and challenged the Department of Energy to close three of its nuclear sites by 2006. While it has taken significant effort and dedication, today all three of those sites, Rocky Flats, Mound, and Fernald, will close on or ahead of schedule. The vision and support that Congress provided planted the seeds of success in the cleanup program and we have already begun harvesting those fruits.

Nonetheless, success at other sites in the EM program remained elusive. Year after year, it continued to take longer and cost more to complete the cleanup and we slowly devolved into a program that promised little and delivered even less. By the end of fiscal year 2001, the environmental cleanup program stood as one of the largest liabilities of the Federal government.

Last year, as ordered by Secretary Abraham, the Department completed a Top-to-Bottom Review of its cleanup program and concluded that significant change was required in how the Department attacked risk reduction and cleanup for the rest of its sites. Two years ago, as costs continued to increase, we estimated that it could take over $300 billion and nearly 70 more years to complete cleanup—20 years longer than the actual operations of our oldest facilities and 25 times longer than the actual construction of our most complex facilities. We concluded that a fundamental change to how we approached, managed, and performed the entire cleanup program was required. Last year I started the effort to reform this massive program, and while our most daunting challenges still lie in front of us, we are now focused, moving in the right direction. The accelerated cleanup program has started to build momentum.

Today the EM program is still very much a defense liability, responsible for many tons of special nuclear material in the form of plutonium and enriched uranium, which would make it one of the world's largest nuclear super-powers. In addition, the EM program is responsible for safely disposing of 88 million gallons of radioactive liquid waste, 2,500 metric tons of spent nuclear fuel, 135,000 cubic meters of transuranic waste, and well over 1 million cubic meters of low level waste. I ask the Committee to stay with us as we continue our quest to eliminate risks posed by these materials at a pace few of us could have ever imagined.

Since the completion of Secretary Abraham's Review, the estimated cost to complete the cleanup program has decreased by over $30 billion and the time to complete will be shortened by 35 years. This means that the risks to our workers, our communities, and the environment will be eliminated a generation earlier than the previous plan. But I am not satisfied and neither should you. My goal is to accel-

erate risk reduction and cleanup and shorten this program even further while decreasing costs by more than $50 billion.

In fiscal year 2004, President Bush is requesting a record $7.24 billion for the accelerated cleanup program. The Administration's funding request continues the great progress we made last year with our regulators and communities. The Administration believes that this investment, which we expect to peak in fiscal year 2005, is crucial to the success of accelerated risk reduction and cleanup completion. We anticipate funding will then decline significantly to about $5 billion in 2008.

The EM portion of the fiscal year 2004 Congressional budget contains some creative and innovative changes that are greatly needed to support our accelerated risk reduction and closure initiative. The first of these is a new budget and project baseline summary structure that focuses on completion, accountability, and visibility; institutionalizes our values; and integrates performance and budget. Requested funding can clearly be associated with direct cleanup activities versus other indirect EM activities. Second, where appropriate, we have limited the inclusion of line-item construction projects as activities for separate authorization and funding controls to facilitate timely and sensible tradeoff decisions that otherwise may not be possible. We solicit your support for this flexibility as we implement our accelerated cleanup strategies, with the understanding that improving project management remains a significant challenge for the Department. Third, this budget reflects the transfer of multiple activities that are not core to the accelerated cleanup mission to other Department elements. They include the transfer of INEEL landlord responsibilities to the Office of Nuclear Energy, Science and Technology, transfer of the long-term stewardship program to the new Office of Legacy Management, and several others.

The Administration considers this program vitally important. We stand at an important crossroads in the cleanup program today—success is clearly within our reach, but so is failure. I believe the cleanup of the former nuclear weapons complex is far too important a matter to be left to chance. With your past assistance, we laid a solid foundation that is already showing signs of early success. Moving forward, we need your continued support to achieve success.

A YEAR OF TRANSFORMATION

Last year at this time, the Top-to-Bottom Review had been recently released, citing recommendations to quickly improve performance. I wish to take a moment to recap the recommendations and update you on our progress in remedying these weaknesses.

Improve DOE's Acquisition Strategy and Contract Management.—A key conclusion of the Top-to-Bottom Review was EM's contracting approach was not focused on accelerating risk reduction and applying innovative cleanup approaches. Processes for contract acquisition, establishment of performance goals, funding allocation, and government oversight were managed as separate, informally related activities rather than as an integrated corporate business process. Contracting strategies and practices made poor use of performance-based contracts to carry out EM's cleanup mission. The Top-to-Bottom Review Team recommended that all current performance-based contracting activities be reviewed and, where necessary, restructured to provide for focused, streamlined, and unambiguous pursuit of risk reduction.

Move EM to an Accelerated, Risk-Based Cleanup Strategy.—EM's cleanup strategy was not based on comprehensive, coherent, technically supported risk prioritization—another important observation cited by the Review team. The program was implementing waste management practices and disposition strategies costing millions without providing a proportional reduction in risk to human health and the environment. Cleanup work was not prioritized to achieve the greatest risk reduction at an accelerated rate. Interpretation of DOE Orders and requirements, environmental laws, regulations, and agreements had created obstacles to achieving real cleanup benefiting neither human health nor the environment. Resources were diverted to lower-risk activities. Process, not risk reduction, had become the driving force. The Review recommended that DOE initiate an effort to review DOE Orders and requirements as well as regulatory agreements, and commence discussions with states and other regulators with the goal of accelerating risk reduction.

Align DOE's Internal Processes to Support an Accelerated, Risk-Based Cleanup Approach.—The Review found DOE's own internal processes inconsistent with a risk-based cleanup approach. The hazards at the DOE sites and the liability associated with them did not appear to dictate the need for urgency in the cleanup decisions. The Review team emphasized that the EM mission cannot be accomplished by continuing business as usual. Immediate actions in all elements of the EM program would need to be taken to transform DOE's processes and operations to reflect the new accelerated risk-based cleanup paradigm.

Realign the EM program so its scope is consistent with an accelerated, risk-based cleanup and closure mission.—The Review team underscored the necessity that EM should redirect, streamline, or cease activities not appropriate for accelerated cleanup and closure. A laser-like focus on the core mission was needed to realize the cleanup of the Cold War legacy in our lifetime. Though many of these non-core activities may be worthy of DOE or federal government support, a reassessment of the relevance of non-related or supporting missions was warranted to focus the EM program. The financial and administrative resources required for EM implementation and oversight of these activities represent a major commitment for EM.

In response to the Review's recommendations we have:

Developed and are implementing a new acquisition strategy.—In the area of acquisition strategy and contract management, we have not been idle. We are aggressively using and managing the acquisition process as one tool to drive contract performance. We are evaluating both the performance and design of every contract in this program and as opportunities become clear we are making corrective action. One example of our progress is the December 2002 award of a new contract for the cleanup and closure of the Mound site. The whole process, which required changes in DOE's internal business practices, was accomplished in just 6 months from time of the issuance of the Request for Proposals (RFP) to the awarding of the contract. Another example is at Oak Ridge, where we are transforming the cleanup contract into a closure contract with a one-year demonstration period to further our overall cleanup goals. Changing this contract arrangement will accelerate cleanup work by 5 years and save $1 billion over the life of the program at the site.

But that is just the tip of the iceberg. I envision a broader overhaul of EM's entire acquisition process, including our methodology for formulating acquisition strategy, developing RFPs, identifying performance-based incentives, and providing oversight of contractor performance. We are pursuing a path to both increase competition by enlarging the pool of potential contractors competing for our work and increase the accountability of our contractors to deliver real, meaningful cleanup. Our acquisition strategy focuses on five areas. First, we are "unbundling" work into smaller packages where it makes sense. Second, we are driving innovation and improved cost performance through the use of small and smaller businesses, complementing the unbundling strategy. Third, we are actively promoting innovation in our cleanup work through the competitive process where improved performance is required. Fourth, we are extending or modifying contracts where excellent performance has been clearly demonstrated. Fifth, we are modifying and changing our acquisition processes to support these strategies in order to allow them to be successfully implemented.

To complement these steps, we have launched a Contract Management Review Board to review our contracts from a more corporate perspective. Our goal is to ensure that the lessons learned, both good and bad, from all our endeavors are institutionalized into our contracts and business practices and that we suspend those contract philosophies that do not support accelerated risk reduction and cleanup of our sites.

Established 10 special project teams to carve new innovative paths for accelerated cleanup and risk reduction.—The Top-to-Bottom Review identified unfocused and inconsistent work planning processes as the principal contributors to EM's uncontrolled cost and schedule growth. To address this failing, I formed ten special corporate projects, each assigned a specific strategic objective. Each team is formulating corporate level initiatives to accelerate risk reduction in a much improved, more cost-effective manner. Objectives include contracting, high-level waste, and consolidation of Special Nuclear Material. Each of the special projects has a dedicated project manager, supported by an integrated project team, to identify, plan, and execute needed changes in the EM program. These project teams, using project management principles, are key to correcting our work planning processes and instilling rigor into our internal management decisions.

Meaningful, lasting reform must be the result of leadership and commitment but it must find its way into the very core of the organization to be sustained. Building a high-performing culture requires attracting and retaining talented people who deliver excellence in performance. Improving management efficiencies requires that organizations challenge, hold accountable, and reward top-performing employees. This corporate initiative does just that. These ten teams will herald a new standard of performance, innovation, and greater results for the EM program. Our goal is not just to establish performance-based contracts but to solidify a performance-based program for all who choose to have a role.

Implemented a strict configuration management system.—Another reform we have implemented is a strict configuration management system that baselines a number of key, critical program elements. Examples of some of the key elements include the

Performance Management Plans, EM corporate performance metrics, contract performance measures/incentives, and life-cycle costs. Strict change control and monitoring of these key elements will facilitate a high confidence level that the goals and direction of the accelerated cleanup initiative are being met.

In October 2002, EM established several new corporate performance measures for the program. EM will continue to track corporate measures such as the number of geographic sites completed, the amount of transuranic waste disposed, and the number of plutonium metal/oxides packaged. However, new corporate measures such as the volume of liquid waste in inventory eliminated, number of liquid waste tanks closed, number of enriched uranium containers packaged, and amount of depleted and other uranium packaged are a key part to the successful execution of EM's accelerated cleanup strategies. In addition, EM is establishing site resource-loaded baselines that will enable the program to comprehensively track progress against its accelerated risk reduction, cost, and schedule objectives. The establishment of these new performance measures and a rigorous configuration management system are resulting in clear lines of accountability for what is expected. With this critical tool, EM is now able to make crucial corporate decisions that will keep the program on track, control cost increases, and minimize schedule growth.

Identified work activities that directly support accelerated cleanup from those that do not.—A key finding of the Top to Bottom Review was that EM was supporting and managing several types of activities that may not be appropriate for an accelerated risk-reduction and cleanup program. In that light, I took a hard look at those activities and, while they may be of importance to the Department and the Federal government, they may not be best aligned in the EM program. Based on that assessment, for fiscal year 2004, the following identified program elements were not included in the EM budget but, because of their importance to the Department, have been transferred to other DOE organizations with which they are more appropriately aligned. They represent activities that are not part of the core accelerated risk reduction and closure mission.

—Environmental Management staff at the National Energy Technology Laboratory transferred to the new Office of Legacy Management.
—The Analytical Services Program transferred to the Office of Environment, Safety and Health.
—The Radiological and Environmental Sciences Laboratory transferred to the Office of Environment, Safety and Health.
—Pre-existing liabilities and long-term contractor liabilities transferred to the Office of Legacy Management.
—The Long-term Stewardship Program transferred to the Office of Legacy Management.

In addition, landlord responsibilities for the Idaho National Engineering and Environmental Laboratory were transferred to the Office of Nuclear Energy, Science and Technology to reflect the site's major mission realignment.

Revitalized our human capital strategy.—Another key management reform is the human capital revitalization that strongly supports the President's Management Agenda. This reform focuses on building a high-performing culture that attracts and retains talented managers and staff to deliver sustained performance excellence. We have built a more robust performance accountability system that holds each manager and employee accountable for actions and results and rewards them accordingly. Individual performance management is being fully integrated into EM organizational goals; executives are being held accountable for achieving strategic program objectives, fostering innovation, and supporting continuous improvement.

We are implementing an executive mentoring program with our senior executives with the objective of having a cadre of executives who are well-rounded and are prepared to effectively lead irrespective of the position to which they might accrue. We are becoming a flatter and more effective organization with a goal to have an organizational structure that is clearly aligned to deliver on our accelerated risk reduction and closure initiative.

Aligned tangible, consequential results to resources with this budget request structure.—Given all these changes and advances, the budget request before you is one of the most crucial. This budget request structure is the foundation for budget planning and execution of the accelerated risk reduction and closure initiative. This new structure clearly identifies scope and resources that directly support the core accelerated cleanup and risk reduction mission from those that do not. The new structure consolidates risk reduction and completion activities into only two appropriations (defense and non-defense) in addition to the existing Uranium Enrichment Decontamination and Decommissioning Fund. This structure removes barriers to facilitate better resource utilization and segments accelerated completion into three distinct accounts to highlight accountability.

In addition, implementation of this new structure will complement other management reform initiatives by focusing on completion or endpoint, clearly delineating how resources will be utilized (i.e., for direct cleanup activities or for other activities in the program that only indirectly relate to on-the-ground cleanup activities), and communicating the goals and objectives that we value. Last, but not any less important, this new structure will support integration of performance and budget for the EM program.

THE FISCAL YEAR 2004 BUDGET REQUEST

The fiscal year 2003 budget was a transitional budget in which management reforms were developed and significant efforts were put forth to improve performance, accelerate cleanup, and reduce risk. The strategic groundwork has been laid, and the EM program is moving forward with its risk reduction and cleanup strategies. The investment we have requested in our fiscal year 2004 budget will keep EM's new accelerated risk reduction and cleanup strategies on track.

The EM fiscal year 2004 budget request has been tailored to meeting our mission of accelerated risk reduction and completion. This budget fully reflects each site's new accelerated risk reduction and cleanup strategies. The fiscal year 2004 budget request is a major step toward aligning performance with the resources needed to expedite risk reduction and cleanup.

The 2004 budget request for EM activities totals $7.24 billion to accelerate risk reduction and closure. The request includes five appropriations, three of which fund on-the-ground, core mission work, and two of which serve as support. The five appropriations and associated requested funding are:

—Defense Site Acceleration Completion ($5.8 billion)
—Defense Environmental Services ($995 million)
—Non-Defense Site Acceleration ($171 million)
—Non-Defense Environmental Services ($292 million)
—Uranium Enrichment Decontamination and Decommissioning Fund ($418 million)

Through the implementation of accelerated cleanup strategies, the EM program anticipates that cleanup will be completed by 2035, at least 35 years earlier than originally anticipated, with the potential of life-cycle savings of greater than $50 billion.

In building the request, the Department applied the following principles and priorities:

Protect workers, public, and the environment.—The budget request continues to place the highest priority on protecting workers, the public, and the environment. The implementation of new cleanup strategies will allow for an overall improvement in safety and reduction in risk because cleanup will be completed sooner, reducing the extent to which workers, the public, and the environment have the potential to be exposed.

Ensure the appropriate levels of safeguards and security.—Due to heightened security levels throughout the nation, it is crucial that we maintain vigilance in our domestic security to protect our citizens. The EM program is responsible for many tons of surplus nuclear material. This budget request reflects our increased safeguards and security needs. In particular, the sites with the largest funding needs are Savannah River and Hanford. Savannah River's increase in funding supports protective force staffing for the HB Line Category 1 Process and plutonium stabilization activities, perimeter improvements, maintenance on security systems, vulnerability assessments, and Capital and General Plant Project upgrades. Hanford's increase in funding supports updates to the Critical Facility Vulnerability Assessment, additional security employees for Waste Treatment and Immobilization Plant construction, security clearance processing, drug testing, and accelerated movement of special nuclear material to Savannah River and/or the Grout Facility.

Reduce risk methodically.—Accelerated risk reduction requires a pragmatic approach to cleanup based on real risk reduction. Risk reduction occurs in various stages, which involve the elimination, prevention, or mitigation of risk. Because safe disposal of many materials will take a number of years to complete, our major focus of risk reduction is stabilization of high-risk materials.

The following categories of materials are considered to pose the highest risk:

—High-curie, long-lived isotope liquid waste
—Special nuclear materials
—Liquid transuranic (TRU) waste in tanks
—Sodium bearing liquid waste in high-level waste tanks
—Defective spent nuclear fuel in water basins
—Spent nuclear fuel in leaky or poor water chemistry basins

—High TRU waste content (greater than 100 nanocuries/gram)
—TRU waste stored on the surface
—Remote-handled (RH) TRU waste
—Decontamination & Decommissioning of highly contaminated facilities

Although all of these items are to be considered when setting priorities, their relative ranking may vary from site to site. For example, the following sites have planned activities/milestones for fiscal year 2004 that correspond to their site-specific risk categories.

Hanford

—Close 6 single-shell tanks; the first tanks closed at the site.
—Complete interim stabilization of Hanford single-shell tanks, which completes removing all pumpable liquids from single-shell tanks.
—Complete 30 percent of the Hanford Waste Treatment and Immobilization Plant.
—Complete stabilization of plutonium metals, oxides, and residues.
—Complete removal of all spent fuel from the K Basins and place in dry storage in the Canister Storage Building.

Idaho

—Complete the transfer of spent nuclear fuel in the Power Burst Facility canal from wet storage to dry storage at the Idaho Nuclear Technology and Engineering Center.
—Ship off-site a total of 1,819 kg total uranium (leaving a remainder of 825 kg).
—Begin the transfer of EBR–II spent nuclear fuel from the Chemical Processing Plant to the Argonne National Laboratory—West for treatment and disposition as an interim step to removing all EM spent nuclear fuel from wet storage.
—Support treatment of sodium-bearing waste: complete conceptual design activities for the sodium bearing waste treatment project, initiate preliminary design on primary technology, and complete Sodium Bearing Waste Treatment Facility Critical Decision 1 documentation; and complete characterization of remaining liquids and solids in the 11 underground tanks.

Rocky Flats

—Remove and ship remaining plutonium metals, oxides, and residue.
—Begin stabilization and hazard removal in two TRU waste buildings.

Savannah River

—Permanently close tanks 18 and 19, completing the closure of the first tank grouping.
—De-inventory spent nuclear fuel from the Receiving Basin for Off-site Fuels.
—Complete treatment of the aqueous portion of the plutonium-uranium extraction (PUREX) waste at the Saltstone Facility.
—Produce 250 canisters of vitrified high-level waste.

Accelerate cleanup results.—To accelerate cleanup, 18 sites have developed Performance Management Plans (PMPs), which identify strategies, end states, end dates, key milestones, and commitments that facilitate accelerated cleanup and site closure. These PMPs were developed in collaboration with our state and federal regulators.

For fiscal year 2004, several examples of sites' milestones for accelerated cleanup are:

Brookhaven National Laboratory

—Submit Brookhaven Graphite Research Reactor Draft Record of Decision to our regulators to determine the final end-state for Brookhaven Graphite Research Reactor.
—Complete construction of the Airport/Long Island Power Authority Groundwater Treatment System.

Hanford

—Complete cocooning of the H Reactor.
—Complete excavation/removal of 100 B/C Process Effluent Pipeline.
—Dispose of 500,000 tons of remediation waste from waste sites and burial remediations in the Environmental Restoration Disposal Facility.

Idaho

—Begin shipment of RH TRU waste offsite (6-year acceleration) supporting completion of shipments by 2012.
—Complete cleaning and grouting of second pillar and panel vaulted tank, supporting acceleration of tank farm facility closure by 4 years to 2012.

Lawrence Livermore National Laboratory—Livermore Site

—Construct, install, and operate a new treatment system to address groundwater contamination.

Los Alamos National Laboratory

—Permanently dispose of over 600 cubic meters of legacy TRU waste through an integrated strategy of segregating, decontaminating, and shipping to the Waste Isolation Pilot Plant (WIPP).

—Complete shipment of 2,000 drums and initiate retrieval of legacy TRU waste stored below grade.

Nevada Test Site

—Complete remediation of 55 release sites.

—Continue to dispose of low-level waste from complex-wide generators in support of closure of other EM sites.

—Continue characterization and shipments of TRU waste to WIPP.

Oak Ridge

—Complete East Tennessee Technology Park K 29/31/33 decommissioning for reuse (one-year acceleration), supporting closure of the site 8 years earlier than planned.

—Complete Molten Salt Reactor Experiment flush salt removal, and complete fuel salt removal from the first of two drain tanks.

Pantex

—Continue pump and treatment of the perched groundwater and evaluation of more efficient cleanup technologies to mitigate the contaminated plume.

—Complete demolition of Zone 10 ruins and initiate actions for the demolition of Building 12–24 Complex.

Savannah River

—Eliminate low-level waste legacy inventory.

—Complete major remediation projects in the testing and experimental areas.

WIPP

—Increase carrier capacity from 25 to 34 shipments of TRU waste per week.

—Procure 11 RH trailers for a total of 14.

—Complete TRUPACT–II (a transportation container to safely transport either TRU waste or standard waste boxes) fabrication to obtain fleet of 84 TRUPACTs.

Maintain closure schedules.—Three major sites, Rocky Flats, Fernald, and Mound, have accelerated closure schedules. In addition, two smaller sites, Ashtabula and Battelle-Columbus are scheduled to close in 2006. Funding in the fiscal year 2004 budget will allow these sites to remain on track toward project completion and site closure.

At Rocky Flats, fiscal year 2004 funding provides for:

—Disposing of more than 109,000 cubic meters of low and mixed low level waste.

—Disposing of more than 8,600 cubic meters of TRU waste (70 percent complete).

—Completing the decontamination and decommissioning of 72 work sets in Buildings 371, 717, 771, and 776.

—Cleaning 194 environmental release sites (81 percent complete).

At Fernald, fiscal year 2004 funding provides for:

—Treatment and shipment offsite of 150,000 tons of waste pit material, which cumulatively represents approximately 80 percent of the total.

—Construction completion of Silos 1, 2, and 3 retrieval facilities.

—Completion of D&D of Plant 1 Complex Phase II, Liquid Storage Complex Phase II, and Pilot Plant Complex.

At Mound, fiscal year 2004 funding provides for:

—Continued removal of high concentrations of tritium from Tritium Effluent Reduction Facility to allow for early shutdown.

—Completion of soil excavation phase of Potential Release Site 66 and completion of the total remediation of Potential Release Sites 68 and 267. These three Potential Release Sites represent 38 percent of the total soil remediation remaining.

At Ashtabula, fiscal year 2004 funding provides for:

—Complete disposal of 100 percent of building remediation debris generated in fiscal year 2003.

—Initiation of excavation and shipment of remaining estimated known scope (i.e., 38,000 tons) of contaminated soil to a licensed disposal site.

At Battelle-Columbus, fiscal year 2004 funding provides for:

—Demolition of buildings JN–2 and JN–3.

Integrate technology development and deployment.—An integrated technology development and deployment program is an essential element for successful completion of the EM cleanup effort and for fulfilling post-closure requirements. The EM Technology Development and Deployment (TDD) program provides technical solutions and alternative technologies to assist with accelerated cleanup of the DOE complex.

Through the fiscal year 2004 budget, EM technology development and deployment investments are focused on high-payoff site closure and remediation problems through a two pronged approach: Closure Projects and Alternative Projects.

Closure Projects.—Principal near term closure sites (such as Rocky Flats, Fernald, and Mound) will be provided with technical support and quick response, highly focused technology development and deployment projects. The goal is to ensure that accelerated site closure schedules are achieved.

—At Rocky Flats and the Ohio closure sites, technical assistance teams will assess critical technical issues and provide technology alternatives including the treatment and disposition of orphaned waste streams.

—At Mound, innovative technologies will be developed to determine and enable treatment of radioactive contaminated soil beneath buildings.

—At Fernald, the vacuum thermal desorption demonstration will be completed to provide a technical solution for an orphaned waste stream.

Alternative Projects.—Alternative approaches and step improvements to current high-risk/high cost baseline remediation projects are our second focus. The goal is to enable cleanup to be accomplished safely, at less cost, and on an accelerated schedule. EM is focusing funds for fiscal year 2004 on:

—Alternatives for Tank Waste Immobilization;

—Alternatives for Carbon Tetrachloride Source Term Location;

—Alternatives for Remediation of Leaked High-Level Waste Below Tanks;

—Alternatives for Disposition of High-Level Salt Waste;

—Alternatives for Immobilization of High-Level Sludge Waste;

—Alternatives for Remediation of Chlorinated Ethenes Using Monitored Natural Attenuation;

—Alternatives for Deposit Removal at Gaseous Diffusion Plants;

—Alternatives for Cleanup of Trichloroethylene under Buildings (Paducah); and

—Alternatives for Expedited Processing of Scrap Metal/Equipment.

CONCLUSION

We planted the seedlings of transformation one year ago. We have fostered and guided the reforms. New ideas and breakthroughs have grown from looking beyond the paradigm of risk management to the new focus of accelerated risk reduction and cleanup. New strategies and plans are thriving.

We are experiencing the realization that for the first time, the goal of completing EM's mission is within our grasp. We have set into motion a reformed cleanup program—one designed and managed to achieve risk reduction not just risk management; to shift focus from process to product; and to instill the kind of urgency necessary to clean up and close down the nuclear legacy of the Cold War and to protect human health and the environment.

We are at a turning point for this program. We must not lessen our resolve. I ask for your support to continue this important work. We must avoid passing this intolerable inheritance to our children. Accelerating cleanup by at least 35 years and saving over $50 billion is a wise investment for our children's future.

I look forward to working with Congress and others to achieve this goal. I will be happy to answer questions.

Senator DOMENICI. Thank you very much. Dr. Chu.

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

STATEMENT OF MARGARET S.Y. CHU, DIRECTOR

Dr. CHU. Mr. Chairman Domenici, Senator Reid and Senator Cochran, as the Director of the Department of Energy's Office of Civilian Radioactive Waste Management I appreciate this opportunity to appear before you today. I have a more detailed statement, and with your permission I will submit it for the hearing record.

One year ago, I had the privilege of becoming the fifth appointed director of this office and the first one since the President and the Congress approved Yucca Mountain as the site to be licensed and developed as the world's first repository for spent nuclear fuel and high-level waste.

In assuming the director's position at that critical time, I realized that I had four significant challenges: First, to transition the Federal and contractor organization from a focus on-site investigation to an enterprise with the culture of nuclear safety essential to obtain a license from the Nuclear Regulatory Commission and successfully construct and operate a repository.

Second, to work with the Congress in developing the means of assuring stable funding needed to meet the formidable schedule for the licensing and development of the repository.

Third, to create a safe and secure transportation infrastructure needed to move nuclear waste and spent fuel from over 100 locations across the United States.

And finally, to challenge our scientists and engineers to find new and creative ways to enhance the operational safety and certainty and reduce the life cycle cost of the program.

The President's fiscal year 2004 budget request reflects these changes I have implemented, and I appreciate the opportunity to present it to you today. With the formal designation of Yucca Mountain last year, our office prepared a detailed plan that will allow us to submit the license application by December 2004 and to begin placing waste in a licensed repository in 2010.

Both the Continuing Resolution and the reduction of $134 million from our fiscal year 2003 request will force us to reduce, eliminate, or defer some of the work we had planned, thus significantly increasing the risk of not meeting our program goals. We are currently finalizing our analysis of the impacts and will provide you with more detailed information after we have completed consulting with the Department.

The schedule is extremely tight, and delays are costly to our Government and more importantly the American taxpayers. For every year of delay beyond 2010 the cost of storing and handling just defense waste is estimated to increase by $500 million, and this figure does not include potential claims for damages resulting from the Government's failure to accept commercial spent nuclear fuel since 1998.

In the President's fiscal year 2004 budget, we have requested $591 million for the program. As importantly, the administration will propose, in discussion with the Congress, a discretionary budget cap adjustment for the Yucca Mountain program as a provision to the Budget Enforcement Act reauthorization.

Beyond fiscal year 2004 our program will need significantly increased funding for the design, construction, and operation of the repository, as well as the transportation infrastructure. This proposed cap adjustment will allow the Appropriations Committee to provide sufficient funding for the program's needs without adversely affecting other priorities. This will provide us with a greater certainty of funding and ensure the proper and cost-effective planning and acquisition of capital as that is required for such a major capital project.

I now would like to provide you with some highlights of our fiscal year 2004 request. We will focus most of these funds and efforts on completing and submitting a license application to the NRC and accelerating work on developing a national and a Nevada transportation system. Let me briefly discuss these efforts.

The repository development activities constitute over 70 percent of our funding request. The main focus will be on completing the technical product required for a license application. As part of the license application preparation we will respond to key technical issues agreed upon between DOE and NRC, complete required elements of the design for the waste package surface and subsurface facilities, complete a preclosure safety analysis, and then a post-closure performance assessment of the repository system.

In addition, all of the documents from years of scientific studies that support a license application must be loaded into an electronic web-based licensing support network and be certified at least 6 months before the license application is submitted.

Also, as part of the repository development, I am requesting $25 million for a new cost-reduction and systems-enhancement program. This program is focused on improving existing technologies and developing new ones to achieve efficiencies and savings and to increase our confidence in the long-term performance of the repository. Funding of this program will play a key role in our current efforts and also achieve near-term cost savings and reduce the total system life cycle cost.

For the transportation activities we are requesting $73 million. We will begin the initial procurement of the cask fleet and place orders for long lead-time casks and equipment. Additionally, we will prepare for acquisition of transportational logistics services and assess other needs. Requested funding also supports greater interactions and dialogues with regional State and local organizations to address important transportation issues such as emergency response.

Of the $73 million requested in the transportation program, about a quarter will be used to examine the development of a Nevada rail line to the repository. If a decision is made to pursue rail transportation, the Department must carefully analyze the environmental impacts of constructing a rail line within a particular corridor. Pending the outcome of this process, we will begin conceptual design activities, conduct field surveys, and pursue obtaining right-of-way. We will also continue to assess the viability of other transportation modes.

PREPARED STATEMENT

These are the highlights of the 2004 fiscal year budget for my office. In conclusion, our program is a key element of the Department's and the administration's efforts to advance energy and national security, contribute to homeland security, and honor our environmental commitments. We now have the unique and historic opportunities for moving far closer to solving the nuclear waste problem by beginning, hopefully in less than 8 years, to move waste underground in the world's first licensed geological repository. I urge your support for our budget request and look forward to working with you on this vital national issue.

I would be pleased to take any questions that the committee has. Thank you.

Senator DOMENICI. Thank you. Your statement will be made a part of the record.

[The statement follows:]

PREPARED STATEMENT OF DR. MARGARET S.Y. CHU

Mr. Chairman and members of the Committee, I am Margaret Chu, Director of the Department of Energy's Office of Civilian Radioactive Waste Management. I appreciate the opportunity to present our fiscal year 2004 budget request and discuss our plans to license, build and operate a geologic repository at Yucca Mountain, Nevada, and our efforts to develop the transportation system needed to deliver the nuclear waste to the repository.

The mission of the Civilian Radioactive Waste Management Program is to implement our Nation's radioactive waste management policy. The policy, as established by the Nuclear Waste Policy Act of 1982, as amended, requires permanent geologic disposal of commercial spent nuclear fuel and high-level radioactive waste resulting from the Nation's atomic energy defense activities. This waste must be safely isolated to protect human health and the environment. The disposal of this waste in a geologic repository is also required to maintain our energy options and national security, to allow a cleanup of our weapons sites, to continue operation of our nuclear-powered vessels, and to advance our international non-proliferation goals. The Department's consolidation of spent nuclear fuel, and high-level waste from 131 sites in 39 States and the safe disposal of them at Yucca Mountain is vital to our national interest.

The Program made significant progress in fiscal year 2002 toward implementing the national radioactive waste management policy. In February, the Secretary of Energy completed his review of our site characterization work and recommended the site to the President. This past summer, on July 9, 2002, Congress demonstrated its continued support for a geologic repository by approving Yucca Mountain as a suitable site for repository development, Public Law 107–200. The President signed this bill on July 23, 2002. As a result, the Program is focusing its near-term efforts on seeking a license to construct a Yucca Mountain repository from the Nuclear Regulatory Commission (NRC). We thank you for your strong bipartisan support of this important effort.

THE 2010 OBJECTIVE

The Program's key objective remains to begin receiving and emplacing waste at a NRC licensed Yucca Mountain repository in 2010. To achieve that objective the Program must, in less than eight years, seek and secure authorization to construct the repository, begin constructing the repository, receive a license to operate the repository, and develop a transportation system to take waste from civilian and defense storage sites and ship it to the repository. That is an extremely tight schedule.

To construct a repository by 2010, the Program must have a construction authorization no later than 2007. To have that authority by 2007, the Program must submit a high quality and defensible license application no later than 2004 since the NRC will require at least three years to consider the application. And because we have deferred critical work on transportation in the past, we must begin an accelerated effort to develop the transportation system.

Meeting the 2010 objective will also require far greater resources than the Program has thus far received. We estimate, for example, that it will cost about $8 billion—more than 80 percent of the budget required to meet the 2010 objective—to construct the repository and develop the transportation system. That would average more than $1 billion a year—much higher than our previous annual appropriations.

THE FISCAL YEAR 2004 BUDGET REQUEST

Our budget request for fiscal year 2004 is $591 million. The Program will not be able to meet the 2010 objective should funding fall below this level. The schedule, as I have said, is extremely tight and delay is costly. For every year of delay beyond 2010, the cost of storing and handling Departmental defense wastes alone is estimated to increase by $500 million. Regarding the nuclear utilities, the government's liability for damages for not beginning to take commercial spent fuel in 1998 already has been established by court decisions. While an accurate calculation of damages must await determinations by the courts, it is not unreasonable to assume that the amount of damage will be significant and will increase with each year of delay.

To set the stage for our fiscal year 2004 budget request I would like to briefly describe our fiscal year 2002 accomplishments, our ongoing activities based on our fiscal year 2003 appropriation, and our goals for fiscal year 2004.

FISCAL YEAR 2002 ACCOMPLISHMENTS

Yucca Mountain.—The Program completed nearly 20 years of site characterization activities investigating the natural processes that could affect the ability of a repository built underneath Yucca Mountain to isolate radionuclides from spent nuclear fuel and high-level radioactive waste. These investigations showed that a repository at Yucca Mountain can provide the reasonable expectation required by the NRC that public health and safety, and the environment will be protected. The underlying basis for our investigations and engineering designs has withstood many independent scientific peer-reviews and thorough examination by national and international oversight organizations. Our site characterization investigations and analyses clearly demonstrate that a repository within Yucca Mountain will meet the Environmental Protection Agency's site specific standards.

The Department also developed a Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada. During preparation of the Environmental Impact Statement, the Department held 66 public hearings in counties in the vicinity of Yucca Mountain to inform residents of the area of the possible recommendation and to gather their views and comments.

FISCAL YEAR 2003 ON-GOING ACTIVITIES

With the formal designation of Yucca Mountain as the site for repository development, the Program prepared a conceptual design and a detailed plan for repository licensing, construction, and operation. The goals of this plan are to submit the license application to the Nuclear Regulatory Commission by December 2004, and to begin receiving waste at Yucca Mountain in 2010. Our fiscal year 2003 and fiscal year 2004 budget requests were consistent with this plan. The limited funding provided during the continuing resolution, which was 10 percent below our fiscal year 2002 level for the first 5 months of fiscal year 2003 and the final fiscal year 2003 appropriation of $457 million, which is $134 million, or 22 percent below our request, required us to replan our activities. While we are trying to maintain the license application submittal date of December 2004, some important planned work must be reduced, eliminated or deferred, thus significantly increasing the risk that we will be unable to meet our Program goals. Our request for fiscal year 2004 is essential if the Department is to prepare a defensible license application for submission in 2004 and meet our other Program goals.

The Administration also plans to submit a proposal to withdraw permanently from settlement, sale, location or entry under some or all of the general land laws certain lands comprising and contiguous to the Yucca Mountain geologic repository operations area. It is necessary to initiate this proposal now in order to ensure that we satisfy Nuclear Regulatory Commission licensing requirements and maintain the territorial integrity, security and isolation of the site.

Yucca Mountain.—The Program is now focusing its efforts on completing our license application to the NRC for authority to construct the repository. By the end of fiscal year 2003, the Yucca Mountain Project expects to meet the following goals and objectives:

—Advance the preliminary design of the repository surface and underground facilities and waste package elements, beyond the current conceptual design, sufficient for the development of the license application.
—Complete additional materials testing and analyses required to support the license application design for waste package, surface and subsurface facilities.
—Complete testing data feeds for the Total System Performance Assessment Postclosure Report in the license application.
—Initiate the development of selected license application chapters and sections, currently estimated at approximately 10,000 pages in total.
—Process the majority of the Project records and technical documents for inclusion into the licensing support network (numbering in the millions of pages).
—Implement management improvements identified in the President's management agenda.

Transportation Program.—With the fiscal year 2003 enacted appropriation, only very limited activities will be performed toward developing the transportation system, since resources will be focused on repository licensing activities. A number of critical steps toward developing a transportation system ready to ship waste in 2010 will be initiated. As the Department has promised, we will issue a National Trans-

portation Strategic Plan by the end of this fiscal year. The plan will address policies, interactions with States, local and tribal governments, identify necessary activities and describe our approach to having an operational transportation system in place by 2010. We will complete the procurement strategy for waste acceptance and transportation services and equipment. We will write a concept of operations document and will evaluate transportation operating scenarios to guide the development of the transportation system. We will not be in a position to support the full-scale cask tests at Sandia National Laboratories proposed by the Nuclear Regulatory Commission.

PROGRAM MANAGEMENT AND INTEGRATION

A Program whose objective is to begin constructing and operating a licensed repository and a transportation system in a relatively short period of time is very different from a Program whose objective is to investigate a site. It must be both structured and managed differently. And because budgets as well as demands and schedules are tight, it must be structured and managed both to meet the highest standards of performance and to be as efficient and cost-effective as possible.

During this fiscal year, we have taken several initial steps to turn this program into a project-oriented organization that is focused on managing major capital projects efficiently and cost-effectively. Our organizational realignment in November 2002 created an Office of Repository Development, headed by the Deputy Director of OCRWM, and provided that organization with a substructure that will enable it to successfully manage the challenges of designing and licensing the repository. Through management improvement initiatives I have directed, we are meeting the commitments to the NRC to improve in five areas: to better define roles, responsibilities, authority and accountability; to strengthen our Quality Assurance program; to streamline procedures at the project; to enhance our Corrective Action Program; and to implement a Safety Conscious Work Environment that requires openness and identification of potential safety issues without fear of reprisal. These actions will better position us to be a successful NRC licensee and to meet mandated requirements for a safely operating repository.

FISCAL YEAR 2004 KEY ACTIVITIES

As I indicated previously, the Office of Civilian Radioactive Waste Management Program's budget request is $591 million in fiscal year 2004. This is essentially level with our original fiscal year 2003 request, but $134 million below the enacted level. Out of our total budget, the amount requested for Yucca Mountain in fiscal year 2004 is $419 million. However, funding for Yucca Mountain under the fiscal year 2003 enacted level is $109 million below the original fiscal year 2003 request.

The amount requested in fiscal year 2004 for National and Nevada Transportation activities increases from $10.4 million, fiscal year 2003 enacted, to $73 million. However, our fiscal year 2003 enacted level is over $19 million below the original request. The significant increase in funding for National Transportation in fiscal year 2004 will fund the procurement of long-lead transport casks and auxiliary equipment and accelerate operational capability. Funding for the acquisition of certain cask systems not under development by industry is necessary in fiscal year 2004 to allow the initiation of cask fleet procurement. This critical procurement will facilitate waste acceptance in the post-2010 time frame.

A total of $18 million is required in fiscal year 2004 to initiate the development of a Nevada rail line from the national rail system to the Yucca Mountain repository. In fiscal year 2004, the program will initiate conceptual design activities, conduct environmental and geotechnical field surveys, and prepare a land acquisition case file required by Bureau of Land Management (BLM). Additionally, the Department will continue to assess the viability of other modes of transportation for shipments to the repository.

Yucca Mountain.—Consistent with Departmental and Program objectives, the Yucca Mountain Project's main focus in fiscal year 2004 will be on completing the technical products required for a license application for construction of the repository. The design, performance assessment, safety analyses, and technical data in the license application must be sufficient for the Nuclear Regulatory Commission to conduct an independent review and reach a decision to issue a construction authorization. The application 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 license application will include a description of site characteristics; waste package, repository surface and subsurface designs; the basis for development of operations and maintenance plans for surface and subsurface facilities; results of a

preclosure safety analysis for the period prior to permanent closure; results of the total system performance assessment for the postclosure period; and a discussion of how the proposed waste package and repository will comply with applicable regulatory requirements. It also will include a discussion of the bases for development of safeguards, certification, and physical security plans and descriptions of the quality assurance program, test and evaluation plan for the development and operation of the repository, and required performance confirmation programs. The license application is expected to be approximately 10,000 pages. The documents referenced by or supporting the license application, in addition to other relevant documentary material, will be made available to the Nuclear Regulatory Commission in electronic format through a licensing support network. In accordance with the Nuclear Regulatory Commission's regulation, 10 CFR 2, Subpart J, the available relevant material must be loaded into the licensing support network and certified at least 6 months before the license application is submitted.

The license application must present a defensible position that the repository can be constructed, operated, and closed without unreasonable risk to the health and safety of the public. The Nuclear Regulatory Commission has issued a site-specific licensing regulation (Title 10 of the Code of Federal Regulations Part 63, or 10 CFR 63) that is risk-informed and performance-based. It requires the Department of Energy to demonstrate in the license application that the repository will meet the specified performance objectives while it is being operated (preclosure) and after it is closed (postclosure).

In fiscal year 2004, with the funds identified in our budget request, we will:

—Respond to major Nuclear Regulatory Commission "key technical issues" necessary to support the license application. These are issues that NRC has asked the program to address prior to license application submittal.

—Complete the electronic Licensing Support Network (LSN) and certification consistent with the requirements of 10 CFR Part 2, Subpart J, at least 6 months prior to submitting the license application.

—Complete required elements of the preliminary design for the waste package, surface facilities, and subsurface facilities, in support of the license application to the Nuclear Regulatory Commission.

—Complete the safety analyses for Department-owned spent nuclear fuel and high-level radioactive waste, and Naval spent fuel for the license application.

—Complete the development and Yucca Mountain Project internal review of five license application chapters for submittal to the Nuclear Regulatory Commission for authorization to construct a repository.

—Complete the total system performance assessment postclosure report in support of the license application. This report will reflect increased understanding of how emplaced nuclear waste will interact with the natural and engineered barriers after the repository is closed.

—Complete a draft of the license application for submittal to the Nuclear Regulatory Commission.

Even though site characterization is complete, in fiscal year 2004 we will continue to collect valuable scientific information for our Performance Confirmation baseline, which is required by the NRC for our license. The NRC requires Performance Confirmation to continue until the repository is permanently closed.

As specified in the Nuclear Waste Policy Act, we are providing funding for payments-equal-to-taxes to the State of Nevada and Nye County, Nevada; Yucca Mountain is located in Nye County. We are also providing funding to the University System of Nevada and to Nye County and Inyo County, California for independent scientific studies. No funding is identified in fiscal year 2004 for the Affected Units of Local Government because the scope of work is yet to be defined. Fiscal year 2003 is a transition year and DOE will review on-going activities to determine which should continue as we enter the licensing phase. We will be working with the State and counties in the next few months to restructure their work and participation.

COST REDUCTION AND SYSTEM ENHANCEMENT THROUGH SCIENCE AND TECHNOLOGY

The planned design for any facility is always based on currently available technology, and the geologic repository is no exception. Given a repository's long time horizon, technical developments that mature in the future might well improve upon the repository's current design in ways that reduce costs of out-year operations. Therefore, we have not only a duty to take advantage of current technical advances, but also an opportunity to foster the development of new technologies that hold greatest promise.

We have initiated a new Cost Reduction and System Enhancement program in fiscal year 2003 and are requesting $25 million for it in fiscal year 2004. This pro-

gram's objectives are to improve existing, and to develop new, technologies to achieve efficiencies and savings in the waste management system, and to increase our understanding of repository performance. The program will enable us to ensure technical excellence and develop new technologies; maintain our leadership in nuclear waste management; and keep abreast of emerging technical developments both here and abroad so that we can use them in enhancing performance, lowering costs, and maintaining our schedule.

NATIONAL TRANSPORTATION AND WASTE ACCEPTANCE PROGRAM

To develop a system ready to begin shipping waste in 2010, the program will accelerate efforts that were delayed during the site characterization period as a result of funding constraints. The Administration is requesting $73.1 million for this work in fiscal year 2004. We plan to begin the initial procurement of the cask fleet and to place orders for long-lead time transportation cask systems and equipment as soon as possible. The contracts will be multi-year, thus requiring full funding before they are awarded. We will focus first on those transportation cask designs that have not been previously developed by industry and will be required for transportation. We will also prepare for the acquisition of transportation and logistics services, determine the approach for performing cask maintenance, develop initial site specific service plans in consultation with the utilities, and develop facility and equipment needs assessments for waste acceptance at DOE's defense waste sites.

Funding in fiscal year 2004 will also support greater interactions with regional, State and local organizations to address institutional and technical transportation operations issues, including development of a final grant process for providing emergency responder assistance under the Nuclear Waste Policy Act to States and tribal governments.

Of the $73.1 million requested, $18 million would be for activities associated with developing a waste transportation infrastructure in Nevada. The activities supported in this request are critical to achieving our goal of waste acceptance in 2010. We will continue to assess the transportation options for shipments to the repository. However, the national rail system has been used for the last 25 years to ship radioactive waste safely across the country. No rail link exists between the national rail system and the Yucca Mountain site. If developed, a rail line between the existing rail system and Yucca Mountain would cost an estimated $300 million to $1 billion, depending on the corridor and alignment proposed. Along with other transportation systems, the Final EIS for Yucca Mountain examined five potential rail corridors in the state of Nevada that could be used as transportation routes to the repository. If a decision is made to pursue rail transportation and to proceed with an alignment selection within one of the corridors, the Department must analyze the environmental impacts of constructing a rail line within that corridor. We will initiate consultation to solicit input prior to the development of documentation on a specific rail alignment in Nevada.

In fiscal year 2004, pending the outcome of the NEPA process, the Program would initiate the conceptual design process, develop the draft EIS for a rail alignment, and initiate the land acquisition planning.

Also, the program is working closely with the Office of Environmental Management on DOE spent nuclear fuel and high-level waste acceptance criteria to ensure we have an integrated, timely, and cost-effective approach.

PROGRAM MANAGEMENT AND INTEGRATION

Our fiscal year 2004 request includes $23.7 million for program management and integration activities, an increase of $4 million over the fiscal year 2003 enacted level, nearly all of which is devoted to the Quality Assurance program. The request reflects the need to have the strongest possible nuclear Quality Assurance program as we move into the licensing phase. Quality Assurance is the cornerstone of assuring the NRC that the Program has implemented activities related to radiological safety and health and waste isolation that are required by NRC regulations. We will continue to implement the management improvement initiatives that we are beginning in fiscal year 2003 to meet NRC expectations for a licensee.

PROGRAM DIRECTION

The program is also requesting $75.1 million to support Federal salaries, expenses associated with building maintenance and rent, training, and management and technical support services, which include independent Nuclear Waste Fund audit services and independent technical analyses. These resources fund a small increase in Federal staff to manage repository design/licensing activities and national trans-

portation initiatives and are essential to enable the Program to meet the goal of submitting a license application in 2004.

Alternate Financing Proposal.—In fiscal year 2004 and beyond, the Program will need significantly increased funding to pay for the design, construction and operation of the repository, and the transportation infrastructure. Much greater certainty of funding is needed for such a massive capital project to ensure the proper and cost-effective planning and acquisition of capital assets. The Administration has indicated that, as part of a comprehensive discretionary cap proposal, discretionary cap adjustments for nuclear waste disposal activities will be proposed in the upcoming discussions with Congress on extensions to the Budget Enforcement Act. This proposal would provide adjustments for spending above an enacted fiscal year 2003 appropriation base level of funding in fiscal year 2004 and fiscal year 2005 for the program. These adjustments would be expected to be continued with each reauthorization of the Budget Enforcement Act until the repository facility is completed.

I want to emphasize that, under these proposed adjustments, the Program would continue to be subject to the annual appropriations process and Congressional oversight. These adjustments would allow the Appropriations Committees to continue to evaluate our annual budget requests on their merits and to provide funding sufficient for the program's needs without adversely affecting other Congressional spending priorities.

CONCLUDING REMARKS

We have reduced the near-term costs to construct the repository facilities required to receive initial shipments of nuclear waste by phasing the development of the repository while maintaining the overall acceptance schedule.

We are aggressively pursuing ways to lessen the life cycle costs of the repository, and are instilling a safety conscious work environment and project organizational approach in the Program to meet our near and long-term goals effectively and efficiently.

We are examining ways to remove waste from the nuclear power plants sooner, once the repository is opened.

Our Program is a key element of the Department's and the Administration's efforts to advance energy and national security through science, technology and environmental management. It plays an important role in contributing to our homeland security, and honors our commitment to a clean environment for future generations. We need your help to get on with this effort, and to perform at the highest level without further delays. We urge your support for our budget request, and we are pleased to be able to work with you on this important national issue.

Senator DOMENICI. Senator Reid.

YUCCA MOUNTAIN LICENSE APPLICATION CHALLENGES

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

Dr. Chu, do you have people that are keeping track of the litigation that is ongoing with Yucca Mountain, and do you have an idea of how many different court proceedings there are in number?

Dr. CHU. Yes. My understanding is the State of Nevada has filed suit against the Department of Energy and has also filed suit against the EPA and NRC, and these suits have been combined, and it is my understanding, the oral arguments will be heard sometime this September.

Senator REID. They are that far away. I note that the General Accounting Office evaluated DOE's progress toward license application in December 2001 and estimated at that time it would take until early 2006 to resolve all outstanding key technical issues to NRC's satisfaction. You would agree with that first sentence I read, would you not? Do you want me to read it again?

Dr. CHU. Since I came on board, we have worked very diligently with our M&O contractor.

Senator REID. What is M&O? What does that mean?

Dr. CHU. Managing and operating contractor, which is Bechtel SAIC, and they recently completed a conceptual design for the re-

pository and developed an estimate, a range estimate of cost and time.

Senator REID. I do not want to be rude. You are reading an answer that there is no question to it. Just listen to this first part of the question, okay. What I said is, I noted that the General Accounting Office evaluated DOE's progress toward the licensing application in December 2001. That is when they did that, and they estimated it would take until early 2006 to resolve all outstanding key technical issues to NRC's satisfaction. Is that a fair statement?

Dr. CHU. No, I do not agree with that statement.

Senator REID. Okay. Tell me what you disagree with.

Dr. CHU. Our plan is, actually I am quite confident that——

Senator REID. No, but——

Dr. CHU. Okay, our plan is we will be able to address——

Senator REID. But the GAO did say that, did they not?

Dr. CHU. I believe so.

Senator REID. Yes, okay. Go ahead.

Dr. CHU. And then as soon as I came on board we did an extensive review of where we were, and concluded we have a schedule that will enable us to address all of the technical issues before submitting a license application. The only things——

Senator REID. When do you expect you will be able to do that?

Dr. CHU. It will be a few months before the license application, so it will probably be a few months before December of 2004.

Senator REID. So that would be about a year-and-a-half or something like that?

Dr. CHU. Right.

Senator REID. Because the reason I mention that, since then only 70 of the 293 outstanding key technical issues have been resolved, and quality assurance is now being questioned by the NRC and the General Accounting Office, and licensing support network is due to be submitted by NRC 6 months ahead of the license application, so you feel that the only obstacle to your progress and ability to meet the license application deadline of 2004 is a lack of funds?

Dr. CHU. Yes, I would say that, because—and let me say a little bit about these key technical issues. We had completed 75——

Senator REID. Okay. I have 70, so you have completed 5 more.

Dr. CHU [continuing]. And we have another 77 in various stages of NRC review, and so we have a very detailed schedule of which ones and when we are going to submit, and we are on schedule right now. There will be 10 out of those 293 that NRC agreed because it takes long-term data collection. These will start to be addressed, but we will not have the answers until after the license application.

TRANSPORTATION PLAN FOR YUCCA MOUNTAIN

Senator REID. When do you expect to release a transportation strategic plan?

Dr. CHU. Our plan is still sometime in 2003, and Senator Reid, part of my problem is because of the funding shortfall we are reassessing the whole program between the repository side and the transportation side.

Senator REID. And do you expect to involve stakeholders in the development of this transportation plan?

Dr. CHU. That is something we talked about. We have not made a decision yet at this point.

Senator REID. Tell me why you would not involve stakeholders.

Dr. CHU. I did not say that.

Senator REID. No, I know. I say, but give me a reason—you say you have not made a decision, but why would you not involve them? What would be the reasons you would not involve them?

Dr. CHU. That is a good question. It probably would be a good idea.

Senator REID. Yes, I think it would be a good idea, don't you? Do you have plans for involving stakeholders in the decision process for selection of a transportation mode, a rail corridor, a final repository design, and these questions you may not be able to answer off-the-cuff, and if you want to do it in writing, that would be fine. You do not have an answer to that right now, do you?

Dr. CHU. There is a bigger question involved around it, because of the funding shortfall, and we had made a decision that the highest priority is going to be our license application delivery. We do have a path forward. We feel confident we can do it. The problem is the funding shortfall, meaning we have to reprioritize the whole program, which inevitably will impact the transportation plan.

Senator REID. But you see, that is the problem that a number of people had, and that is, how can you have a license application if you have not done anything about transportation, because they should be one and the same. You cannot have an application unless you can figure out some way to get the stuff there. It is just not going to appear out of the sky.

Dr. CHU. I agree. That is exactly the challenge I have right now. You see, in the past, every time we get a funding shortfall the transportation program was cut.

Senator REID. But you do not necessarily agree that was a good decision, do you?

Dr. CHU. No. Therefore, what I am doing right now is to plan smartly and strategically so we have an increased chance of success, because every time you stop a program it is wasteful and disruptive. I want to minimize those things and focus on what I need to do in the transportation program that will always be used, given the uncertainty. In short, I want to design a transportation program that provides me the maximum flexibility and maximizes the chance of my success, given the funding disruptions.

Senator REID. My only point is, and I have been saying this for sometime, and others, it is not just me, that we would be better off if we had the transportation studies done before you do the license application, because people think, as I do, that it just is senseless to talk about filing an application if you do not have some way to get the stuff there, so that is a statement, not a question, okay.

Thank you very much for your patience, Senator Domenici. One more question.

NEVADA STAKEHOLDERS SUPPORT

Does the zero budget request that has been presented mean that you will not be working with any of the counties and you will no longer support their commenting on documents or participation at

meetings or assessment of impacts or preparation of data for the licensing support network, or other provisions of information to the citizens? I guess my question is, how in the world could you not have something in your budget that affects State and local governments that are affected?

Dr. CHU. I agree with you. The reason we did not put in any budget request is because 2003 is a transition year from site characterization to licensing, operation, and construction. My goal was to work with the State and the counties and then try to redefine the scope, and then their roles in this next phase, many years to come.

Senator REID. But you cannot do that with no money, can you?

Dr. CHU. My plan is to work with them and then come up with the scope, and then we will come up with the funding, appropriate funding to reflect that scope.

Senator REID. Well, in your statement you said you were reassessing the repository and transportation across the board. What does that mean?

Dr. CHU. Excuse me. Can you rephrase your question?

Senator REID. In your statement you said you are reassessing the repository and transportation across the board. That is in your statement. What does that mean?

Oh, my staff said that is how you answered one of my questions. I thought it was in your statement. You said you are reassessing the repository and transportation across the board. That was your answer.

Dr. CHU. That was a budget question? Was it a budget question? I guess my point is, I only have one program, which is the repository and transportation, so when it comes to budget assessment, priority assessment, I have to look at the program as a whole. That is what I am saying.

Senator REID. And I am saying that you are saying the right thing, but your actions are not. You have got to have the transportation as a part of your program. You cannot just set it to one side. Even though you may not have the money you need, you have to figure out some way to have them so they are both moving along.

Senator Domenici, thank you very much for your patience. I appreciate it.

Senator DOMENICI. You are most welcome, Senator. I note Senator Craig has arrived. Senator, I have not inquired, and I thought I would do that and then yield to you.

Senator CRAIG. I am obviously behind the curve. You go right ahead with your questions, and I may have some at the end of the testimony. I merely came to give these fine ladies support for the cause.

ENVIRONMENTAL MANAGEMENT'S FUTURE YEARS BUDGET PROFILE

Senator DOMENICI. They have testified, and their statements are in the record.

In your written testimony, Ms. Roberson, you indicated that you expect your budget to peak in fiscal year 2005, and then decline to about $5 billion in 2008. Under the most optimistic scenarios, completion of Rocky Flats, Fernald, and the Mound clean-up in 2006 will save you approximately $1 billion off your baseline, but by

your testimony today you are indicating that your budget for 2008 will be $2.2 billion less than it was today.

So I wonder in which activity, sites or otherwise will you find the additional $2.2 billion in savings, and some of the other sites in the complex were expecting their budgets to increase as a result of DOE's completing its work at Rocky Flats and other clean-up sites. How can you do that in an environment of a budget dropping $2.2 billion by 2008?

MAJOR ACTIVITIES TO BE COMPLETED BY 2008 AS LISTED IN THE PERFORMANCE MANAGEMENT PLANS (PMPS)

Ms. ROBERSON. Senator Domenici, the clean-up of the three larger closure sites, Rocky Flats, Mound, and Fernald is clearly a major piece of that. We also have tens of other small projects which amount to, during peak times, about $600 million that are also scheduled to be completed 2008 or sooner.

In addition, in our performance management plans what we have done is laid out the activities over time, so what you have are estimates for completing the necessary work. So other key activities would also have progressed to the point at some of those sites, that continue to have clean-up, we will have completed certain major activities. I could not go through the specific list, but I would be glad to provide you with an example of those for the record.

Senator DOMENICI. Would you do that, please?

Ms. ROBERSON. Yes.

[The information follows:]

Site/Ops Office	Cleanup Endstates/Endpoints	Activities
Amchitka	Fiscal Year 2003	Completion of subsurface groundwater modeling and risk assessment.
	Fiscal Year 2005	CRESP independent assessment and DOE groundwater model verification completed.
Battelle Columbus (West Jefferson North Site)	End of Fiscal Year 2006	Site completion including demolition of buildings and remediation of radiological contamination.
Brookhaven National Laboratory	Third Quarter Fiscal Year 2005	Completion of groundwater and soil cleanup projects.
	Fourth Quarter Fiscal Year 2008	D&D of HFBR.
	End of Fiscal Year 2008	Completion of EM Program at Brookhaven.
Energy Technology Engineering Center	June 30, 2003	Ship TRU offsite.
	September 30, 2005	Complete RMHF D&D.
	2007	Complete soil remediation and install groundwater remediation system, completion of cleanup program.
Fernald	September 2004	Complete disposition of remaining low level waste and mixed waste.
	June 2005	Complete waste pits remedial action.
	June 2005	Eliminate treatment requirement, and transport waste from Silo 3 to Envirocare.
	May 2006	Complete treatment of Silos 1 & 2 waste and transport via rail to Envirocare.
	December 2006	Complete soil excavation and on-site disposal facility construction.
	December 2006	Install needed infrastructure for Great Miami Aquifer restoration.
	December 2006	Complete facility D&D and disposal of D&D debris-site closure.
Hanford	2004	Retrieval and closure of 5 tanks.
	2005	Complete PFP de-inventory.
	2006	Complete removal of K Basin SNF, Sludge, Debris, and Water.
	2006	Retrieve, assay, and disposition 15,000 drums of buried suspect TRU.
Idaho	September 2003	Complete cleaning and grouting of first pillar and panel vaulted tank.
	2004	Complete Pit 9 retrieval demonstration.
	2005	Remediate PBF, CFA, TAN (except groundwater plumes).
	2005	Consolidate SNF from TAN to INTEC.
	December 2006	Complete cleaning and grouting of the remaining pillar and panel vaulted tanks.
	September 2008	Complete construction and readiness review of sodium-bearing waste treatment facility.
Los Alamos National Laboratory	2007	Complete all groundwater protection measures and monitoring.
	2008	Complete corrective actions at the highest priority Material Disposal Areas (landfills).
Lawrence Livermore National Laboratory, Livermore Site	Fiscal Year 2006	Ship TRU waste off-site.
	Fiscal Year 2006	Complete groundwater remediation network.
	Fiscal Year 2006	Complete disposition of mixed and low-level waste currently in inventory.
	Fiscal Year 2006	Transfer program to NNSA.
Mound	August 2005	Complete soil remediation of key Potential Release Sites [PRS].
	June 2006	Complete D&D of last 6 buildings.
	December 2006	Site Closure.

Nevada Operations Office	2006	Complete all Off-sites surface closures.
	2007	Complete disposition of all current legacy TRU materials/waste.
	2008	Complete closure of all industrial sites.
Oak Ridge Reservation	2004	ETTP: Complete K 29/31/33 decommissioning for re-use.
	2005	Melton Valley: Ship legacy waste for offsite disposal.
	2005	ETTP: Dispose of legacy waste.
	2006	Melton Valley: Complete remedial actions, site closure.
	2008	ETTP: Complete Zone 1 and Zone 2 cleanup.
	2008	ETTP: Dispose of empty DUF6 cylinders, overpack and transport full and heel cylinders offsite.
	2008	Closure of ETTP.
	2008	Complete cleanup of David Witherspoon 901 and 1630 Sites in Knoxville and the Atomic City Auto Parts site in Oak Ridge.
Pantex	April 2006	Complete interim soil clean up measures.
	October 2006	Complete Ogallala Aquifer groundwater remediation.
	May 2007	Complete facility D&D and footprint reduction.
	September 2007	Complete remediation of Perched Aquifer.
	End of Fiscal Year 2008	Completion of remediation activities.
Sandia	April 2004	Regulatory closure process for radioactive waste landfill complete.
	February 2005	CMI complete for chemical waste landfill.
	March 2005	CMI complete for mixed waste landfill.
	April 2004	Regulatory closure process for classified waste landfill complete.
	August 2006	Complete all closure activities for mixed waste and chemical waste landfills.
	August 2006	Complete remaining work for closure of SNL cleanup project B complete all sites.
	September 2006	Complete all environmental restoration activities related to drains and septic systems.
	September 2006	Complete all environmental restoration groundwater activities.
Savannah River Site	2006 to 2007	Close F Canyon.
Separations Process Research Unit	2007	Complete clean up and release of 90 percent (about 22 acres) of potentially impacted SPRU land areas, return them to Office of Naval Reactors, SNR.
	2007	Complete groundwater cleanup.
West Valley	Fiscal Year 2004	Complete decontamination activities.
	December 2004	Complete construction and operational readiness of Remote Handling Waste Facility.
	Fiscal Year 2005	Begin decommissioning.
Waste Isolation Pilot Plant	April 2003	Increase WIPP capability to receive 100 TRUPACT–IIs and/or Half PACTs per week.
	Second Quarter, Fiscal Year 2005	First receipt of RH–TRU waste.
	Fiscal Year 2005	HWFP modifications for TRUPACT–III.
	Fiscal Year 2007	Begin shipments of TRUPACT–III.

The out-year funding profile of $5 billion in 2008 will afford the accomplishment of our accelerated risk reduction and cleanup goals, as noted in the attached table, through the synergetic combination of management reforms, performance management plans, and integrated project management teams.

Senator DOMENICI. Does your outyear funding profile of $5 billion in 2008 fully fund all of the site performance management plans you have spent the last year negotiating?

Ms. ROBERSON. I believe so, sir.

Senator DOMENICI. Would you confirm that and, if so, would you tell us which ones it does not?

Ms. ROBERSON. I will confirm it in writing, but I can assure you that it is in line with the plan that we have laid out.

LOS ALAMOS ACCELERATED CLEAN-UP PLAN

Senator DOMENICI. Regarding Los Alamos clean-up, the conference agreement on the fiscal year 2003 omnibus provides an additional $50 million for clean-up at Los Alamos National Laboratory consistent with the lab's performance management plan, that is the PMP. The DOE and the lab must have the agreement of the State on the PMP before the lab can proceed with this accelerated plan, which I support.

A further complication is that last year New Mexico's environmental department proposed rulemaking actions against Los Alamos and Sandia based on a finding of "imminent and substantial endangerment". I understand the order has been stayed until May and the DOE has been negotiating with the State regarding the pending action.

The State continues to push for more analysis and characterization of contamination, while the Department wants to proceed with the clean-up. What happens if the State never comes to an agreement with you regarding the clean-up? Will that impact on your ability to quickly ship waste to WIPP? Are you taking into account special concerns about how this could affect nuclear weapons operations at the laboratory at Los Alamos, and can you give me an update on this situation?

Ms. ROBERSON. Senator, we are working very closely with the National Nuclear Security Administration on this matter, since they manage continuing operation on the site. Your facts are absolutely up to date and correct. The negotiations, we were hoping, would culminate within this week, no later than next week. I am actually going to be going out to New Mexico next week and meet with regulatory agencies there, and hope that we can affirm some further progress.

If we are unable to reach agreement it will not impact our commitment to accelerate the TRU waste movements. We have invested a tremendous amount of energy and effort, working with EPA and NRC to do that, and we think it is in the best interests of New Mexico to proceed. However, the debate over how much characterization of the data is needed is certainly an element that would slow down our accelerated efforts at that site.

Senator DOMENICI. Well, personally I would like very much for you to keep us posted on that. I would think that based upon what I know of your Department's efforts and the efforts through Los Alamos, and we have gone a long way in getting that ready, I would hope there are no additional requirements. Sometimes they come up with them and they are truly ridiculous. Sometimes they come up with them that are realistic, and I would hope you would pass objectively on what they really are all about and let us know.

Ms. ROBERSON. You can count on me to do that, Senator.

SCIENCE AND TECHNOLOGY DEVELOPMENT INVESTMENTS

Senator DOMENICI. Over the last year the Department has dramatically cut its budget request for investment in science and technology development to support clean-up missions. This budget has gone from $300 million to a request of $64 million for 2004. That budget is focused on very, very near-term objectives, from what we understand. Why have you abandoned the notion that long-term clean-up costs over the next 30 years could be effectively reduced through aggressive development of the technologies?

Ms. ROBERSON. Well, Senator Domenici, we have not abandoned the idea that our clean-up costs could be positively affected by science and technology. In the fiscal year 2003 budget we proposed, and the Congress approved, transfers the research and development function in the environmental clean-up program to the Office of Science, which we believe allows a more efficient utilization of resources, and we have worked very well with the Office of Science in that venue.

The element of the science and technology program that remains in the EM is really focused on development and deployment of specific initiatives that allow us to benefit from the many technology endeavors undertaken in the last 2 years and tested and developed through the science and technology program, so our efforts now are identifying the issues or problems that we need technologies focused on, and through a competitive arrangement, allow those companies to demonstrate to us the most efficient and effective application of those technologies. We believe we have moved the program to the next step of identifying those best suited for deployment in resolving those specific issues within the program.

WASTE MANAGEMENT EDUCATION RESEARCH PROGRAM

Senator DOMENICI. I have a long series of questions. I am just going to ask two more and then I will yield to Senator Craig.

The Department has had an environmental program going called WERC, W-E-R-C, Waste Management Education Research Program, that involves three universities, headed by New Mexico State. Can you confirm today that DOE will fund WERC consistent with the cooperative agreement and congressional direction?

Ms. ROBERSON. Senator Domenici, I can affirm that we intend to maintain a working relationship with WERC. We are working right now to ensure that the goals for the accelerated clean-up and the timing align with our cooperative agreement with WERC, and we may pursue some modification to that cooperative agreement from a scope perspective, but I believe that I can confirm we will continue to maintain a relationship with WERC and funding for that initiative.

Senator DOMENICI. All right. That was not quite my question, but I will take it as an answer that you will try your very best, consistent with your reevaluation.

Ms. ROBERSON. Exactly.

Senator DOMENICI. Senator Craig.

IDAHO CLEAN-UP

Senator CRAIG. Well, Mr. Chairman, thank you again, and to both of you, thank you for being here. Both of these issues and areas that you have responsibility over are important to our country, and are certainly important to my State.

Jessie, you are obviously by now aware of a court decision in Idaho as it relates to a relationship between Idaho, DOE, and the clean-up on site at Idaho, and how all of that works its way out. I guess instead of asking you if the reality is at hand and we have to fund all that might be suggested by that decision, if you had a figure to propose—my guess is you probably do not—or at least a ball park figure, what I would much prefer to suggest is that at least in my mind, and I hope the State's, this court decision results in DOE and Idaho getting back to the table not only to recognize that there is a responsibility there for clean-up, but the judge argues, if you will, all means all, but more importantly I think, as it relates to the environment, the aquifer, what is the right amount to do that meets the science, that meets the requirements, that clearly might at some time create an environmental risk if it were not exhumed and removed, and that that is really an important way to approach this, than to assume that we are going to cast a budget that over *x* number of years cleans it all.

I am not quite sure that Congress has that kind of money, or does DOE in this instance, but it is obvious to me now that this may be an opportunity, as much as it is an obstacle, to sit down with the State and work those differences out and to understand that the State and the Federal Government by the judge's decisions in this instance are at least coequal in making determination. Would you disagree with that?

Ms. ROBERSON. I think not, Senator Craig. I would hold myself a step away in that the litigation door is still open. DOE is evaluating its options.

Senator CRAIG. Well, I appreciate the concept of an appeal. I would hope your attorneys would come back and say that when you have a court-ordered environment of the kind you are operating in in Idaho, versus a relationship to contract and commitment in other States, that they are, by definition, somewhat different.

At the same time, I think that that gives us the opportunity to clarify where we need to get in Idaho.

Ms. ROBERSON. Senator Craig, I would say two things. One, I will leave the determination as to legal actions to our attorneys. However, when we did reach settlement on this matter last year, we at that time laid out the clean-up process and timeline for doing just that. Obviously, the first step was the Gem Project, the limited excavation. We are proceeding along that path. We expect to continue to work with the State along that path, but I cannot say what remedies may occur.

Senator CRAIG. I think we are going to assume successes in these projects versus the historic problem we have had that we have worked our way through. I think those successes and the ability to determine that the manifest can be accurately reviewed by exhuming will go a long way toward helping Idahoans understand that we can do this in a way that is scientifically based and re-

solves any problems we might have and that keeps our environment and our aquifer intact.

Ms. ROBERSON. And Senator, that is absolutely our goal, as we have laid out the commitments to demonstrate that. You are right, excavation of all, estimated all, and I am not sure how to define that, is probably well into the double digits of billions. There are other elements to be considered, not just excavation but transportation of that much material. There is a whole school of safety and environmental matters that have to play into the path that is laid out.

YUCCA MOUNTAIN FUNDING ISSUES

Senator CRAIG. Well, thank you for that. We will work with you to try to resolve that issue.

Margaret, again let me thank you for the task you are about. It is obviously important to meet the timelines if we can and must, I think, aggressively try to have an application by no later than 2004. That is aggressive, I do not think there is any question about it, but then to hit the 2007 timeline to be able to be—at least if we can start receiving by 2010, you will deserve a gold medal.

Dr. CHU. Thank you.

Senator CRAIG. We would like to award that to you, or the person who will follow you to this office. I must tell you, though, I am disappointed the administration did not get the budget cap adjustment that it was seeking as a part of the budget resolution this year. I think that would have been very helpful, obviously. The nuclear waste fund is taking in about $600 million a year, and we have appropriated less than $100 million for the fund. I will certainly work with you to try to resolve this so we can keep you on schedule from a resource standpoint, at least.

Dr. CHU. Thank you very much, Senator Craig. We need all the support.

Senator CRAIG. Well, I thank you. I do not know that I have any specific questions of you, but this remains an extremely important project for the country. We have been able to get through some of the hurdles. Now we need to get through the rest.

Dr. CHU. Thank you.

Senator CRAIG. Thank you, Mr. Chairman.

Senator DOMENICI. Thank you.

Dr. Chu, I think you know that you are in a difficult position. That goes without saying, but frankly, you are up to it. You have the knowledge and strength to state what it is and how things are as you understand them. Leave the politics and the other things to us. You just do your work as you see it should be done. That is why we ask you to do this job, and we commend you for that.

It is difficult, there is no question, and clearly the State of Nevada, with its wonderful Senators, has a different opinion, it appears, than what the law would have in mind for you to do, and in that regard you will constantly be on a rendering stick, whatever that is. You will be going around and around, and you are not very heavy so you cannot go around too much.

There is not too much to render. In any event, we wish you the best.

SCIENCE AND TECHNOLOGY FUNDING

Over the last years the Department has cut its budget—I am speaking now of science and technology—as far as the clean-up mission. Could I ask, why have you abandoned the notion that long-term clean-up costs over the next 30 years could be reduced by the deployment of new technologies?

Ms. ROBERSON. Sir, we have not abandoned the idea that those costs can be positively affected; and our attempt is to integrate those technologies that have been developed as a result of investments over the last 10 years that they are integrated into the actual demonstration of work in the field, and so we are, through a competitive process, trying to integrate the best of those technologies into our actual work plans.

Senator DOMENICI. Frankly, I thought you were going to say that a quick look at how much money we spent every year for the last 10 years in this area, put up against how much of that technology has proved useful, that you might have arrived at the conclusion that we were wasting a lot of money. Had you said that, I would have agreed with you. You said it differently, but that is all right.

I do not know that we got so much out of the budgets of $200 million and $300 million in science and technology towards better ways of controlling this area. Everybody had a new idea. Everybody funded it, but not too much came out of it, so what you are saying is the lower number, you are still picking and choosing the very best, is that correct?

Ms. ROBERSON. Exactly. That is exactly what we are trying to do, out of those 10 years of investment, competitively identifying those that we have funded, and pushing those into the field to actually help solve the problems.

NEW MEXICO ENVIRONMENTAL DEPARTMENT PROPOSED RULEMAKING

Senator DOMENICI. Last year, New Mexico's environmental department issued a proposed rulemaking action against Los Alamos and Sandia, based on the findings of quote, imminent and substantial endangerment. I understand the order has been stayed until May, and that DOE has been negotiating with the State. Can you give me an update on the situation, and do you believe there is imminent and substantial endangerment, to use their words, at Sandia and Los Alamos?

Ms. ROBERSON. Senator Domenici, I do not believe there is imminent safety or environmental threat to the public. The negotiations are ongoing. We were hopeful that they would culminate within the next 2 weeks. I am going to go out myself next week and meet with the regulatory agencies and hopefully find that they are very near culmination.

Senator DOMENICI. Well, I hate to say it, but I do not believe there is either, so we agree for starters. I would hope that they would get serious about this. We do not need any publishing language like this if they do not really have something. We have enough problems when there are serious problems, other than to have somebody bantering them around, so I urge that you move, and move very diligently to see if you cannot rectify this.

On the safeguards and security, just a couple of questions. The Department has a unique and challenging security environment because of the special nature of our mission. Many tons of special nuclear materials are under our control. Security costs throughout the Department have been increasing, particularly in the aftermath of September 11.

The costs to the Department have been going up, and now that our country is at war with Iraq the condition has been raised to an orange level, as the DOE sites refer to, in the security condition 3. As a result, Senator Reid and I, and with help from Senator Stevens last week led the fight here in the Senate to add significant sums to the 2003 supplemental to cover projected heightened security costs that the Department did not budget. What threat level or security condition did you assume in the development of the 2004 budget request?

Ms. ROBERSON. We assumed a SECON 3, which is the, I guess, equivalent to a yellow, and so once elevated to an orange it elevates us to a SECON 2 and does include some additional cost to the program.

Senator DOMENICI. That will not be sufficient, then, if the Department remains at security condition 3 for all of 2004.

Ms. ROBERSON. That is correct. That is an elevated security. We are in an elevated security posture other than we assumed for fiscal year 2003, and if we proceed into fiscal year 2004 it would be the same situation.

SAFEGUARDS AND SECURITY COSTS

Senator DOMENICI. Are there investments that we could make today that would dramatically reduce operational security costs over the next few years, and if you do not know about them now, could you supply them for the record?

Ms. ROBERSON. I know a few, but I would probably like to be a bit more thoughtful.

[The information follows:]

Although we continue to evaluate new barrier and system technologies, the most dramatic reductions in security infrastructure costs are achieved by consolidating materials. As an example, the Rocky Flats security budget request in fiscal year 2004 is $18 million less than the fiscal year 2003 budget based on the removal of plutonium and highly enriched uranium from the site. Similarly, the disposal of transuranic waste at the Waste Isolation Pilot Plant from 23 locations nationwide will have a significant impact on lowering safety and security costs at those sites.

Senator DOMENICI. Tell us about a few.

Ms. ROBERSON. Obviously, consolidation of material at Rocky Flats has a very positive impact on our security costs. Also, consolidation at Hanford in a limited number of areas, versus where we have material stored now. That is the strategy that we are employing at all of our sites, and then every step you can progress in the consolidation arena brings down your costs. There are obviously also technological actions that can be taken which make sense for longer-term storage versus short term.

Senator DOMENICI. We seem to get rather a good response from the chairman of Appropriations if we bring these issues up. If they are not included in a budget we are able to get them in a supplemental or add them as the bill goes through.

Being at an accelerated level of security is not free. If your budget provides for a different level somebody has to put up the resources, and if you do not have it in there, you take it away from something, and we do not want that to happen when you have a close budget like you have, that you have already negotiated it out pretty thin.

POST CLEAN-UP EMPLOYMENT

Rocky Flats as a model, you often refer to the success of Rocky Flats, and when you talk about what the environmental clean-up program should actually be. Certainly there are lessons to be learned from the DOE experience there. In many ways, the situation was unique in that the plant was relatively small, it was located in a large metropolitan area and provided more job opportunities for displaced workers, and the local community was committed to transitioning the site to a wildlife refuge with very little continuing employment.

This contrasts dramatically with clean-up projects in DOE's communities. That is, in many cases we owe most of their livelihood in the area to the DOE presence and fewer opportunities for displaced workers, and long, or continued high level of DOE employment. That is not to say, having repeated those, that we ought to be liable for all of them, but the truth of the matter is, that is the case.

There are as many or more people involved getting paychecks during the clean-up episode at Hanford and others than there were when they were in full operational scale, and that means that people are growing accustomed to a DOE paycheck. In fact, on the West Coast they are growing accustomed to paychecks in larger numbers for as high a pay as they were getting when all of the reactors were full-steam-ahead in the Scoop Jackson era, and it is very hard for you to make headway when people say, you cannot change the contract because we cannot lower the employment, is that not correct?

Ms. ROBERSON. That is correct. I would say the employment changes as we move forward, we have worked very hard to tie those to completion of the actual work. Unfortunately, this is a program of fixing problems. The problems exist, and our job is to address them, which means at some point you are done fixing the problem.

Senator DOMENICI. You understand why I raise it.

Ms. ROBERSON. Yes.

Senator DOMENICI. Because you are telling us, and we appreciate it, at least you have something going when others had nothing. You have the Rocky Flats model and you are saying, we are using it. I have just given you one big difference, right?

Ms. ROBERSON. Yes.

Senator DOMENICI. Rocky Flats does not anticipate continued employment post-completion, so it will not have as instant a relevance to Hanford, but you are suggesting you are pursuing that vigorously, is that correct?

Ms. ROBERSON. Senator Domenici, you said it absolutely right. One of the clear challenges we have, really, across the country, is the recognition that completing the environmental issues in and of

itself is the thing that opens the door to other economic opportunities, rather than maintaining the clean-up over a longer period of time.

Senator DOMENICI. Okay, and they are beginning to understand that that is going to be the reality?

Ms. ROBERSON. Well, I hope we are effective. That is certainly what we are trying to communicate.

Senator DOMENICI. Well, I think that we are going to support you. I mean, we may get a lot of people that will not, but we have to get there some day or we will never reduce the cost.

Ms. ROBERSON. Well, I think some of the progress that we are making is a demonstration, and I do see an alignment occurring, but it does take time, you are absolutely right. It is a bit more challenging, depending on the circumstances at each site, but it is not applying a cookie-cutter approach, it is applying the logic to the circumstances for each site.

Senator DOMENICI. All right.

Did you have something else?

Senator CRAIG. I was just going to react, Mr. Chairman, by saying in relation to what you need, I am looking at what the INEL was, if you will, in the production era versus in large part now a clean-up era. We were 13,000, now we are 6,000. It seems like the reduction of workforce has not been such an obstacle there. Does it remain that much of an obstacle elsewhere?

Ms. ROBERSON. I would have to say, over the last few years we have evolved. It certainly is an obstacle generically in that the understanding that the environmental clean-up program is a project-oriented program focused on resolving an issue, that if it takes you 30 years to do something it probably is not a good thing for the environment or the public, and that focus and that understanding is not something that has necessarily permeated the entire program.

PRIVATELY FUNDED TECHNOLOGIES

Senator DOMENICI. I have a series of questions regarding Title X of the Energy Policy Act, but I will submit those for the record for you to answer.

Privately funded technology for EM. Let me just ask you, I am aware of at least one company that has put their own money into developing an innovative waste treatment and separation technology, and if it works, could it reduce the cost of tank clean-up at Hanford and other sites? I have noted the President's 2004 budget includes a commitment that DOE will share part of the savings from the development of innovative clean-up technology as an inducement to encourage contractors to take financial risks to develop breakthrough technologies. Is the Department going to encourage such private sector solutions?

Ms. ROBERSON. Senator, I am actually very familiar with this specific technology and venture that you are speaking of. I actually have a team that is going to go out to California and monitor their testing. There is probably another step in their demonstrating the application of that technology to our specific waste, but we are certainly watching, and we are encouraging them to proceed.

Senator DOMENICI. I am not touting it, that technology, but rather the policy.

Ms. ROBERSON. And it is the policy we are deploying in the clean-up program.

Senator DOMENICI. It seems to me to be far more exciting than spending our own money on technology. People might be rather excited if, in fact, they developed one and you gave them this kind of a situation. It might be pretty good.

Senator Craig, did you have anything further?

Senator CRAIG. No, thank you, Mr. Chairman.

Senator DOMENICI. Dr. Chu, did you have anything further to say, or comment?

Dr. CHU. I hope in fiscal year 2004 we get the full funding. It is extremely critical for us. The next 12 to 18 months are extremely critical for the viability of the program. I want to reemphasize that, and thank you very much for all your support.

ADDITIONAL COMMITTEE QUESTIONS

Senator DOMENICI. Thank you.

Ms. Roberson, did you have anything further?

Ms. ROBERSON. Senator, I would like to thank you and the subcommittee for the earlier comments on our proposed budget structure and our fiscal year 2004 budget request. That is a critical element of our reforms. It does, indeed, pattern after the actions that were taken for Rocky Flats in 1998–1999. I would be glad to provide any additional information, but it is a critical phase in our reform.

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

QUESTIONS SUBMITTED TO THE OFFICE OF ENVIRONMENTAL MANAGEMENT

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

ROCKY FLATS MODEL

Question. Ms. Roberson, you often refer to the success at Rocky Flats when you talk about what the environmental clean-up program should be. Certainly there are lessons to be learned from the DOE experience there. However, in many ways the situation at Rocky Flats was unique in that the plant was relatively small, it was located in a large metropolitan area that provided more job opportunities for displaced workers, and the local community was committed to transitioning the site to a wildlife refuge with very little continuing employment. This contrast dramatically with clean-up projects in "DOE communities" that in many cases owe most of their livelihood to the DOE presence, have fewer opportunities for displaced workers, and long for continued high levels of DOE employment.

Are you perhaps too optimistic that the Rocky Flats model will work at many other sites?

Answer. In the 1996 Baseline Environmental Management Report, DOE estimated that it would cost $17.3 billion and take until 2055 to clean up the Rocky Flats Site. By utilizing an innovative and completion oriented cleanup strategy we were able to reduce cleanup costs to $7.1 billion and the cleanup will be completed in 2006. The major elements of our cleanup approach at Rocky Flats include:

—insisting on an uncompromising pursuit of top performance;
—creating and implementing a closure "project";
—implementing an aggressive performance-based; contracting strategy;
—employing innovative project planning and delivery;
—effectively managing human resources; and
—using innovative technology where applicable.

While the situation at the Rocky Flats site was unique in some ways, every site has cleanup circumstances and variables analogous and common to Rocky Flats. I certainly recognize that a "one size fits all" approach to cleanup will not work. How-

ever, I do believe the underlying cleanup strategy that we are using at Rocky Flats is applicable in large measure to other sites as well.

Question. What encouragement can you provide that we will see the same level of progress at other sites such as Hanford, Idaho, and Savannah?

Answer. The cleanup challenges at larger sites such as Hanford, Idaho, and Savannah River are formidable. Nonetheless, the underlying approach we are utilizing at Rocky Flats is applicable to cleanup at all of our sites. In particular, I believe that developing and implementing innovative acquisition strategies that foster accelerated cleanup and risk reduction through the use of performance based incentives is key to improving the effectiveness and reducing the cost of cleanup at our sites. These contracts and the associated performance incentives must be structured around cleanup strategies that aggressively focus on accelerating risk reduction to achieve defined end states. In addition, we have taken a number of reform measures to improve the effectiveness of the Environmental Management (EM) program as a whole. These include:

—developing a new set of corporate performance measures that track progress against cleanup and risk reduction goals;

—restructuring the EM budget to clearly identify the scope and resources that directly support EM's core accelerated mission from those that do not; and

—placing a number of key program elements such as life-cycle costs, contract performance incentives, and site baselines under strict EM Headquarters configuration management control.

I believe that the steps we have taken to reform the EM program will facilitate a high level of confidence that the goals and direction of EM's accelerated cleanup and risk reduction mission will be met.

FUTURE BUDGETS

Question. Your total budget proposal for fiscal year 2004 is approximately $7.2 billion. In your written testimony, you indicated that you expect your budget to peak in fiscal year 2005 and then decline to about $5 billion in fiscal year 2008. Under the most optimistic scenarios, completion of the Rocky Flats, Fernald, and Mound clean-ups in 2006 will save you approximately $1 billion off of your baseline. But by your testimony today, you are indicating that your budget in fiscal year 2008 will be $2.2 billion less than what it is today. From which sites specifically will you find the additional $1.2 billion in budget savings?

Answer. The cleanups of Rocky Flats, Mound, and Fernald are clearly a major segment of the reduction in resource requirements. We also have tens of smaller projects across our sites which amount to about $600 million that are scheduled to be completed by 2008 or sooner. Additionally, other major activities at our large sites, which previously were not scheduled to be completed until after the closure sites, are now scheduled to be completed by 2008 in accordance with our performance management plans.

Question. Some of the other sites in the complex were expecting their budgets to increase as a result of DOE completing its work at Rocky Flats and other closure sites. How will you do that in an environment of a budget dropping $2.2 billion by fiscal year 2008?

Answer. Prior to the Top-to-Bottom (TTB) Review, the approach was to accelerate Rocky Flats and the other closure sites and re-invest the savings after 2006 in the cleanup of other sites. As a result of the TTB Review, the Department concluded that the cost to accelerate cleanup and risk reduction based on new strategies, with some funding increases over the next several years, would allow work completion earlier than had been previously planned, with an earlier and larger life-cycle savings. This strategy allows for cleanup work to be pulled forward at more sites so that the communities actually benefit faster from a cleaner environment than was previously thought possible.

Question. Does your out-year funding profile of $5 billion in fiscal year 2008 fully fund all of the site performance management plans you have spent the last year negotiating?

Answer. Yes. We believe with the synergetic combination of management reforms, performance management plans, and integrated project management teams, the out-year funding profile will afford the accomplishment of our accelerated risk reduction and cleanup goals for 2008.

SAFEGUARDS AND SECURITY

Question. The Department of Energy has a unique and challenging security environment because of the special nature of our mission and the many tons of special nuclear material under our control. Security costs throughout the Department have

been increasing for years, and particularly in the aftermath of September 11. And now that our country is at war with Iraq, the security condition has been raised to the "orange level", or as DOE sites refer to it—Security Condition 3. As a result of this, Senator Reid and I, with great help from Senator Stevens, last week led the fight here in the Senate to add significant sums to the fiscal year 2003 supplemental to cover projected heightened security costs that the Department did not budget for.

What threat level or security condition did you assume in developing the fiscal year 2004 budget request?

Answer. The fiscal year 2004 budget request assumes a security condition (SECON) 3 modified threat level, which corresponds to Homeland Security's threat level "elevated/yellow."

Question. Will it be sufficient if the Department remains at Security Condition 3 for all of fiscal year 2004?

Answer. The fiscal year 2004 budget request provides resources for the Department to remain at security condition 3 modified, which corresponds to Homeland Security's threat level "elevated/yellow." If SECON 2 ("high/orange") is implemented in fiscal year 2004, the Environmental Management Program would assess the adequacy of the fiscal year 2004 budget request based on the length of time SECON 2 is in force.

Question. Are there investments we could make today that would dramatically reduce operational security costs over the next few years? If so, please provide specifics for the record.

Answer. Although we continue to evaluate new barrier and system technologies, the most dramatic reductions in security infrastructure costs are achieved by consolidating materials. As an example, the Rocky Flats security budget request in fiscal year 2004 is $18 million less than the fiscal year 2003 appropriation based on the removal of plutonium and highly enriched uranium from the site. Similarly, the disposal of transuranic waste at the Waste Isolation Pilot Plant from 23 locations nationwide will have a significant impact on lowering safety and security costs at those sites.

WASTE MANAGEMENT EDUCATION AND RESEARCH CONSORTIUM

Question. For almost 12 years the Department has funded the highly successful WERC, the Waste Management Education and Research Consortium, based in New Mexico. WERC has developed an impressive record for training new talent for the EM programs, I fear that the failure to request funding is short-sighted. The fiscal year 2003 Omnibus included direction to the Department to fund WERC at last year's level of approximately $2.5 million.

Can you confirm today that DOE will fund WERC consistent with the cooperative agreement and the congressional direction?

Answer. We are committed to funding the Waste Management Education and Research Consortium in fiscal year 2003 consistent with congressional direction. Presently, we are working to ensure that the goals for accelerated cleanup and the timing align with our cooperative agreements. Accordingly, we may pursue some modification to our cooperative agreements to ensure needed alignment with the accelerated cleanup goals of the Environmental Management program.

IDAHO REMOVAL OF BURIED WASTE

Question. As you are very much aware, there is a long-running dispute between the DOE and the State of Idaho regarding the removal of buried waste on site at Idaho. The DOE has maintained that it has a responsibility to remove a portion of the waste stored above ground, while the State has argued DOE is on the hook to remove all of the buried waste at Idaho. The resolution of this dispute has major impacts on the clean-up cost and schedule at Idaho. Last week, a Federal judge issued a ruling that raises serious concerns about the Department's chances that the 1995 clean-up agreement will be interpreted as the Department has suggested.

What are the cost and schedule implications at Idaho if the DOE is required to remove all of the buried waste?

Answer. Based on the judge's recent ruling, we believe the current estimate for retrieval, characterization, packaging, and disposal of all the buried waste is at least $10 billion. The current schedule estimate indicates that the work could not be completed before 2018.

COMPLETION OF CLEAN-UP AT SANDIA

Question. The Department has proposed spending approximately $22 million for the clean-up of Sandia National Laboratory in fiscal year 2004. Will that level of funding keep Sandia on track for closure in fiscal year 2006?

Answer. Yes, the requested fiscal year 2004 funding will keep Sandia on track to complete the EM mission in fiscal year 2006.

CLEAN-UP SITUATION AT LOS ALAMOS

Question. The conference agreement for the fiscal year 2003 Omnibus provides an additional $50 million for clean up at Los Alamos National Laboratory (LANL) consistent with the Lab's performance management plan (PMP). Of course, the DOE and the Lab must have the agreement of the State on the PMP before the Lab can proceed with the accelerated plan. Further complicating the situation, last year the New Mexico Environmental Department issued proposed rulemaking actions against Los Alamos and Sandia based on a finding of "imminent and substantial endangerment." I understand that the order has been stayed until May and that the DOE has been in negotiations with the State regarding this pending action. The State continues to push for more analysis and characterization of contamination, while the Department wants to proceed with the clean up.

What happens if the State never comes to agreement with the DOE regarding the clean-up plan for LANL?

Answer. In the event that we are not able to come to agreement with the regulators on an accelerated cleanup path for Los Alamos National Laboratory, we would propose a base funding level as enumerated in the Office of Environmental Management's fiscal year 2003 Congressional Budget Request, escalated appropriately. At this level, we would proceed with cleanup in a non-accelerated fashion. This would allow us to manage risk to protect the public and the environment, but would limit our ability to actually reduce risk, thereby extending the schedule for ultimate cleanup and increasing the life-cycle cost.

Question. Will that impact our ability to quickly ship waste out of LANL to WIPP?

Answer. Yes. Consistent with Section 315 of the fiscal year 2003 Energy and Water Development Appropriations Act, a substantial portion of the fiscal year 2003 budget authority for the Los Alamos National Laboratory is currently unavailable because of the State of New Mexico's failure thus far to endorse the site's Performance Management Plan. This is affecting the Department's ability to accelerate the shipments of transuranic waste to the Waste Isolation Pilot Plant. The significant increase in shipments called for in the PMP requires an early investment in systems to increase the capacity at the LANL to process and ship waste.

Question. Are you taking into the special concerns about how this could affect nuclear weapons operations at Los Alamos?

Answer. The current rate of transuranic (TRU) waste shipments exceeds the rate of TRU waste generation from nuclear weapons activities at the Los Alamos National Laboratory. Consequently, there is no immediate concern that nuclear weapons operations would be curtailed or otherwise adversely impacted because of a lack of waste storage space. There is an estimated 2 years of storage capacity "cushion". As we achieve the commitment in the Performance Management Plan to increase the number of waste shipments, the potential impact to nuclear weapons operations will be reduced even further.

Question. Can you give me an update of this situation? (*Background*.—The Department is proposing that over 2000 drums of legacy transuranic waste will be shipped to WIPP in fiscal year 2004. This is 10 percent of the TRU waste at LANL, much of it stored in tents up on top of a Mesa. You will recall this area was almost burned in the Cerro Grande fire of 2000.)

Answer. The Los Alamos National Laboratory has approximately 46,000 drum equivalents of transuranic waste in storage. The LANL Performance Management Plan, calls for shipping 2,000 drums of the highest-activity and dispersible transuranic waste to the Waste Isolation Pilot Plant by the end of fiscal year 2004. To this end, the U.S. Nuclear Regulatory Commission approved a revised method of meeting certain shipping requirements for this subset of transuranic waste at LANL. The first of these drums was shipped in December, and more drums were shipped in January. This activity is referred to in the LANL PMP as the "Quick to WIPP" plan. In addition, the LANL PMP calls for disposing of all transuranic waste at LANL by 2010. LANL is currently averaging one shipment (42 drums) to WIPP per week. The plan is to increase to two shipments per week in May.

Additional actions have been taken to reduce the risk of fire danger for this waste. Storage dome roofs are being replaced with material having greater fire resistance. Fire loading within the domes has been reduced; for example, wooden pallets have been replaced with metal. Wooden crates containing waste are now being stored in large metal containers; and brush and trees have been trimmed away from the storage areas.

SCIENCE AND TECHNOLOGY BUDGET

Question. Over the last several years, the Department has dramatically cut its budget request for investments in science and technology development to support its clean-up mission. The budget has gone from over $300 million to a request of just $64 million for fiscal year 2004—and that budget is focused on very near-term objectives.

Why has the Department abandoned the notion that long-term clean-up costs over the next 30 years can be effectively reduced through aggressive development of new technologies?

Answer. The Office of Environmental Management's cleanup program has not abandoned the notion that long-term cleanup costs over the next 30 years can be effectively reduced through aggressive development of new technologies. EM's cleanup program clearly faces many technical challenges that must be met through improved science and technology as it moves forward to address the cleanup of the nuclear weapons complex. The Department has included in the fiscal year 2004 budget request over $63 million for critical, high-payback technology development and deployment activities where quantum improvements can be gained, as well as on activities supporting closure sites. The Department has also requested over $29 million for the Office of Science to support scientific research to address cleanup problems identified by EM. In addition to this science and technology funding, EM is also moving to renegotiate and restructure many of our site contracts to further provide incentives for our contractors to seek out the best possible science and technology solutions to cleanup problems.

TITLE X OF THE ENERGY POLICY ACT OF 1992

Question. What is the level of claims for reimbursement that is currently pending payment by DOE (i.e. through 2001)?

Answer. As of May 7, 2003, the total outstanding balance of approved claims that are eligible for reimbursement pending future appropriation of funds is $78.5 million. This is the remaining balance after DOE's April 2003 payment to eligible EPACT Title X licensees of its fiscal year 2003 appropriation for this purpose. The outstanding balance reflects unpaid claims submitted by the licensees by May 1, 2002, for work performed through 2001. It does not include approximately $38 million in new claims submitted by May 1, 2003, for work performed through 2002, which have not yet been reviewed and approved by DOE.

Question. How much of the claims have been audited?

Answer. The review and audit of all of claims submitted and received by May 1, 2002, is complete. The review and audit of all claims submitted by May 1, 2003, will be completed within 1 year of the submission date, consistent with DOE's regulations (10 CFR Part 765) implementing EPACT Title X.

Question. Based upon currently available funds, as well as funds requested in the fiscal year 2004 budget, when will these claims be fully paid? Based upon its projection of when current claims will be fully paid, how much time will have elapsed from the time that the claims were filed until the claims are fully paid?

Answer. As stated in the previous answer, there is an outstanding balance of $78.5 million in approved claims. Based upon the fiscal year 2004 budget request of $51 million, this outstanding balance would not be fully paid until fiscal year 2005. The elapsed time from submission of these claims until payment in full of all the claims would be about 3 years.

Question. What is DOE's projection of the amounts of new claims it expects to receive in fiscal year 2003? In fiscal year 2004? In fiscal year 2005? In fiscal year 2006?

Answer. The following estimates are based on information provided by the licensees who are eligible for reimbursement under the Title X program. The amounts are the Federal government's share that would be eligible for reimbursement assuming the claims are approved in full. Approximately $20 million of the total claims submitted over this 4 year period would be for amounts that exceed the per dry short ton reimbursement limit for uranium licensees; i.e., they would not be eligible for immediate reimbursement in accordance with EPACT Title X, as amended. However, these amounts would be eligible for reimbursement after fiscal year 2008, if the Secretary makes a determination at that time that there is sufficient authority under EPACT Title X, as amended, to reimburse those amounts.

Fiscal year 2003.—$38 million ($7 million exceeds dry short ton reimbursement limit).

Fiscal year 2004.—$36 million ($6 million exceeds dry short ton reimbursement limit).

Fiscal year 2005.—$35 million ($6 million exceeds dry short ton reimbursement limit).

Fiscal year 2006.—$33 million ($1 million exceeds dry short ton reimbursement limit).

Question. What is DOE's current budget estimate for reimbursement of Title X claims in fiscal year 2004? Fiscal year 2005? Fiscal year 2006?

Answer. As you know, we have requested $51 million for fiscal year 2004. For fiscal year 2005 and fiscal year 2006, the Department plans to request funding to meet our Title X obligations in a timely manner based on the estimates provided by the licensees who are eligible for reimbursement.

Question. Assuming (conservatively) that all claims are approved as submitted, what is the level of shortfalls in the DOE budget estimates to meet these claims? Under these projections, what would be the balance of unpaid claims at the end of fiscal year 2006?

Answer. As of May 7, 2003, the total outstanding balance of approved claims that are eligible for reimbursement pending future appropriation of funds is $78.5 million. Approximately $38 million in new claims were submitted by May 1, 2003. Assuming that all claims are approved as submitted, the balance of unpaid claims at the end of fiscal year 2004 would be $61 million—a reduction of $18 million relative to the fiscal year 2003 balance. The Department anticipates annual reductions to the unpaid balances at a similar level through fiscal year 2006.

Question. Based upon DOE's current projections, what would be the average length of time from the time that new claims are submitted until they are fully paid?

Answer. Based on DOE's current assessment, it would take an average of about 2 years before submitted claims are fully paid.

Question. What is DOE's rationale for the long delays in making payments after approved and audited claim have been made?

Answer. After the claims have been audited and approved, the timing of the actual reimbursements is subject to the availability of appropriations for this purpose. Consistent with Title X of the Energy Policy Act of 1992, we have made annual payments to the licensees. In accordance with the Department's Title X regulations (10 CFR Part 765), and subject to the availability of appropriations for this purpose, we have made reimbursements within 1 year of claim submission. When circumstances have allowed, we have made more than one payment in some years and have accelerated payment of outstanding claims when possible. For example, when Congress provided supplemental appropriations for Title X several years ago, outstanding claims were promptly paid consistent with those appropriations. Last August, when Congress increased the reimbursement authority for the thorium licensee, all outstanding claims to the uranium licensees had been paid; and in September, we paid all remaining fiscal year 2002 Title X funds to the thorium licensee to reimburse a portion of its previously approved claims. Because the backlog of unpaid claims currently exceeds the requested fiscal year 2004 appropriation, we will consider making payments for the currently approved claims immediately following the receipt of the fiscal year 2004 appropriation, as we did on one other occasion when appropriations had not kept pace with approved claims.

The Federal Government has a legal obligation to pay its share of the costs of remediation of Title X sites, just as the government has a legal obligation to reimburse its contractors for the costs of remediating contamination at the government's own facilities.

Question. Why should the reimbursement of the government's share of the costs at Title X sites be subject to delays relative to the reimbursement of the government's own contractors?

Answer. DOE's relationship to the Title X licensees is not comparable to the relationship between DOE and its contractors. DOE's contractors conduct work only at DOE's direction. By contrast, the Department does not have contracts with the Title X licensees and therefore cannot control the rate of reimbursable costs being incurred at licensee's sites.

The reimbursement of the Federal Government's share of approved costs at Title X sites is subject only to annual appropriations for this specific purpose. The current and projected backlog of reimbursements is the result of the increased reimbursement authority for the thorium licensee, which increases the projected remaining liability of the Title X program from about $80 million to about $280 million. When the fiscal year 2003 budget request was submitted, the then-existing reimbursement authority for the thorium licensee had been exhausted. Carryover funds and the $1 million fiscal year 2003 request were more than adequate to fully reimburse the uranium licensee claims submitted in 2002. The $225 million increase in thorium authority was enacted on August 21, 2002, well after submission of the fiscal year

2003 budget request. Prior to this increase in authority, our planning projections indicated we would need less than $15 million per year over the next 4 fiscal years to keep current with our payments.

Question. Would it be equitable of the Congress to consider applying the same standards for its own contractors, such as the Prompt Pay Act requirements; penalty and damage provisions in the Federal Acquisition Regulation and the Department of Energy Acquisition Regulation, to Title X reimbursements?

Answer. There is no contractual relationship between the licensees and the Department for the cleanup of their sites, and therefore it would be inappropriate to apply the standards and provisions that you refer to. The Department has a legal obligation to reimburse the Title X licensees for the Federal Government's share of their cleanup costs. However, the Department's ability to pay these costs is limited by the amounts appropriated annually for this purpose. In fact, within the limits of its appropriations, the Department has reimbursed licensees at least annually as required by law, and we have reimbursed licensees at least partially within 1 year or less after claim submittals, consistent with the availability of appropriations and our Title X regulations.

PRIVATELY FUNDED TECHNOLOGY FOR EM

Question. Ms. Roberson, I am aware that at least one company has put up its own money to develop an innovative waste treatment and separation technology that, if it works, could substantially reduce the costs of tank cleanup at Hanford and at other sites. I also noted that the President's fiscal year 2004 budget includes a commitment that DOE will share part of the savings from the deployment of innovative cleanup technology as an inducement to encourage contractors to take the financial risk to develop breakthrough technologies.

What is the Department doing to encourage such private sector solutions?

Answer. One of the major recommendations of the Top-to-Bottom Review was improving the Department's contracting process with private sector entities, which may yield the single best opportunity for enhancing the economy and efficiency of the Environmental Management cleanup operations. The Top-to-Bottom Review team construed the acquisition function in a broad manner to include how the EM program can provide incentives for or entice best-in-class contractors to submit proposals in response to solicitations and how EM can effectively access private sector companies that have not traditionally submitted proposals to conduct EM work.

In implementing this recommendation, EM has chartered a special contracting team to aggressively pursue new and improved contract models to accelerate cleanup of our sites. We are currently challenging our site contractors, through re-alignment and restructuring of their contracts, to both seek out and deploy the best technology solutions to our cleanup problems and to develop and proffer new business approaches to accelerate cleanup. Where it makes good technical and business sense, we will offer substantial incentives to a private sector company to solve a cleanup problem through deployment of a technology that has its roots entirely in a private sector investment.

Question. Would it be possible to put in place contracting mechanisms that would permit and reward deployment of such privately-financed cleanup technologies?

Answer. Consistent with laws and policies that ensure sound contracting and fiscal responsibility, the Department has wide latitude to implement contracts that would permit and reward deployment of privately financed cleanup technologies.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

Question. In the fiscal year 2003 Omnibus Appropriations Conference Report, Congress once again directed DOE to continue to evaluate the Advanced Vitrification System (AVS) and proceed to demonstration by implementing the February 28, 2002 work plan. This direction makes clear that an integrated demonstration of that technology is needed to determine if the promise of lower costs and faster vitrification can be realized. What is the status of your efforts to evaluate and demonstrate the AVS technology?

Answer. As you may be aware, the DOE Office of Inspector General issued a report on the Advanced Vitrification System in August 2002, providing the following recommendations:

—delay funding decisions on AVS until major uncertainties have been addressed;
—develop specific, focused performance measures to more fully gauge progress in the evaluation and selection of an alternative or advanced vitrification technology; and

—address all technical, programmatic, and financial challenges and uncertainties identified in previous studies during the upcoming business plan evaluation.

I have agreed with these recommendations and developed an Action Plan, which describes an approach to evaluate and develop immobilization alternatives for treating high-level waste (HLW) at Hanford. We will evaluate the technical and financial merits of AVS and other alternatives recommended by a recent technical panel. Those alternatives include an advanced Cold Crucible Melter and an Advanced Joule Heated melter. As part of the evaluation, questions regarding technical details of the AVS were provided to the Radioactive Isolation Consortium (RIC). Representatives from the RIC provided the Department with responses to the questions and participated in a review which was held on February 24–28, 2003, in Richland, Washington. The two review teams (technical and financial) are currently drafting their reports and will submit them to a DOE technical working group (TWG).

The TWG has the responsibility of reviewing the reports and making a recommendation to me for future research and development of immobilization alternatives to treat HLW. A decision is currently planned for June 2003. The Department has extended the period of performance and associated funding to the Radioactive Isolation Consortium through the end of June 2003 to support this schedule.

Question. How soon can the work plan for AVS be implemented to demonstrate whether its potential may be realized and does your department have sufficient funding to begin implementation of this work plan?

Answer. The Department is currently evaluating whether or not the Advanced Vitrification System is plausible for use to treat high-level waste at Hanford. If a decision is made by the Department to pursue additional evaluation of the Radioactive Isolation Consortium's AVS, the draft work plan provided to the Department in February 2002 will be used to initiate development of the work scope and funding would be available. A decision is currently planned for June 2003.

QUESTIONS SUBMITTED BY SENATOR MITCH MCCONNELL

Question. As I have noted in the past, I strongly support efforts by the Department of Energy and the Kentucky Natural Resources and Environmental Protection Cabinet to develop and implement an accelerated cleanup plan for the Paducah Gaseous Diffusion Plant. Like you, I am disappointed that the Department and the State have not yet been able to reach such an agreement.

Can you provide me with a brief update on the status of your negotiations with the commonwealth of Kentucky to reach an agreement on a site performance management plan for the Paducah facility?

Answer. The Department recently reached an agreement with the regulators on new cleanup milestones for the next 3 years. This negotiated resolution, while not accelerating cleanup at the site, does clear the way for the development of an updated Paducah site management plan (SMP), which serves as the blueprint for cleanup activities for the next 3 years.

The three parties also agreed to conduct good faith negotiations to develop a complete scope of work for the Paducah cleanup by September 15, 2003. I cannot commit at this time as to if, or when, a Performance Management Plan, as that term is used in Section 315 of Division D, Title III of the Consolidated Appropriations Resolution, 2003, will be developed.

Question. What do you see as the major obstacles to reaching an agreement?

Answer. The most significant obstacle to reaching an agreement remains the difference of opinion as to the degree and nature of the required cleanup beyond those actions to which we are already committed. In addition, the Department and the Kentucky Natural Resources and Environmental Protection Cabinet are working to resolve several notices of violation at the facility, issued previously by the Commonwealth.

While I continue to hope for an accelerated cleanup agreement for the Paducah site soon, Section 315 of the Energy & Water title of the Omnibus clearly outlines the fiscal year 2003 funding for sites that have not implemented site performance management plans with the Department of Energy. Specifically, the language limits the funding for those sites to either "the comparable current year level of funding, or the amount of the fiscal year 2003 budget request, whichever is greater."

Question. Can you tell me if the Department has determined which of those amounts—the fiscal year 2002 level of funding or DOE's fiscal year 2003 request—is the greater amount for the Paducah site?

Answer. The Department has determined that the greater amount is the fiscal year 2002 funding level as appropriated and adjusted, that is $125,315,000.

Question. Does the Department intend to provide the greater of these two amounts for cleanup activities at Paducah, as specified by Section 315?

Answer. We have provided Paducah with $110,884,000, which supports the limited number of acceleration activities to which the Department and the site regulators have agreed. Since we do not have an integrated, long-range acceleration plan for Paducah, as reflected in a performance management plan and agreed to with the regulators, and do not expect to have one this fiscal year (2003), we do not anticipate providing any additional funds for cleanup activities.

QUESTIONS SUBMITTED BY SENATOR ROBERT F. BENNETT

Question. What is the present status of the Moab Tailings Project EIS and what is the expected timeline for completion?

Answer. An Environmental Impact Statement is currently being developed to assess impacts from the following remediation scenarios: cap the tailings in place at their present location, relocate the tailings to the existing U.S. Nuclear Regulatory Commission-licensed White Mesa Mill facility near Blanding, Utah, or relocate the tailings to one of two sites, Klondike Flats or Crescent Junction, to be developed on Bureau of Land Management land north of Moab.

Public scoping meetings were conducted during January 2003 in the communities potentially affected by the remediation scenarios being considered. The Draft EIS is scheduled for public release in January 2004. Following a 45-day public comment period on the Draft, the Final EIS is scheduled to be available to the public in August 2004.

Question. What remediation work, if any, can be completed with the level of funding provided under the Administration's request?

Answer. At the requested funding level of $2 million, no remediation work will be performed. At the request level, the environmental impact statement will be completed on schedule and interim groundwater actions, tailings pile dewatering, and erosion and dust control will be continued at their current level.

Question. If additional funds beyond the Administration's request are appropriated, what remediation efforts might be undertaken and what would be the most immediate priorities?

Answer. The requested funding level of $2 million includes all activities planned for the Moab site in fiscal year 2004. The planned activities are development of the draft Environmental Impact Statement, which will incorporate recommendations of the National Academy of Science Report on Moab to be completed in January 2004, and the final EIS is expected to be issued in August 2004. In addition, funding for interim groundwater action, pile dewatering, and erosion and dust control is provided.

Question. What is the status of any present efforts at site remediation, including the operation and maintenance of the interim ground water pump and treatment system?

Answer. DOE will install the Interim Ground Water Corrective Action by September 30, 2003. This action is a series of groundwater extraction wells and a lined evaporation pond constructed on top of the tailings pile. The extraction wells will allow for removal of groundwater with the highest concentrations of ammonia. In addition, DOE has completed the removal of contaminated soils from the U.S. Highway 191 right-of-way adjacent to the DOE site. This removal allows the Utah Department of Transportation workers to work in a clean area during the Highway 191 widening project, which is planned for Summer 2003.

DOE will continue ongoing maintenance at the site, including operating the tailings pile dewatering system, applying dust control surfactant, and filling erosion rills that form on the pile.

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

Question. Ms. Roberson, I am very concerned about the delay in awarding the River Corridor Closure contract, and the rumored reasons for this delay. Delay will only hurt the efforts to accelerate cleanup at the site. I have heard the reason for the delay may involve the Administration's intention to remove the current requirement that the successful contractor commit to become a signatory to the Site Stabilization Agreement. If these disturbing reports are true, the negative consequences to the Hanford Site and to the Tri-Cities community would be substantial—including labor unrest that such a policy reversal will cause across the site and not just affecting this important closure contract.

I would like to know if this contract award is being delayed, and if the Administration does intend to remove the Site Stabilization Agreement requirement contained in the request for proposals and contract terms?

Answer. The River Corridor Contract was awarded on April 25, 2003. Shortly before that, on April 22, Secretary Abraham granted an exemption from the requirements of Executive Order 13202 for construction work covered by this procurement, determining that the River Corridor project satisfies the requirements of section 5(c) of the Order. This provision provides that an exemption may be granted for a project where an agency has issued "bid specifications" containing a requirement to abide by a project labor agreement and one or more construction contracts subject to such a requirement have been awarded as of the date of the Order.

Question. Ms. Roberson, for fiscal year 2003, the final conference agreement imposed general reductions which will require decreases in your cleanup budget.

Can I have your assurance that these general reductions will be allocated in a manner to minimize disruption to priority projects, such as the tank cleanup effort at Hanford, and will not be applied disproportionately to any particular program?

Answer. The final fiscal year 2003 Environmental Management Consolidated Appropriation, Public Law 108–7, imposed general reductions totaling $118,058,000. These reductions were applied against the Defense Environmental Restoration and Waste Management, Non-Defense Environmental Management, and Uranium Facilities Maintenance and Remediation appropriations. Prior year balances totaling $5,546,276 were available to partially offset these general reductions. The remaining $112,511,724 was applied proportionately against each program, project or activity as directed by specific language contained in the fiscal year 2003 Consolidated Appropriation Conference Report, H.R. 108–10. The exception to this approach was the $25,000,000 general reduction applied to the Uranium Facilities Maintenance and Remediation appropriation. Within this appropriation, $340,329,000 was specified in law for the Uranium Enrichment Decontamination and Decommissioning Fund account. Accordingly, the $25,000,000 reduction was applied only to the Other Uranium Activities account within the Uranium Facilities Maintenance and Remediation appropriation.

Question. Ms. Roberson, for almost four decades, the Hanford Environmental Health Foundation (HEHF), a community-based non-profit organization, has provided quality occupational health services to workers at the Hanford site. I understand HEHF has broad support from the community and organized labor at Hanford.

What is the status of efforts to ensure that workers at Hanford continue to receive excellent occupational health services?

Answer. DOE is committed to providing excellent occupational medical services to the Hanford workforce. The current contract with the Hanford Environmental Health Foundation expires at the end of fiscal year 2003, with no extensions available. In March, DOE issued a Request for Proposals for a new occupational medical services contract. Contractor proposals are due on May 23, 2003. We expect to make an award and transition to the new contract by the end of the current contract. The new contract will require the same high quality of occupational health services that currently exist at Hanford. These services include long-term health legacy activities, first aid, employee assistance, emergency preparedness support, fitness for duty, medical monitoring exams, and prevention/mitigation activities.

Question. Ms. Roberson, as you know, the HAMMER Training Center provides for Hanford workers with excellent training for their jobs. I have been told this has led to one of the best safety records across the country. I am disappointed that the EM budget again fails to fund HAMMER directly. I am further disappointed that there is no direct proposal by the Administration for how to transfer HAMMER to another part of DOE or another agency. I would like to work with you to protect worker training and the value of HAMMER.

To do so, I would like to know if DOE now has any plans for the transfer of HAMMER to another entity?

Answer. At the present time, DOE has no plans to transfer HAMMER.

Question. I would also like to know how EM plans to maintain the training of Hanford workers at HAMMER if the program is not the direct manager of the facility?

Answer. EM will continue to be a customer of HAMMER along with other DOE and non-DOE organizations. We foresee HAMMER as an available resource that the EM program may draw upon in support of the cleanup mission.

Question. Ms. Roberson, assuming funds are provided by Congress, do you support the activities of the Atomic Heritage Foundation's Manhattan Preservation Project which would preserve historically significant facilities such as Hanford's B-Reactor and T Plant so future generations could visit them?

Answer. I do not support using Environmental Management cleanup funds for this purpose. However, assuming funds are provided by Congress to maintain and operate historic properties, DOE supports the goals of preserving significant historic facilities, such as Hanford's B-Reactor for the enjoyment and education of current and future generations.

Question. Ms. Roberson, in 1994, the Hanford Joint Council was created. In its 9-year history, a 100 percent success rate of resolving over 40 highly contentious whistleblower cases. It is felt that this board saved millions of dollars in attorney fees that would have been paid out to fight these claims in court. More importantly, the Council resolved the underlying safety issue brought up by the whistleblower. I have learned that the Department of Energy dissolved this Council a few weeks ago. The question is: why? The Joint Council cost the DOE about $400,000 per year.

Could you please explain the logic behind doing away with the Hanford Joint Council?

Answer. The Hanford Joint Council was a subcontractor to Fluor Hanford Inc. (FHI). The Joint Council was established for an initial period of 5 years, beginning October 1994. In July 1997, the charter was revised and the scope of the Joint Council was established to investigate and seek full and fair resolution of significant concerns involving health, safety, quality and environmental protection issues using an alternative mediation approach. From 1994 to 1997, there was a significant backlog of safety, health and environmental concerns. The backlog was due to a lack of confidence and trust in the Hanford contractor's employee concerns programs. The Department saw a need to establish an independent party to assist in the resolution of the concerns/backlog. During this time, the Joint Council was established and played a major role in the resolution of employee concerns.

Today, FHI has implemented a number of safety programs (Voluntary Protection Program, President Zero Accident Council, Employee Zero Accident Council, Hanford Atomic Trades Council Safety Representatives) where contractor management and workers meet in an open forum to discuss safety issues at the Hanford Site. In addition to the safety programs, FHI has also enhanced their internal Alternative Dispute Resolution Program (ADR) for resolving employee concerns.

Due to the implementation of the safety programs and the ADR process identified above, FHI has seen a significant decrease in anonymous concerns each year and is confident that safety concerns can be raised without fear of reprisal. FHI has demonstrated that it has programs in place that are adequately resolving concerns and are continuing to improve the effectiveness of the Employee Concerns Program.

Question. Ms. Roberson, I have been told that some workers at the high-level nuclear waste tank farm area of Hanford have been complaining of becoming ill after exposure to toxic vapors that escape from the tanks.

I would like to understand how many workers have sought medical treatment evaluation in the last 18 months from these exposures and what the Department is doing to investigate the cause of the exposures?

Answer. There have been 29 requests for medical evaluation from workers who reported smelling vapors in the tank farms over the last 18 months. All workers who reported smelling odors in the tank farms were encouraged to seek medical attention and those who reported an actual symptom, such as headache or nausea, were required to seek medical attention. The medical evaluations determined that none of these cases required medical treatment. The Contractor's Industrial Health and Safety Program has implemented a number of appropriate and conservative features to protect workers from exposures to high concentrations of vapors, primarily consisting of ammonia and volatile organics.

First, a number of engineered controls are in place, consisting primarily of sealing the known vapor leak paths such as around the tank pit covers, valve covers and other structures. Second, administrative controls are employed that include real time monitoring for vapors and establishment of physical barriers to prevent workers from walking into areas that may contain high vapor concentrations. Finally, industrial hygiene technicians monitor the work areas in the tank farms to insure that workers in and around the tanks are not exposed to high vapor concentrations. This entails workplace monitoring using state-of-the-art hand-held (which can measure in parts per billion) and fixed monitoring equipment. Additionally, our contractor has established administrative operating limits for vapor exposures that are below national consensus standards and guidelines to provide additional protection and assurance. For example, the most conservative limit for ammonia exposure is 35 ppm for a 15-minute exposure; our contractor has established that limit at 25 ppm for any exposure duration. The Occupational Safety and Health Administration (OSHA) sets that limit at 50 ppm for an 8-hour exposure.

Additionally, external evaluations have been conducted to review practices and make recommendations for improvements as appropriate. The contractor has formed

a team of employees, led by a bargaining unit safety representative, to evaluate concerns and provide an improved mechanism for communication with the workforce. We also have expanded and upgraded our communication with the workforce on hazards in the workplace and the appropriate controls when working in areas where vapors may potentially exist. In addition, the required annual Hazardous Waste Operations and Emergency Response training was upgraded to focus on tank vapor hazards. Workers are regularly encouraged to raise issues and concerns in a variety of different venues.

Workers also may request additional protective equipment in accordance with OSHA regulations. The worker will be provided the appropriate protective equipment based on an integrated analysis of all the hazards associated with the work. The Department is actively engaged with the contractor to continue to address these concerns and assure a safe workplace and a well-informed workforce.

Finally, the Hanford Environmental Health Foundation conducted a 7-month study of the medical records of over 800 Hanford Tank Farm workers and has found nothing that would indicate that these workers have suffered any adverse health effects from exposure to tank farm vapors.

Question. Ms. Roberson, Washington State's Department of Ecology and the U.S. EPA recently sent a letter to the DOE calling for Hanford to end its practice of using unlined burial pits to dispose of radioactive materials.

What is the Department's response to the notion that Hanford ought to be utilizing state-of-the-art burial techniques that include pit liners, leachate collection and groundwater monitoring in connection with these burial grounds?

Answer. The current disposal practice of using unlined facilities complies with applicable laws and regulations and is the accepted practice both within DOE and commercially (Barnwell in South Carolina and U.S. Ecology in Washington). DOE is evaluating a more robust burial system to increase the margin of safety for the facility in terms of human health and the environment. This style of disposal system, analogous to a Resource Conservation and Recovery Act of 1976 disposal system, is evaluated in the revised draft Hanford Solid Waste Environmental Impact Statement that is currently issued for public comment.

Question. Ms. Roberson, if DOE decides to proceed with lined burial pits, how much longer will unlined burial pits be used?

Answer. For certain waste streams, such as the Submarine and Cruiser Reactor Compartments, as well as some other higher activity waste, there is no health or safety reason to change the current disposal practices of using unlined burial trenches.

However, for other low-level and mixed low-level wastes, we are evaluating the use of other disposal methodologies, including lined trenches, in the revised draft Hanford Site Solid Waste Environmental Impact Statement. We anticipate the new disposal method, as selected in the subsequent Record of Decision, could be available by fiscal year 2007.

Question. Ms. Roberson, last year, the U.S. EPA released a report on the Columbia River Fish Toxics Inventory, detailing the health risk to people who consume fish from the Columbia River, based upon tissue analysis of the fish. According to the report, some groups such as Native American tribes, have a 1 in 50 chance of contracting a fatal cancer from lifetime consumption of this fish.

Has DOE conducted, or is DOE planning to conduct, any studies to analyze the source of this contamination and how its release can be stopped?

Answer. The Department has reviewed the above referenced report as have other interested parties. These are not Hanford-derived contaminants. They are primarily derived from agricultural, mining and industrial sources throughout the Columbia River system. There was some initial confusion when the report came out regarding the source of the contaminants in the fish that were studied. Because the report discussed (among other things) fish that were caught in the Hanford Reach, some readers assumed the contaminants were from the Hanford Site. A careful reading of the report, however, indicates otherwise. The contaminants identified in the fish are heavy metals, pesticides, polychlorinated biphenyls (PCBs), etc. The only connection with the Hanford Site is that some of the fish were caught in the vicinity of the Hanford Reach. The Columbia River in the Hanford Reach is a Class A river and any Hanford-related contaminants (as measured just downstream of the Hanford Site) are several orders of magnitude below the ambient water quality standards. That being said, the Hanford Site is actively working to remediate and minimize any potential impact from the migration of contaminated groundwater into the Columbia River at the localized plume areas along the Hanford Reach.

Question. Ms. Roberson, last October, the Department publicly announced that it would close 40 of the high-level nuclear waste tanks at the Hanford site by 2006. However, there is no agreement with regulators about the definition of a "closed"

tank nor has there been any public discussion of this issue. This has led to serious concern among regulators and the public that the Department is moving forward without the proper notice and approval.

How do you intend to get the Department and its regulators and the public in agreement on this issue?

Answer. The Department is striving to accelerate risk reduction by closing tanks in compliance with regulatory requirements. The Tri-Party Agreement (TPA) provides a framework for developing the tank closure process with the State of Washington's Department of Ecology (Ecology) and the U.S. Environmental Protection Agency. The Office of River Protection (ORP) is currently drafting a proposed change to the TPA which addresses requirements for retrieval and closure of Hanford Site single-shell tanks, establishes single-shell tank retrieval and closure demonstrations, and associated regulatory process documentation requirements. The single-shell tank system closure activities are dependent upon successful modification of regulatory documents through the addition of the Single-Shell Tank System Closure Plan. This plan would go through the required regulatory process which includes public review and comment.

Question. Ms. Roberson, last year, the U.S. EPA released a report on the Columbia River Fish Toxics Inventory, detailing the health risk to people who consume fish from the Columbia River, based upon tissue analysis of the fish. According to the report, some groups such as Native American tribes, have a 1 in 50 chance of contracting a fatal cancer from lifetime consumption of this fish.

Ms. Roberson, can you tell me how many claims have been filed under Subtitle D of the Energy Employees Occupational Illness Compensation Program Act of 2000 at Hanford?

Answer. As of June 4, 2003, the Department of Energy's Office of Worker Advocacy had received 1,637 Hanford applications for assistance under Subtitle D of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). Of these, 722 cases have been reviewed.

Question. Further, can you tell me how many of these claims at Hanford have been decided under the DOE Physicians' Panel?

Answer. As of June 4, 2003, 28 Hanford cases have been sent to the Physician Panels, of which seven decisions have been issued.

Question. How many have been paid?

Answer. It is too early in the process for any EEOICPA Subtitle D claims to have been paid. This will be done only when claimants have completed the State workers' compensation claims process, a process that is outside of DOE's control. It is important to point out that DOE does not pay claims; however, under the provisions of Executive Order 13179, DOE is required to report to Congress on the number of claims paid, and we are setting up procedures in order to carry out that responsibility.

Question. Ms. Roberson, earlier this year, the Department published a proposed Environmental Impact Statement for Hanford that was focused on a variety of new technologies for treating low-activity waste. This was followed by a series of public meetings where DOE committed that: a) additional views would be carefully considered; and b) there would be plenty of opportunity for change to the proposed EIS. I'm concerned that, in contradiction to those commitments, the interests of my State are being ignored by the DOE. Proper and timely treatment of low-activity waste is important. But there may be even more important opportunities to reduce waste volumes, costs, and schedules in the high-level waste stream that are not even being considered by the DOE. Governor Gary Locke wrote to express these concerns and my understanding is that, not only hasn't he received a substantial response, but also there have been informal indications that his concerns will be ignored by DOE in the next round of the EIS process. The residents of my State recognize that minimizing the cost of effective Hanford waste clean-up is critical to ensuring that there is enough funding to do the job right. It's impossible to make good judgments about potential technologies that should be included in the EIS without a thorough evaluation of the "life-cycle" costs (including temporary waste storage, transportation, and long-term disposal) for various high-level and low-activity waste technologies. This point was also addressed in the Governor's response to the initial EIS draft. I too would like to know specifically how DOE plans to address the prospect for high-level waste technologies and the life-cycle costs of various technologies before our Subcommittee considers the fiscal year 2004 appropriations request. I'd be grateful for your response at the earliest possible date.

Answer. The Department remains committed to vitrifying all of the high-level waste present in the Hanford tank system. We anticipate that only about 10 percent of the total volume of tank waste will ultimately be classified as high-level. We have modified the Waste Treatment Plant contract to add an additional high-level waste

melter to assure successful and timely processing of this material containing over 90 percent of the radioactive hazard. This portion of the waste will be disposed of in a geologic repository.

Approximately 90 percent of the volume of waste in the tanks is low-activity waste. Two low-activity waste melters in the Waste Treatment Plant will allow us to vitrify a great deal of this waste. In order to further optimize completion of tank waste treatment and control the life-cycle cost of the project, the Department is evaluating technologies that could be used to immobilize that portion of the low-activity waste not ideally suited for vitrification in the Waste Treatment Plant. At this time, the Department is making a nominal investment in these technologies; approximately $6 million will be invested in fiscal year 2004. The Office of River Protection (ORP) is planning to complete technology selection by December 2003, and, if appropriate, begin system design in late fiscal year 2004. Life-cycle costs, including temporary waste storage, transportation, and long-term disposal, will be considered during the technology selection process in late 2003. The Washington State Department of Ecology was involved in the identification of the candidate technologies and all comments received were considered in scoping the Environmental Impact Statement (EIS). Preliminary life-cycle cost estimates are complete and more refined estimates will be made as test and design data become available. With regard to the proposed EIS for Retrieval, Treatment, and Disposal of Tank Waste and Closure of Single-Shell Tanks at the Hanford Site, the Department is evaluating several conservative cases that will bound the environmental impacts that may result from implementation of the supplemental treatment technologies. ORP has completed public comment on the proposed scope of the EIS, and a Draft EIS will be available for public comment in September 2003.

Question. Ms. Roberson, in 2001 DOE's Office of Inspector General released a report regarding DOE's land holdings within the boundaries of the Hanford Reach National Monument in Washington State. The report recommended the transfer of these lands to the U.S. Fish and Wildlife Service as early as 2004. Such a transfer could challenge DOE's fiscal responsibilities as set forth in an agreement between the agency and the local governments in 1996.

I would like to know if this transfer is under consideration? If so, what is the status of the transfer, has DOE established a framework for implementation (including land surveys, agreements with the Department of the Interior, certification of waste removal, transfer liabilities, etc.), and how does DOE intend to fulfill the outstanding payment obligations as set forth in the 1996 agreement?

Answer. In response to the DOE Office of Inspector General report, DOE committed to pursue a phased transfer of approximately 265 square miles of the Hanford Site that is included in the Hanford Reach National Monument. The two phases correspond to completing certain environmental cleanup activities at Hanford that would significantly reduce the risk to the areas proposed for transfer. We have been working with the various elements of the U.S. Department of the Interior to define the specific legal processes to be used and the various specific activities that would have to be completed such as land surveys, etc., to complete the potential transfer. This work has not been finalized. The target date for the first part to be potentially transferred to the U.S. Fish and Wildlife Service, the Fitzner/Eberhardt Arid Lands Ecology Reserve, is approximately September 2004. The target date for the second phase, involving the "Riverlands," McGee Ranch and North/Wahluke Slope, is September 2005.

DOE policies allow for discretionary payments in lieu of taxes (PILT). The 1996 agreement to which you referred states that if there is "a change in the amount of property in Benton County under the Department's control, Benton County shall identify and explain those changes in its certification and, upon approval from the Department which will be forthcoming within 60 days of receipt of certification, payment will be made based upon that certification. The related PILT intergovernmental agreements between DOE and Grant County, and between DOE and Franklin County, specifically recognize that DOE's PILT "Payment and any future assistance payments under section 168 of the [Atomic Energy] Act are not entitlements."

DOE's discretionary authority under section 168 is limited to "those States and localities in which the activities of the Commission are carried on, and in which the Commission has acquired property previously subject to State and local taxation . . ." Within the limits of that statutory authority, DOE intends to fulfill its obligations under the agreements referenced above.

QUESTIONS SUBMITTED TO THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

YUCCA MOUNTAIN FUNDING LEVEL

Question. Dr. Chu, You noted in your testimony that the fiscal year 2003 funding level is a $131 million reduction from the President's request. I've previously heard the Secretary note that this funding shortfall introduces a "high risk" with regard to DOE's ability to meet the goal of a December 2004 license application date. What additional funding will be required in this fiscal year to keep all critical elements of the program on schedule for the 2010 target opening date?

Answer. The targeted 2010 opening date is premised on submitting a license application by the end of 2004, receiving construction authorization by the end of 2007, and receiving a license to receive and possess waste in 2010. At a minimum, the under-funding in fiscal year 2003 will make it more difficult to meet our goal of submitting a license application by the end of 2004, and will require deferral of work activities that are essential to beginning receipt in 2010. The reduced appropriations have resulted in a replan of the Program through submittal of the License Application (LA). The key impacts of this replan are: LA submittal in December, 2004, but at a higher technical risk; partial shut down of Yucca Mountain site and deferral of certain scientific tests; and, further deferral of transportation work supporting a 2010 waste receipt goal. Also, some workforce reduction associated with the reduced appropriations is unavoidable.

Question. Will the Department be submitting a supplementary budget request for these resources?

Answer. The Department is still evaluating its options for addressing the fiscal year 2003 funding shortfall. The Program's fiscal year 2003 appropriation was certainly below what we felt was a realistic level to stay on schedule for submitting a license application by the end of 2004. The shortfall has called into question our ability to accomplish all the pre-license application work in the time frame we have set. The Department has no plans at this time to submit a supplemental budget request for fiscal year 2003, but is considering options including a fiscal year 2004 budget amendment request.

TRANSPORTATION

Question. Dr. Chu, I understand that adequate funding is not only required for the license application, but also for other critical long-lead elements of your program. Judging from our experience with WIPP (Waste Isolation Pilot Plant), the transportation program will be difficult to construct and will require years to put into place. How much of your fiscal year 2003 budget is devoted to transportation?

Answer. In an effort to maintain the December 2004 license application date, we have had to focus most of our resources in that area. As a result, a total of $5 million is allocated to transportation, $25 million less than requested in the Administration's request.

Question. Do you believe that the program is starting soon enough on transportation issues to have the system ready for operation by your target date of 2010?

Answer. Development of the transportation system requires an aggressive schedule to support the planned opening of the repository in 2010. Shortfalls in funding are impacting that schedule and we are currently analyzing the longer term effects of the reduced funding on the schedule.

MODES OF TRANSPORTATION

Question. Dr. Chu, from past debates on Yucca Mountain, it's clear that transportation issues will remain a major controversy. The mode of transportation will be one of the most controversial elements. I believe that DOE has stated that it favors a "mostly rail" program. Do you still favor primarily rail shipments?

Answer. The Yucca Mountain Environmental Impact Statement (EIS) stated that the preferred mode of transportation is mostly rail; however, the Department has not made a final decision on mode (i.e. mostly rail or mostly truck).

Question. When do you expect to issue a record of decision on preferred modes of transportation?

Answer. The exact timing and content of any Record of Decision is under evaluation within the Department in conjunction with other aspects of transportation planning. The Department intends to issue a Transportation Strategic Plan later this year that will outline the timeframes for decisions needed to assure that transpor-

tation capability will be available to support the planned initiation of repository operations in 2010.

Question. What are the critical elements in the path toward finalizing your waste acceptance and transportation systems?

Answer. The critical transportation elements are development of the Nevada transportation infrastructure, initiating acquisition of transportation casks and supporting equipment, and maintaining the institutional program.

Question. And what cost and risk can you estimate for each element?

Answer. The largest risk involved with the development of the transportation system is in the area of the development of the Nevada component of the system. The development of equipment to ship wastes has little risk since many components are available in the commercial sector.

The FEIS, released with the Yucca Mountain site recommendation, identified rail transportation as the preferred transportation mode. If the decision is made to ship by rail the development of a rail line would cost between $300 million and $1 billion depending upon which corridor is selected. The acquisition of transportation casks and supporting equipment will cost about $500 million.

Question. If a rail shipment isn't in place by 2010, how many truck shipments will be required to replace the rail option?

Answer. Approximately 250 truck shipments would be required to ship 400 MTU in the first year of operation. The number of shipments would increase linearly as the waste acceptance rate increased.

Question. If the Department starts with a truck shipment program and transitions to a rail program later, won't this lead to some unnecessary costs in the program?

Answer. First, it is important to note that even under a rail shipment program, some shipment by truck is needed. Our goal is to minimize unnecessary costs, while at the same time maintaining the flexibility necessary for an optimum transportation campaign. The costs associated with a transition from truck to rail would depend on the length of time between the start of a truck shipment program and the start of a rail shipment program. If the time span were short, additional costs, if any, would be small. The longer the time span the more truck casks, beyond the number needed once rail shipment started, would have to be procured to meet the same acceptance rate. Such additional equipment investments would have little use once rail becomes operational.

SHIPMENT CASKS

Question. Dr. Chu, as you know some sites are placing waste today in NRC-licensed dual-purpose storage and transportation casks. I understand that sites are eager to have final guidance on the types of canisters and casks that will be acceptable at Yucca Mountain. Otherwise, sites may be doing work that simply must be repeated later. Will the initial operations of the repository accept NRC-licensed dual-purpose storage and transportation casks?

Answer. The Department's position is that multi-assembly canistered spent fuel is not covered by the disposal contracts between the Department and the utilities, and thus is not considered an acceptable waste form, and absent a modification to these contracts, will not be accepted for delivery to the Yucca Mountain repository. The Department has stated its willingness to initiate the appropriate actions to include such systems under the terms of the disposal contracts, as part of an overall contract modification that would address other waste acceptance and scheduling issues.

Question. Has the Department finalized acceptance criteria sufficiently to give adequate guidance to utilities, including the sites involved in decommissioning, which must move spent fuel to dry-storage right now?

Answer. The current acceptance criteria were established and agreed upon by the Department and utilities in the standard contract. The Department is aware that subsequent to signing the standard contract, issues have emerged that may require modifications to the acceptance criteria and thus to the contracts. One such issue is the acceptance of canister systems some utilities are now using to move spent fuel to dry storage. Unfortunately, as a number of these issues are the subject of ongoing litigation in the U.S. Court of Federal Claims, the Department is limited in its ability to pursue discussion of finalized or updated waste acceptance criteria with utilities at this time.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

YUCCA MOUNTAIN

Question. I note that the GAO evaluated DOE's progress towards license application in December 2001 and estimated that it would take until early 2006 to resolve all outstanding Key Technical Issues (KTIs) to NRC's satisfaction. Since then only 70 of the 293 outstanding KTIs have been resolved, quality assurance is being questioned by NRC and GAO, and the Licensing Support Network is due to be submitted to NRC 6 months ahead of the LA. Can you really suggest that the only obstacle to your progress and to your ability to meet the license application deadline of December 2004 is the failure of Congress to provide sufficient funding for your program?

Answer. There are nine Key Technical Issues associated with repository development and operations at Yucca Mountain. Associated with the nine KTIs are 293 agreements. At the time of the Yucca Mountain site designation, NRC designated all 293 agreements as closed pending DOE's provision of additional information to NRC. Since that time, DOE has provided a portion of that information, and NRC has agreed that 78 of the 293 agreements are complete as of May 23, 2003. Despite significant budget shortfalls, DOE continues to develop the documentation and analyses to complete the remaining agreements. All agreements need to be addressed by defining a clear path to completion before License Application, but they do not necessarily need to be complete before LA.

DOE has identified some quality assurance issues that must be successfully addressed. NRC and the GAO assessment that you referenced have recognized these issues. While sufficient funding is not the only obstacle to our program, it is the most critical obstacle to our ability to meet our program goals. Sufficient funding is required for detailed repository design, Licensing Support Network development, and other key elements of an acceptable LA.

TRANSPORTATION PLANNING PROCESS

Question. Given the amount of available funding in fiscal year 2003, is it your intention to defer the transportation planning process in order to complete the LA by December 2004? What transportation related activities do you plan to complete in fiscal year 2003?

Answer. Because of the reduced funding level it is necessary to defer most of the national transportation activities in an effort to hold to the December 2004 LA date. The Department does plan to issue its Transportation Strategic Plan later this year.

Question. When do you expect to release a Transportation Strategic Plan and to what extent will you involve stakeholders in the development of that Plan?

Answer. The Department intends to issue a Transportation Strategic Plan later this year. The Department expects to involve stakeholders in the process to develop the Plan. Their comments will be considered as the more detailed transportation planning documents are developed.

Question. What plans do you have for involving stakeholders in the decision process for selection of a transportation mode, a rail corridor, a final repository design, and for other decisions yet to be made in regard to repository development?

Answer. The Yucca Mountain Final Environmental Impact Statement stated: "If, for example, mostly rail was selected, both nationally and in Nevada, DOE would then identify a preference for one of the rail corridors, in consultation with affected stakeholders, particularly, the state of Nevada." The Department is taking a careful and deliberative look at the potential resource impacts and other implications in making both the transportation mode decision and Nevada corridor decision. Decisions regarding transportation will be made after thorough consultations with stakeholders, including State and tribal representatives, as well as national and regional organizations that interact with the repository program. Further details will be developed as we proceed with transportation planning. We will continue to work with the stakeholders, including the State of Nevada and affected units of local government throughout the various phases of the repository's development and operation.

STAKEHOLDER INVOLVEMENT

Question. What is your vision for continued involvement of affected units of State and local government in the Yucca Mountain program during the license and application phase and subsequent phases of repository development?

Answer. I believe the Nuclear Waste Policy Act contemplated a cooperative, "government-to-government" relationship between the Department and the State and each of the affected units of local governments throughout all phases of the repository development. I believe that each governmental unit must have well defined

roles and a clear understanding of their responsibilities under the NWPA. Equally important, we should clearly understand each others' responsibilities and constituency. We need not agree on every issue but we should understand and appreciate each others' positions.

Question. Does the zero budget request mean that you will not be working with any of the counties, and that you no longer support their commenting on documents, their participation at meetings, their assessment of impacts, their preparation of data for the Licensing Support Network, or their provision of information to their citizens? If you are proposing to support some county programs and not others, what criteria will you use for determining their participation?

Answer. The Department's practice has been to provide the State and affected units of local government with oversight funding as appropriated by Congress, and the Department does not expect to deviate from this practice. As the Department transitions from a site characterization phase to a licensing phase, it is important for the Department, State, and affected units of local government to identify the types of activities for which oversight funding can be requested and provided. We are developing guidelines for activities that could be funded in the licensing phase. These guidelines will be discussed at the next Affected Units of Government meeting scheduled for June.

LEGACY MANAGEMENT AT YUCCA MOUNTAIN

Question. What is your vision for legacy management in relation to the Yucca Mountain project?

Answer. There are varying views of what "legacy" management can mean. However, let me share with you the view I expressed during my confirmation hearing. I believe the existence and continuing accumulation of nuclear waste, spent fuel, and excess defense nuclear materials in the United States and globally demonstrates that the long-term management and disposal is not a matter of choice but a necessity. Prudent management of these materials is a profound and enduring responsibility of the Federal Government, the international community, and the world at large. I believe geologic repositories are vital to closing the nuclear fuel cycle and removing an impediment to the future development of nuclear power in this country. At the same time, repositories provide the means for us to manage excess defense nuclear materials and promote global non-proliferation.

After many years of study, the scientific consensus is that the best long-term solution for this legacy is safe disposal in a deep geologic repository. Above all, the most important goal for this program is the long-term safety of the repository. That is the most important test we have to pass. It is the program's vision to have an environmentally safe and secure repository that sets the standard for safety throughout the world.

I hope the legacy of a safe repository at Yucca Mountain will be recognition that this facility served a vital role in both energy and national security for our Nation.

SUBCOMMITTEE RECESS

Senator DOMENICI. We stand in recess.

[Whereupon, at 3:50 p.m., Monday, April 7, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 2004

THURSDAY, APRIL 10, 2003

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

The subcommittee met at 2:37 p.m., in room SD–124, Dirksen Senate Office Building, Hon. Pete V. Domenici (chairman) presiding.

Present: Senators Domenici and Reid.

DEPARTMENT OF ENERGY

NATIONAL NUCLEAR SAFETY ADMINISTRATION

STATEMENT OF AMBASSADOR LINTON F. BROOKS, UNDER SECRETARY FOR NUCLEAR SECURITY, ADMINISTRATOR FOR NATIONAL NUCLEAR SECURITY ADMINISTRATION

ACCOMPANIED BY:

ADMIRAL FRANK L. BOWMAN, DEPUTY ADMINISTRATOR FOR NAVAL REACTORS

DR. EVERET H. BECKNER, DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS

KENNETH E. BAKER, DEPUTY ADMINISTRATOR FOR DEFENSE NUCLEAR NONPROLIFERATION

OPENING STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. The hearing will please come to order. Thank you, everyone, for being here, and I apologize for my being late. I had another hearing and I hurried as much as I could.

Senator REID. You are only 7 minutes late. That is not late.

Senator DOMENICI. That is pretty good, yes.

The budget request for NNSA is $8.834 billion. That is an increase of $870 million over the current year level, an 11 percent increase. It is containing the following major program elements, one, nuclear weapons activities. The budget request is—excuse me—is $6.378 billion, an increase of $642 million, an 8 percent increase. We have, in addition, defense nuclear nonproliferation, naval reactors, and the Office of the Administrator.

First of all, the committee will review the fiscal year 2004 request for the National Nuclear Security Administration, that will include nuclear weapons activities, nuclear nonproliferation programs, and the naval nuclear propulsion program.

In that regard, we will receive testimony from Ambassador Linton Brooks, acting Administrator for NNSA. We thank you for coming and you are doing an excellent job. We are glad to have you here.

Admiral Frank Bowman, Deputy Administrator for Naval Nuclear Propulsion. Thank you so much, Admiral, and once again our compliments to you for the fine work you are doing.

And Dr. Everet Beckner, Deputy Administrator for Defense Programs. Good to have you.

And Mr. Kenneth E. Baker, acting Deputy Administrator for Defense Nuclear Nonproliferation. Welcome to all of you.

For fiscal year 2004, I have already indicated the budget request is about $8.8 billion, an increase of 11 percent. By all accounts, this is a good budget, continuing a trend that began last year. The budget is consistent with the 5-year budget program, which we required the NNSA to develop when we passed the Act. The transition to a 5-year budget plan has been challenging, and I am certain that it has been very challenging to all of you here in this room and those who work with you and for you. But I believe it is an important tool in developing strong support for the NNSA budget inside the Office of Management and Budget.

Within the NNSA budget, $6.38 billion is requested for nuclear weapons activities in 2004. This is an increase of $462 million, 8

percent, over the current year. For nuclear nonproliferation, the budget request is $1.34 billion, an increase of $319 million, 31 percent. The most notable increase within this budget is $272 million to start construction of the plutonium disposition facilities in South Carolina.

However, I do not believe the budget provides enough funding to do everything that NNSA could be doing to protect us from the dangers of nuclear terrorism. That is a key reason that Senator Reid and I worked to provide an additional $150 million for nuclear nonproliferation in the Homeland Security supplemental, Senator, and which you even thought we should add to that, Senator Reid.

Finally, the activities of the naval nuclear propulsion program, that budget request is $768 million. That is an increase of $66 million. That is an 8 1/2 percent increase. This program continues its tradition of being one of the best run in our national Government.

I look forward to engaging each of our witnesses today and working with you, the members of the subcommittee, to put together the best possible appropriation bill that we can.

I would like to briefly address the situation of the last few months at Los Alamos, in my home State of New Mexico, by saying what others have concluded, that the laboratory has been managed well in a number of key areas, in particular the management of its business and acquisition systems and in performing internal audits and assessments. I should have said "not managed well in those areas." The lab has made some mistakes, and I am engaged with the Secretary and the NNSA as to how best to fix those mistakes.

I will say as an aside, the interim director, Pete Nanos, is doing a great job. Everybody associated with his current tenure, albeit short-lived, seems to be saying the same thing.

But this turbulence during the last several months has encouraged many long-term opponents of the lab and its nuclear weapons mission to come out of the woodwork. Many people seem to be talking about Los Alamos only in a pejorative way. But I do not want to forget that the laboratory has a great deal of merit on its side. They have done many incredible things in the last 60-year history that have earned them the reputation of being the premier scientific laboratory in the world.

From the darkest hours of World War II through the Cold War to today, the laboratory at Los Alamos has typified America's scientific might in a range of activities from the human genome to nuclear weapons. It has always represented the best that the country has. So we will work through these current problems.

Later this year, I intend to conduct hearings on all of the laboratories, their roles, and missions. This will be done wearing another hat, a hat of the Authorizing Committee of—for the Energy and Natural Resources of the United States Senate. Part of that process will include a reevaluation of how we manage all of the laboratories, clarification of the responsibilities that lay with the Secretary, the NNSA, the contractors, such as the University of California, and the lab directors.

In many ways, I fear that the way the DOE manages its labs has become too complex and confused, and I am hopeful that within a year or so with these hearings, in-depth hearings, we will eliminate

some of that confusion and come forth with some more simplified approaches.

We ought to find ways to strengthen the management at Los Alamos and other ways that are going to be appropriate in making it better for our future. I do not think we can afford to do anything less.

With that, I yield to my good friend and distinguished Senator from Nevada, Senator Reid.

STATEMENT OF SENATOR HARRY REID

Senator REID. I served on this subcommittee for many years, and following the retirement of Bennett Johnson I have been ranking Democrat and oftentimes the chair of this subcommittee. And the Senator from New Mexico and I have developed a very fine relationship.

And let me say to each of you, this National Nuclear Security Administration is something that I did not favor. I thought it was unnecessary. The Nuclear—the National Nuclear Security Administration is, basically, a product of the mind of Senator Domenici. Other people may have worked with him on this, but basically it was his idea, and he was the reason it went forward. And as I announced last year at this same meeting, I am now a convert. I think it has worked extremely well. We have had good people who have been administering this program, an interesting new program we have here.

So, anyway, Senator Domenici, I appreciate your having done this. You were visionary in being able to do it.

I would also say this: Senator Domenici mentioned the labs. I do not know if the people of this country—the people of the State of New Mexico, are really aware of what has been done by Senator Domenici and these laboratories. But for him, I can remember as a relatively new member of this subcommittee, of him talking with Senator Johnson about the labs, and that the real science being conducted in this country is in the labs. And some of the greatest scientists in the world are in these laboratories.

So, certainly, the people of New Mexico should be aware of the fact that Senator Domenici has worked so hard and done so much to keep these labs funded, even in trying times to cut back these funds. And there have been fires, and scandals, and all kinds of things, but through it all the labs have come out just fine.

Last year I raised a variety of concerns about the administration's request for this agency. I felt that the requests for the pit production program was short of what was required to meet our milestones for the critical stockpiles stewardship program. Senator Domenici and I worked together last year, as we always do, and raised the budget for pit production high enough to keep the program on track. We were able to keep that additional funding in conference also.

I do not have the same concern this year. Actually, the President's budget has me very pleasantly surprised. I think it is a—this is fine. I see there are no gaping holes in the request. As we move closer to markup, I am sure there will be some modifications or requests here and there, but I do not expect anything as dramatic as the last few years.

That having been said, there are certain things that you have deleted from a variety of programs that have significant member interest, and there will be tremendous pressure on us, and rightfully so, to find—to fund these items within our overall total. Maybe we can find some extra money; but the way things are going, that is doubtful. And with the budget as tight as I expect it to be, we may be forced to accommodate them within the total of the money that we have and you have given us.

Many of the items that you have deleted are programs that have been funded year in and year out and have proved invaluable contributors to our national defense. And so if you see fit to delete them, that does not mean that we will.

I am always concerned and, I guess, it is Federal Government that you have to get used to, is that if it has not been done before, you do not do it. And there are certain things that we have to continually improvise to meet exigencies of a situation that develops, especially in an agency like this.

So, and the last thing that I would like to say, is that even though I know that you have tremendous pressure from OMB, we want you to also understand that we have tremendous brain power down here also. The staff that we have behind us are experts. They do a wonderful job in making sure the legislative branch of Government competes as it should constitutionally with the executive branch of Government. And all of the wisdom of the world is not within the executive branch of Government.

A couple more thoughts before I close. You requested funding for an advanced concepts initiative for nuclear deterrents which seems to expand on funding you sought and received last year. So this is something we have to really be careful on, careful about. We will examine this very closely. The authorizing committee will consider this program in expansional length when they mark up their bill, and we are going to watch to see what comes out of that authorizing committee.

I would also like to make sure that you give us all you can on this 18-month test readiness posture. It is something important for the country and the world, and we would hope that you would give us the benefit of your thoughts in that regard.

Mr. Chairman, I am going—as I have indicated to you, I am going to have to leave in a little bit. So I would ask your permission to submit written questions and that the witnesses get these back to us within 2 weeks.

Senator DOMENICI. We will do that, and if the witnesses will respond within 2 weeks. Thank you very much for your kind remarks and for your overall assessment.

We will start with you, Mr. Ambassador. You have heard so many nice words, maybe you do not even have to testify. Maybe you can just sit there and smile.

STATEMENT OF LINTON F. BROOKS

Ambassador BROOKS. Well, Mr. Chairman, actually I am gratified to know that we are thinking of the same things, because you gave much of my statement. So I will abbreviate it even further.

Thank you, Mr. Chairman and Senator Reid, for the opportunity to appear. This is my first appearance as the acting Administrator,

and I want to start by thanking the subcommittee and the members on both sides of the aisle with their strong support for our important national security responsibilities. I have provided a detailed written statement which I would like to summarize quite briefly before turning to my colleagues.

NNSA has several complementary missions. We are supposed to, above all, provide a safe, secure, and reliable nuclear deterrent. In doing so, we are supposed to implement the President's decisions on the Nuclear Posture Review. We are supposed to reduce the threat of the proliferation of weapons of mass destruction. We are supposed to maintain a robust security posture. We are supposed to reinvest in the nuclear weapons infrastructure, support the nuclear propulsion needs of the Navy. And we are supposed to do this in an efficient way by supporting the President's management agenda.

As you noted, the budget represents an 11-percent growth over last year and is consistent with the Future-Years Nuclear Security Program that we have submitted. I share your assessment that that has been an extremely valuable tool, and I look forward to it being even more valuable in the years ahead in enforcing sound planning and good fiscal discipline.

My colleagues will be talking about the details, but I would like to give a very brief overview and then talk about some broad areas.

The funds we are requesting for weapons activities will enable us to implement the Nuclear Posture Review. They will allow us to restore and maintain operational capabilities and keep a robust science and technology infrastructure. We are on schedule to produce, later this spring, the first certifiable plutonium pit in this country since the closure of Rocky Flats in 1989. And Los Alamos is on track to manufacture a certifiable pit for the stockpile by 2007.

As Senator Reid mentioned, we are taking steps to reduce our nuclear test readiness to 18 months. That is an important initiative of the President's Nuclear Posture Review to which we are fully committed. Both the fiscal year 2003 and 2004 budgets support this transition, which will take us about 3 years.

This budget also includes $21 million for advanced concepts work. That is small in terms of the overall budget, but it is important in policy terms. It includes $15 million for the Robust Nuclear Earth Penetrator. That system development work will begin later this month following the submission of a report to the Congress which the Defense Department submitted in mid-March. In addition, there is $6 million for advanced concepts work which we intend to use in conjunction with the Department of Defense to revitalize the intellectual capital and to think about what options might be necessary, and I need to emphasize "might be necessary," in the future.

The Nuclear Posture Review the President approved last year gives a responsive infrastructure equal priority with offensive strike and defense. We implement that in two particular ways: the Readiness in Technical Base and Facilities, which is an account that will be with us forever and is intended to operate and maintain the facilities needed for stockpile stewardship; and the Facilities and Infrastructure Recapitalization Program, which is, basi-

cally, a get-well program that should be completed in about a decade.

These programs work together to restore, revitalize, and rebuild the weapons complex. They are fixing the backlog in deferred maintenance, and I believe they are absolutely crucial and hope the committee will continue to support them.

As the chairman mentioned, we are requesting a 30-percent increase in Defense Nuclear Nonproliferation funds. Much of our program is the same as last year. The largest dollar increase is for the MOX Fuel Fabrication Facility. Russia has agreed to use the same design, and, therefore, both of us should be able to begin construction in 2004. The other increases in nonproliferation support the beginning of a program to purchase additional highly-enriched uranium from the Russian Federation, thus taking it permanently out of risk for proliferation, to strengthen safeguards, and then for one or two other minor initiatives.

Last year, NNSA assumed responsibility for a production that will shut down the last three plutonium production reactors in the Russian Federation. We are about to compete for the contractor to actually carry that out. The contractor will be selected from a group of contractors with extensive experience both in fossil fuel plant construction, which we are going to build to replace these reactors, and in working in Russia.

Admiral Bowman will talk about the Naval Reactors program.

Senator DOMENICI. Mr. Ambassador, would you just hold for a second?

Ambassador BROOKS. Certainly, sir.

Senator DOMENICI. I have to see my constituents here just for a second. If I do not see them, nobody else will.

Okay. Thank you, Mr. Ambassador. Please proceed.

Ambassador BROOKS. In fiscal year 2004, Naval Reactors will support 103 reactors and 82 nuclear-powered warships, including the first-of-a-class reactor when U.S.S. *Virginia* goes to sea.

Naval Reactors will continue to design and develop the reactor for the new transformational carrier. And the budget increase will allow beginning the development of the so-called transformational technology core, which will achieve a substantial increase in core energy and result in greater operational ability and flexibility. In addition, the Naval Reactor budget increase will allow maintenance and replacement of some of the program's 50-plus-year-old infrastructure.

Key to ensuring the health and safety of all our activities is safeguards and security. The program focuses on protection of people, nuclear weapons, information, special nuclear material, and infrastructure.

Immediately following September 11, 2001, my predecessor initiated an increase in our security posture. And as a result of that, I am satisfied with the level of security complex-wide. Now, most of that increase was in physical protection, and what that mostly means is more guards. As we look to the future, physical protection is going to be more complicated and costly. So in 2004 we will begin a modest research and development effort to try and understand how technology might improve security while reducing the demands on physical security force, staffing, and overtime.

Finally, the budget requests $348 million for the Federal workforce. This will provide our direction and oversight of operations. Naval Reactors and our secure transportation assets activities are separately budgeted.

Our budget reflects declining staffing increases, but it also includes about $16 million for re-engineering and relocation costs necessary to bring about the new organizational model, which I will mention in a moment.

Before turning to my colleagues, I would like to mention some of the management challenges that we have been facing and some of the successes we have had. The most obvious challenge you have already referred to, Mr. Chairman, and that has been the management issues at Los Alamos National Laboratory.

It is important to put those challenges in context. There has been no suggestion of any diminution in the high quality of the science. There has been no suggestion of any problems with security. There has been no suggestion of any problems with safety. But there have been significant weaknesses in business practices. As soon as we learned of them, Secretary Abraham and I insisted the University of California, which manages the laboratory, take corrective action. And generally, I am satisfied—that is not true. I am pleased with the corrective action taken to date. The University has been vigorous, and I share your assessment that the interim laboratory director is doing a superb job.

In addition to what we have done in Los Alamos, we have compiled a comprehensive set of lessons learned to share that with all of our sites to avoid similar problems in other areas.

On a more optimistic note, I believe we are making good progress in meeting the intent of the Congress in creating the National Nuclear Security Administration. On December 20 of last year, I implemented the revised management approach we reported to the Congress last year. We eliminated a layer of management. We shifted the locus of Federal oversight to eight site offices. We consolidated all business and administrative support into a single service center to be physically consolidated next year.

These changes, along with other workload reduction initiatives, should allow us to reduce the Federal workforce by about 20 percent by the end of next year in all areas except secure transportation asset, nonproliferation, naval reactors, and emergency operations.

I mentioned in the beginning of my remarks that we are mindful of the President's management agenda. With an emphasis on our new planning, programming, budgeting, and evaluation process, we are trying to take a long view, budget with firm resource envelopes, and then manage to those budgets. Our process was modeled after the Department of Defense, but tailored to our needs. It will take several budget cycles before we get all the benefit this system will use, and I am very pleased with our progress.

I am also pleased with our participation in the administration's Performance Assessment Rating Tool (PART). This year the Office of Management and Budget evaluated four programs that encompass about 20 percent of our total funding. Two of those programs, the advanced computing initiative and the nuclear material protection and cooperation, were rated in the top 5 percent of all pro-

grams government-wide, and they were the two highest rated programs in the Department of Energy. We will be incorporating PART assessment for all of our programs as part of our own internal evaluation cycle, starting with the fiscal year 2005 budget we will begin working on this summer.

In conclusion, Mr. Chairman, I am confident we are headed in the right direction. Our budget request will support continuing our progress in protecting and certifying our deterrent, reducing the global danger from proliferation, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of the NNSA complex, and, above all, I believe it will meet the national security needs of the United States for the coming century.

PREPARED STATEMENT

Mr. Chairman, this concludes my statement. My colleagues and I will be ready to answer your questions after they have had the opportunity to present their own statements.

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

[The statement follows:]

PREPARED STATEMENT OF LINTON F. BROOKS

Thank you for the opportunity to appear today to discuss the Fiscal Year 2004 President's Budget Request for the National Nuclear Security Administration. This is my first appearance before this Subcommittee as the Acting Administrator of NNSA, and I want to thank all of the Members for their strong support of our important national security responsibilities. I would like to begin my testimony here today by providing an overview of the NNSA mission requirements followed by the highlights of our budget request.

OVERVIEW

The NNSA, comprised of Defense Programs, the Defense Nuclear Nonproliferation Program, and the Naval Reactors Program, has several complementary mission requirements:

—Provide a safe, secure and reliable nuclear deterrent and implement the President's decisions on the Nuclear Posture Review (NPR) recommendations.
—Reduce the threat posed by the proliferation of weapons of mass destruction and continue to support the Global War on Terrorism through aggressive nuclear nonproliferation programs.
—Maintain a robust security posture at NNSA facilities.
—Revitalize the nuclear weapons complex infrastructure.
—Support the nuclear propulsion needs of the U.S. Navy.
—Support the President's Management Agenda for more effective government.

The fiscal year 2004 budget request totals $8.8 billion, an increase of $878 million, about 11 percent, over the enacted fiscal year 2003 budget. The request is consistent with the planned program levels in the Future-Years Nuclear Security Program recently submitted to the Congress. This substantial increase reflects the Administration's commitment to sustain a stable and effective long term national security program through the NNSA, as well as our obligation to our citizens to conduct this program safely, securely, and in an environmentally acceptable manner.

We are building on recent accomplishments. Although there is a large increase in this year's budget request, there is no single new initiative driving this growth. Rather, we are continuing plans and programs already set in motion, and adjusting to the guidance in the Nuclear Posture Review. We are moving beyond the talking and planning phase of many programs conceived in the 1990's.

This budget supports the Stockpile Stewardship Program, which continues to successfully certify to the President the safety and reliability of the nuclear weapons stockpile without underground nuclear testing. It includes funds to begin a modest Advanced Concepts initiative to provide nuclear deterrence options, begin the transition to a 18-month test readiness posture, continue to revitalize the facilities and infrastructure that are the bedrock of the weapons complex, and push the outer lim-

its of scientific, modeling, and computing ability to apply new experimental capabilities to the processes of maintaining and certifying the stockpile. It supports our efforts to manufacture certifiable pits and to produce tritium.

In the area of reducing global nuclear danger, this budget request for the Defense Nuclear Nonproliferation Program reflects the President's and Secretary Abraham's emphasis on reducing proliferation threats, including the Global Partnership formed at the Kananaskis Summit in June 2002. The fiscal year 2004 request contains funds to support attacking the problem globally, to improve the physical security of nuclear material, to consolidate and reduce that material, and to end its production. It also continues efforts to prevent illicit trafficking of nuclear materials, to improve our ability to detect proliferation, and to stem the "Brain Drain" of weapons experienced scientists from Russia.

Under this budget, the Naval Reactors Program will initiate the design and development of a new reactor that will utilize advanced materials to achieve a substantial increase in core energy. The result will be greater ship operational ability and flexibility to meet increasing national security demands.

BUDGET SUMMARY TABLES

The fiscal year 2003 estimates in the fiscal year 2004 budget documents transmitted to the Congress reflect the President's fiscal year 2003 Budget Request because final fiscal year 2003 appropriations were not enacted until February 20, 2003. The Future-Years National Security Program tables tie to the President's Budget Request. The table below summarizes the enacted funding levels by appropriation. The fiscal year 2003 appropriations estimates are made comparable to the fiscal year 2004 President's Budget Request by eliminating fiscal year 2003 appropriations being transferred to the Department of Homeland Security and to the Department of Energy's Office of Security (for COOP/COG activities). The fiscal year 2003 totals detailed in the table below also reflect applications of the general reductions and the government-wide, across the board reduction of 0.65 percent enacted in the final fiscal year 2003 appropriations.

The outyear budget estimates and associated programmatic information for NNSA programs are contained in the Future-Years Nuclear Security Program document I forwarded to the Congress in February.

FISCAL YEAR 2004 NNSA PRESIDENT'S BUDGET REQUEST

[Dollars in millions]

	Fiscal Year 2002 Comparable Appropriation	Fiscal Year 2003 Comp Request	Fiscal Year 2003 Comp Approps	Fiscal Year 2004 Request	$ Change	Percent Change
Weapons Activities	$5,542	$5,846	$5,895	$6,378	$483	8.2
Defense Nuclear Nonproliferation	[1] 1,048	1,028	[2 3] 1,022	1,340	318	31.1
Naval Reactors	688	707	702	768	66	9.4
Office of the Administrator	307	329	[3 4] 321	348	27	8.4
Total	7,585	7,909	7,940	8,835	895	11.3

[1] Does not include $10 million appropriated as part of the fiscal year 2002 supplemental (Public Law 107–206) for Domestic Sealed Sources Recovery in the Environmental Management Program.

[2] Does not include funding appropriated for programs transferred to the Department of Homeland Security.

[3] Does not include $9.125 million requested to be transferred in fiscal year 2002 from Defense Nuclear Nonproliferation to the Office of the Administrator. This transfer was approved early in fiscal year 2003.

[4] Does not include funding appropriated for activities transferred to Homeland Security, or to Office of Security for COOP/COG.

NNSA OUTYEAR BUDGET REQUESTS—FUTURE-YEARS NUCLEAR SECURITY PROGRAM

[Dollars in millions]

	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
Weapons Activities	$6,378	$6,661	$6,961	$7,277	$7,518	$7,651
Defense Nuclear Nonproliferation	1,340	1,356	1,371	1,389	1,322	1,346
Naval Reactors	768	808	795	811	819	834
Office of the Administrator	348	337	344	353	355	362
Total	8,835	9,162	9,471	9,830	10,014	10,193

NUCLEAR FORCES AND THE NUCLEAR POSTURE REVIEW

Before going into Weapons Activities Stockpile Stewardship Program, I will discuss the NNSA's response to the broader policy framework set out in the Nuclear Posture Review (NPR) and its implementation.

As the NPR has articulated, the 21st century presents the prospect of a national security environment in which threats may evolve more quickly, be more variable in nature, and be less predictable than in the past. In this broad threat environment, nuclear weapons will play a reduced role in the overall United States security posture—a point reinforced in the NPR. At the same time, the NPR reaffirmed that, for the foreseeable future, nuclear forces linked with an advanced conventional strike and integrated with the capabilities offered by the other two legs of the New Triad will continue to be an essential element of national security by strengthening our overall abilities to reassure allies of U.S. commitments, dissuade arms competition from potential adversaries, and deter threats to the United States, its overseas forces, allies, and friends.

The NPR offered a basic reassessment of the role of nuclear forces and their contribution toward meeting these defense policy goals. It established the need for a capabilities-based force, a dramatic departure from the threat-based rationale for the nuclear force of the past. This change, in combination with the judgment to no longer plan our forces as if Russia presented an immediate threat to the United States, was the basis for dramatic reductions codified in the Moscow Treaty in the level of operationally-deployed strategic nuclear forces. Over the next decade, the number of deployed warheads will be cut by approximately two-thirds from today's level.

To meet the challenges of an uncertain and unpredictable threat environment, and in seeking to mitigate any dangers associated with dramatically reduced nuclear forces, the nuclear weapons enterprise must be able to respond rapidly and decisively. This is the idea behind the third leg of the New Triad. That is, by providing means to respond to new, unexpected, or emerging threats in a timely manner, the R&D and industrial infrastructure needed to develop, build, and maintain nuclear offensive forces and defensive systems (of which the nuclear enterprise is a key component) is itself a principal tool for achieving our overall defense strategy. This concept, and its endorsement by the NPR, has had enormous implications for NNSA in helping to gain strong support for its programs from DOD and others.

We are pressing ahead with efforts to reverse the deterioration of the nuclear weapons infrastructure, restore lost production capabilities and modernize others in order to meet the stockpile refurbishment plan. We are actively assessing the NPR's implications in a number of other related areas. Finally, we are pursuing initiatives endorsed by the NPR which are intended to provide the nuclear weapons enterprise with the flexibility to provide a timely response to "surprise," or to changes in the threat environment.

WEAPONS ACTIVITIES—STOCKPILE STEWARDSHIP

The President's fiscal year 2004 request for Stockpile Stewardship continues to build and expand on the scientific and engineering successes that are the hallmarks of this program. This request totals $6.378 billion, an increase of 8.2 percent. It will also allow us to meet our requirements under the terms of the Nuclear Posture Review including enhancing test readiness, reinvigorating the advanced concepts work in the weapons laboratories, and restoring the weapons complex to meet the national security requirements of the 21st Century. There are a number of significant milestones we expect to achieve this year.

—Manufacture the first certifiable W88 pit.
—Begin irradiation of the first Tritium Producing Burnable Absorber Rods in the TVA's Watts Bar Reactor.
—Continue delivery of W87 Life Extended warheads to the Air Force.
—Complete environmental documentation in support of the Modern Pit Facility.
—Deliver four ultraviolet beams of NIF laser light to the target chamber.
—Initiate Stockpile Stewardship experiments in NIF.
—Perform two- and three-dimensional simulations of aging stockpile weapons focused on Life Extension Program activities.
—Ship nuclear weapons, weapons components, and nuclear materials safely through the Secure Transportation Asset.
—Conduct subcritical experiments at the Nevada Test Site to better understand plutonium aging.
—Begin work on the Advanced Concepts initiative and, in particular, on the RNEP Phase 6.2 studies with the Air Force.

These major milestones will be accomplished by the weapons complex in addition to the manufacture of thousands of components needed to maintain the stockpile. The complex will also carry out hundreds of smaller scale experiments, perform surveillance activities, address Significant Finding Investigations to ensure weapons safety and operability, conduct flight tests with the support of the DOD, deploy new manufacturing tools and processes at the production plants, and safely dismantle weapons excess to national security requirements.

These and other activities are dependent on retaining today's highly skilled workforce and recruiting the next generation of stockpile stewards. Over the last several years, NNSA has made a significant headway on this all-important front. Critical skill vacancies across the complex have been reduced to 8 percent. Inextricably linked to recruitment and retention is providing the quality workspace and fully functioning tools and technologies needed by our scientists and engineers to carry out their work. We are working diligently to reinvest in the weapons complex infrastructure.

I would now like to highlight several activities under the Stockpile Stewardship Program that I believe are of particular interest to this committee.

Pit Manufacturing and Certification Campaign.—Restoring the Nation's ability to manufacture plutonium pits in support of the stockpile has been a central challenge for the stewardship program since the closure of the Rocky Flats plant in 1989. The United States has never before manufactured and certified pits without nuclear testing. I am very pleased to report that late this spring, Los Alamos will manufacture the first certifiable W88 pit. LANL also remains on-track to manufacture a war reserve W88 pit by 2007. To achieve this critical milestone, LANL has produced a number of development pits and has performed a series of engineering tests and physics experiments to confirm pit performance.

While the TA–55 facilities at LANL are adequate to support the W88 pit campaign, they do not appear to be capable of supporting the manufacturing need for long-term stockpile support. NNSA has begun planning for a Modern Pit Facility (MPF) consistent with the Record of Decision for Stockpile Stewardship and Management and the NPR. In May 2002, the Secretary of Energy formally approved Critical Decision "0" (CD–0) for the MPF. The NNSA is now examining five candidate sites—Pantex, Carlsbad, the Nevada Test Site, Savannah River and Los Alamos—as possible locations for the MPF. We expect to issue a Draft Environmental Impact Statement (EIS) later this spring. Following a series of public meetings, a final EIS and associated Record of Decision (ROD) will be issued. The program will prepare site specific environmental documentation if the ROD supports a decision to construct and operate an MPF. The fiscal year 2004 request will allow conceptual design and other planning activities, NEPA work, and technology development activities to proceed on a schedule that will support a CD–1 decision in fiscal year 2006.

Test Readiness.—While I continue to have confidence in the ability of the Stockpile Stewardship Program to continue to ensure the safety, security, and reliability of this Nation's nuclear deterrent, we must maintain our ability to carry out nuclear weapons tests. Our current readiness posture to conduct such a test is 24 to 36 months, as established in a 1993 Presidential Decision Directive. Last year's NPR stated that this period should be reduced in order to provide options to deal with defense policy goals, including resolving unanticipated problems in the stockpile. A study completed in July 2002 confirmed that additional work was required to maintain the present posture, but it also led us to conclude that the right posture is to be ready for a test within approximately 18 months. With fiscal year 2003 funding now in place, we intend to begin the transition to a 18 month posture. The Nuclear Weapons Council has concurred that our intended action is appropriate. The transition to this new readiness posture is expected to take approximately three years.

Although there have been discussions about a transition to shorter times, there is concern that an unnecessarily expedited time-frame may cause adverse effects on critical personnel resources and require significantly more funding. It is not likely that we will be able to match the short lead times when the weapons complex conducted multiple underground tests annually, nor do I think it is prudent to tie-up important resources to indefinitely maintain an extremely short test readiness posture. Since device and diagnostics preparations are driven by the particular weapon to be tested and the questions to be answered by the test, such a posture might not be responsive to a surprise in the stockpile. The NNSA is studying this matter and I will soon be reporting to the Congress on these subjects as directed in the fiscal year 2003 Defense Authorization Bill.

Advanced Concepts/Robust Nuclear Earth Penetrator.—The NPR also highlighted the importance of pursuing Advanced Concepts work to ensure that the weapons complex can provide nuclear deterrence options well into the next century. To that

end, the fiscal year 2004 budget includes $21 million for Advanced Concepts work. About $15 million will be allocated to the Robust Nuclear Earth Penetrator (RNEP), with the balance of the funding divided between the weapons laboratories for concept and feasibility studies of possible nuclear weapon modifications, or new designs to meet possible new requirements.

The Department of Defense submitted the report on RNEP to the Congress on March 19, 2003, as required by the fiscal year 2003 Bob Stump National Defense Authorization Act. The NNSA will begin an in-depth study once the 30 day waiting period has elapsed. As members know, this study will examine whether or not two existing warheads in the stockpile the B61 and the B83 can be sufficiently hardened through case modifications and other work to allow the weapons to survive penetration into various geologies before detonating. This would enhance the Nation's ability to hold hard and deeply buried targets at risk. The RNEP feasibility and cost study is currently scheduled for completion in 2006; however, we are looking at opportunities to reduce study time.

For other advanced concepts, we will work with the DOD to assess evolving military requirements. We will carry out theoretical and engineering design work. I should stress that we have no requirement to actually develop any new weapons at this time.

Physical Infrastructure.—Since its inception, the NNSA has been committed to a disciplined corporate facilities management approach to improve the facility conditions of the nuclear weapons complex. We made this corporate commitment clearly recognizing the drivers and practices of the past decade had ultimately resulted in a complex with significant deterioration in our physical infrastructure and an excessive backlog of deferred maintenance. The NNSA complex is part of our Nation's strategic nuclear infrastructure and the third leg of the New Triad as defined in the Nuclear Posture Review. The Nuclear Posture Review gave a responsive infrastructure equal priority with offensive and defensive weapons. Through our focused and disciplined efforts, we now have underway an effective and integrated program to restore, revitalize, and rebuild our nuclear weapons program infrastructure.

Two complementary accounts in the budget, Readiness in Technical Base and Facilities (RTBF) and the Facilities and Infrastructure Recapitalization Program (FIRP), are essential to the operation, maintenance, and renewal of a physical infrastructure. Funding for RTBF, Operations of Facilities, increases by 4 percent in the fiscal year 2004 request. The RTBF provides the funding needed to operate and maintain the facilities required for certification, thus ensuring the vitality of the NNSA national security complex and its goal of a consistent readiness level. FIRP is a capital renewal and sustainability program designed to eliminate maintenance backlogs. The FIRP addresses an integrated, prioritized list of maintenance and infrastructure projects, separate from the maintenance and infrastructure efforts of RTBF, which will significantly increase the operational efficiency and effectiveness of the NNSA sites.

Importantly, beyond the application of the new and much needed funding, FIRP also brings a series of new facility management processes and best business practices which are improving our corporate facility management. One of the most important practices is the NNSA commitment to deferred maintenance reduction: stabilizing our backlog by fiscal year 2005 and returning it, for our mission essential facilities and infrastructure, to industry standards by fiscal year 2009. To meet this goal, the fiscal year 2004 budget request targets 45 percent of the FIRP Recapitalization subprogram to facilities and infrastructure specific deferred maintenance projects.

Integral to our corporate approach to RTBF and FIRP are the linkages and discipline provided by the PPBE process, and specifically the Ten-Year Comprehensive Site Plans (TYCSP) and associated facilities and infrastructure planning processes. We are now in the third year that the NNSA has approved the TYCSPs, incorporating technical requirements and performance measures within the financial bounds of the FYNSP resource levels. From the field perspective, these plans provide Federal and M&O managers at each site with the tools and processes to propose, prioritize and obtain approval of the work needed to effectively manage their facilities and infrastructure. From the Headquarters perspective, the TYCSP provides the NNSA with a standardization that allows comparisons and planning to be effected complex-wide.

In recent years, the combined and measurable efforts of FIRP and RTBF have worked to assure that we restore, revitalize, and rebuild the weapons complex infrastructure for today and tomorrow's missions. Across the weapons complex both programs are fixing the backlog of maintenance, keeping up with operational needs, and planning for the future to make a clear and visible difference. These combined efforts are crucial and I urge the committee to support them.

Stockpile Life Extension.—While preparing for the future, the labs and plants are working very hard to extend the life of several elements of the existing nuclear weapons stockpile through the Life Extension Program (LEP). The NPR reaffirmed the decision as reached by the Nuclear Weapons Council on the timing, pace, scope, and technical aspects of the LEPs for the W76, W80, B61–7/11, and ongoing W87 work. Through this program new subsystems and components are designed, built, tested and installed, thereby extending the operational service life for these warheads for some 30 additional years.

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 National Security Complex, Lawrence Livermore and Sandia National Laboratories, and the Pantex Plant. 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 or refurbishment of the Arming, Firing and Fuzing set, high explosives, gas transfer system and other components. We will also be requalifying the weapon primary. For the W80, we will be replacing the Trajectory Sensing Signal and Neutron Generators, the tritium bottles and incorporating surety upgrades. For the B61, we will be refurbishing the secondary. The First Production Units for these systems are scheduled for delivery to the Navy and Air Force in: fiscal year 2007, fiscal year 2006 and fiscal year 2006, respectively.

Tritium.—In addition to restoring plutonium manufacturing capabilities, NNSA will begin tritium production later this year when several hundred Tritium Producing Burnable Absorber Rods (TPBARs) are inserted into TVA's Watts Bar Reactor. However, because of significant changes in stockpile size in the outyears as a result of the NPR and the Moscow Treaty, the NNSA has, in concert with the DOD, adjusted the tritium production requirements to reflect these changes. We remain fully committed to exercise all elements of the system for producing, extracting, and purifying new tritium, including initial operation of the Tritium Extraction Facility (TEF) being constructed at the Savannah River Site.

Timing of tritium production, extraction, and purification has also been delayed by approximately 17 months for two reasons: (1) a reduction in the stockpile requirements by the NPR and (2) a delay in completion of the TEF project. This program delay can be accomplished without impacting nuclear weapons readiness. A revised baseline has been approved increasing the Total Project Cost from $401 million to $506 million and delaying project completion from mid-fiscal year 2006 to late-fiscal year 2007.

Since the tritium decays by natural radioactivity at a rate of about 5 percent per year, and since irradiation service costs are the dominant operating costs in supplying tritium to the stockpile, it is prudent not to produce tritium beyond the stated national requirements. Since the program intends to complete and exercise all elements of the tritium production and purification system (including TVA's reactor(s) and the TEF) on a schedule that fully protects the stockpile requirements, irradiation services are being deferred in order to use funds planned for these activities to complete TEF.

National Ignition Facility.—I am pleased to report that tremendous technical progress has been achieved over the last year at the National Ignition Facility (NIF). Its mission is to obtain fusion ignition in a laboratory setting by imploding a BB-sized capsule containing a mixture of the hydrogen isotopes, deuterium and tritium. The NIF will provide the capability to conduct laboratory experiments to address the high-energy density and fusion aspects that are important to both primaries and secondaries in the nuclear stockpile.

In December 2002, the first four NIF laser beams were activated to generate a total of 43 kilojoules of infrared laser light in a single pulse. In March 2003, NIF delivered its first 4 beam of ultraviolet laser light focused onto a target at the center of the 30 foot-diameter target chamber. With this accomplishment, all elements of each of the NIF critical subsystems have been successfully activated and operated. Stewardship experiments will begin in fiscal year 2004.

Advanced Simulation and Computing.—The Advanced Simulation and Computing (ASCI) Campaign is creating simulation capabilities that incorporate modern physics and engineering models to improve our ability to predict with confidence the behavior of the nuclear weapons in the stockpile. These models, validated against experimental data from past above ground and underground nuclear tests, are the repositories of expert designer judgment as well as the best scientific representations of our current knowledge of the performance of the nuclear weapons. The ASCI Campaign is driving the integration of the theoretical and experimental efforts within the Stockpile Stewardship Program.

At the same time that ASCI continues the development of the most powerful computer capabilities needed for the future, the modern simulation tools previously developed by ASCI—the Blue Pacific and White Machines at LLNL, the Red Machine at SNL, and the Blue Mountain and Q machines at LANL—are being applied day-to-day to address immediate stockpile concerns. The ASCI codes are being used to close Significant Finding Investigations as well as to support Life Extension Programs for the W76, W80, W87, and B61. These activities are enabled by the ongoing supercomputing infrastructures at the national laboratories, encompassing both continuing operations as well as research in new techniques for storage, visualization, networking, and all aspects of the infrastructure required by modern computing.

By fiscal year 2008, ASCI will deliver a high fidelity, full-system physics characterization of a nuclear weapon. At that time, the campaign will deliver a suite of validated codes, running on supercomputer platforms, acquired though open procurement, with user-friendly environments, advanced visualization tools for analysis, and the entire support structure to integrate the components together. Other program deliverables include high-performance storage and high-bandwidth networks. In support of a true integrated SSP effort, the ASCI Campaign continues to push the envelope in distance computing as well as in advanced encryption techniques and other approaches to ensure secure, classified networking.

SECURE TRANSPORTATION

The Office of Secure Transportation is responsible for safely and securely moving nuclear weapons, special nuclear materials, select non-nuclear components, and Limited Life Components for the DOE and the DOD. This work is carried out by 225 Federal agents stationed at three sites—Pantex, Oak Ridge, and Albuquerque. These highly dedicated and skilled agents are authorized to use deadly force in the performance of their duties. Employing highly modified tractor trailers and escort vehicles, and secure and redundant communications they have amassed an impressive safety record of more than 100 million accident free miles without cargo compromise. I would note that this office also provides support to other elements of the DOE, including the Offices of Environmental Management and Nuclear Energy.

NONPROLIFERATION—REDUCING THE GLOBAL NUCLEAR DANGER

The NNSA's nonproliferation activities are central to the Bush Administration's National Strategy to Combat Weapons of Mass Destruction of December 2002, which lists "Strengthened Nonproliferation" as a pillar of its approach to reducing proliferation threats. Secretary Abraham and the NNSA are committed to this critical mission. This commitment is reflected in the diversity of our programs to address nonproliferation concerns in Russia, other former Soviet states, and, increasingly, throughout the world. The NNSA uniquely integrates technical and policy expertise to guide and implement the full range of U.S. nonproliferation priorities. The fiscal year 2004 request for this program is $1.34 billion, an increase of about 31 percent.

The NNSA addresses concerns that arise from the two requisites of nuclear weapons proliferation: materials and expertise. 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 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.

The Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, formed at the Kananaskis Summit in June 2002, has recommitted the G–8 nations to increase greatly assistance to nonproliferation, disarmament, counter-terrorism, and nuclear safety. The partnership pledges to provide $20 billion over the next ten years for nonproliferation and threat reduction initially focused in Russia. The United States is committed to provide half that total. The effort of our G–8 partners will complement U.S. programs and meets past Congressional concerns that we not carry a disproportionate burden.

I am also pleased to inform you of the substantial progress of the Elimination of Weapons-Grade Plutonium Production Program (EWGPP). The EWGPP is using best project management practices by applying the Department's established directives on project management. On December 20, 2002, the projects received Critical Decision Zero (CD–0), mission-need justification, and we have started the process to procure U.S. contractors.

These contractors will be responsible for oversight, verification, and payment to the Russian Federation Integrating Contractor for work completed. The U.S. contracts will be performance-based with the award fee provisions focusing on successful completion and the ability of the U.S. contractor to incentivize the Russian Fed-

eration Integrating Contractor's performance in meeting or exceeding cost, schedule and quality objectives. The U.S. contractor is being selected from a group of contractors that have extensive experience in both fossil fueled power plants and in Russia. Although the projects will be executed in the Russian Federation, using Russian equipment and personnel, we are implementing a rigorous oversight plan to monitor the progress through a formal project management system.

With three exceptions, our fiscal year 2004 request is essentially the same as last year. Last year, at the President's request, Secretary Abraham sought Russian agreement to dispose of additional Russian highly enriched uranium. We are nearing agreement on the purchase of Russian highly enriched uranium for U.S. research reactors and on purchasing downblended uranium from Russian weapons for a strategic uranium reserve. We have requested $30 million for this program.

Second, there has been a $19.7 million increase in the request for programs to secure radiological sources that could be used in radiological dispersal devices, also known as "dirty bombs."

The largest fiscal year 2004 budget increase, about $272 million, supports our plutonium disposition efforts. The United States and Russia will each dispose of 34 metric tons of weapons grade plutonium by irradiating it as mixed oxide, MOX fuel, in existing nuclear reactors. This program is on track. Over 75 percent of the detailed design of the U.S. MOX facility will be done this year. Russia has told us that it will use the U.S. design for the MOX Fuel Fabrication Facility, thus ensuring the programs remain on roughly the same schedule. Construction of both the U.S. and Russian MOX Fuel Fabrication Facilities will begin in fiscal year 2004.

I would also like to comment on NNSA's efforts to ensure that funding is focused on the highest nonproliferation concerns. Given that adverse impacts of terrorists or rogue nations obtaining nuclear weapons is intangible, we cannot easily assess risks using quantifiable risk analysis methods. However, we have and will continue to conduct qualitative risk analyses to determine that we are applying the most cost-effective approaches to meet the greatest nonproliferation needs.

The NNSA recognizes that proliferation is a multifaceted problem, and reduces the threat in a multitude of ways.

We're attacking the problem globally.—The Global Partnership is only the most recent example of U.S. cooperation with the international community on nonproliferation. International cooperation supports our national nonproliferation objectives, and we pursue such cooperation in new ways. The suite of NNSA programs promotes greater international understanding and adherence to export controls, the application of safeguards to secure nuclear materials, and measures to maintain regional security in the world's most volatile regions.

NNSA is improving the physical security of nuclear material.—The United States does this primarily through its Materials Protection, Control and Accounting (MPC&A) program in Russia, as well as the Newly Independent States/Baltics. In fiscal year 2004, this will include security upgrades on 24 metric tons of Russian nuclear material and 1200 Russian Navy nuclear warheads. We will also continue our work to ensure the adequate physical protection of nuclear material located in 40 countries around the world.

We are improving our work to secure radiological sources and prevent their use in "dirty bombs."—The International Conference on Security of Radioactive Sources delivered a concrete set of findings to guide international efforts to gain better control of high-risk radioactive sources worldwide. Secretary Abraham's announcement of a $3 million "Radiological Security Partnership" will set in motion a new initiative to address potential threats from under secured, high-risk radioactive sources.

NNSA is helping to consolidate nuclear material.—By reducing the number of locations where this material is stored, the United States is greatly reducing its vulnerability to theft or sabotage. By the end of 2003, we will have removed all weapons-usable material from 23 buildings into fewer locations, thus improving security.

Nuclear material can be reduced.—Fissile Materials Disposition conducts activities to dispose of surplus highly enriched uranium and weapon-grade plutonium. By disposing of 68 metric tons of plutonium in the U.S. and Russia, the plutonium disposition program will reduce the threat that this material could pose if acquired by hostile nations or terrorist groups. The plutonium will be irradiated as mixed-oxide (MOX) fuel in nuclear reactors, making the material no longer readily usable for nuclear weapons.

The production of nuclear material for weapons can be ended.—The value of reducing nuclear materials increases greatly if no new material is being produced at the same time. The EWGPP discussed above aims to accomplish just that by replacing Russia's remaining plutonium production reactors with fossil fuel energy plants to meet the energy needs of local communities.

The illicit trafficking of nuclear materials can be slowed.—The Second Line of Defense Program and International Nuclear Export Control programs focus on cooperative efforts to minimize the risk of illicit trafficking of special nuclear material, radiological materials, and dual-use technologies across international borders such as land crossings, airports, and seaports. Under the fiscal year 2004 budget request, the program will continue to target strategic border points and transshipment countries around the world for deployment of radiation detection equipment while maintaining existing equipment in more than 20 countries.

The threat of the "Brain Drain" can be alleviated.—To prevent adverse mitigation of WMD expertise, the Russian Transition Initiatives (RTI) program commercializes technology and downsizes Russia's weapons complex. This approach transforms the former weapons infrastructure expertise into commercially viable, peaceful business ventures, and shrinks the complex by moving fence lines, closing buildings, and providing alternative employment opportunities to weapons experts.

We can continually improve our ability to detect proliferation.—Research and development in proliferation detection provides the United States timely detection of potential threats. These technologies are key to identifying threats at borders or other critical thoroughfares, detecting clandestine proliferation activities, and verifying treaty adherence.

In sum, the United States, with NNSA leading the way, has developed programs to address the threat of the proliferation of weapons of mass destruction—in all its dimensions.

NAVAL REACTORS

Naval Reactors (NR) continues the success it has had for more than 50 years and is a prime example of how to manage unforgiving and complex technology. Our Naval Reactors program, which supports the nuclear-powered submarines and carriers on station around the world, remains a vital part of the national security mission and the Global War on Terrorism. In fiscal year 2004, NR will support 103 reactors in 82 nuclear-powered warships, including the first-of-a-class reactor when the USS VIRGINIA goes to sea. In addition, NR will continue to design and develop the reactor for the new transformational carrier CVN–21. The NR budget request for fiscal year 2004 is $768 million, about a 7 percent increase above inflation over fiscal year 2003. The increase will allow NR to begin the development of the Transformational Technology Core (TTC) utilizing advanced materials to achieve a substantial increase in core energy. TTC will be forward-fitted into the VIRGINIA Class submarines, and will result in greater ship operational ability and flexibility to meet increasing national security demands. This budget increase will also allow maintenance and replacement of some of the program's 50-plus-year-old infrastructure as well as remediation at sites no longer in use, allowing NR to continue its "clean-as-you-go" policy.

SAFEGUARDS AND SECURITY THROUGHOUT THE COMPLEX

Security continues to be one of the NNSA's highest priorities. The NNSA's Safeguards and Security program focuses on the protection of our people, classified and sensitive information, nuclear and non-nuclear materials, and the vital infrastructure of our laboratory and industrial production complex. Overall, we have a very effective safeguards and security program as validated by internal and external independent reviews across our sites and operations. We then use the results of these reviews to assess and confirm our security postures and areas for improvement. Our fiscal year 2004 budget request maintains a robust safeguards and security posture throughout the weapons complex to protect our facilities, materials, information, and people.

The request also supports evaluation and assessment of options to use cost-effective measures to meet future security requirements. The NNSA sites conduct Vulnerability Assessments that include a review of potential targets and the identification of the variety of methods that an adversary could or might attempt to use against the targets. Tabletop exercises, computer simulations, and actual force-on-force exercises, conducted both internally and through external independent offices, are used to evaluate various scenarios and related options for protection.

In our efforts to assure we have a robust, responsive and adaptable security architecture, we have recently been conducting detailed, site specific reviews, known as Iterative Site Analyses (ISA). The ISAs are analytical, tabletop exercises which address a spectrum of potential threats, both within and beyond the Design Basis Threat. The ISA is conducted by independent and highly skilled security professionals from across the government and private sector. These analytical efforts are designed to give decision makers at each site and NNSA Headquarters a better un-

derstanding of how potential changes in threat and protective measures can be factored into actions that improve our system responsiveness and overall security posture. The results are then used in our risk identification and management efforts that assist in determining the safeguards and security program structure and most cost-effective investments at each site.

Immediately following the events of September 11, 2001, NNSA initiated a series of efforts to increase our security posture. As a result, I am very comfortable with the level of our security complex-wide. Most of the increases in our security posture, however, were the result of increases in the level of physical protection, mainly guard forces. As NNSA looks to the future, it is clear that the threat and protection challenges will continue to become more complicated and costly. More effort is needed to identify and deploy technologies and work procedures that can maintain or improve our security responsiveness while reducing physical security force staffing and overtime requirements.

In fiscal year 2004, the NNSA will initiate a modest research and development effort to pursue emerging technologies. In addition to our historic rate of physical protection upgrades, the modest research and development effort will focus on applied technology to define a more robust, flexible and cost-effective security architecture across all aspects of our work in the coming decade. These areas include earlier detection of adversaries, automated response capabilities, better coordinated communications, more efficient efforts to delay adversaries, better detection of contraband at site perimeters and enhanced cyber-security. This relates to both the current infrastructure and operations as well as our up-front planning for new construction and operations. Early in 2003, we completed an initial review of our technology needs and applications. In fiscal year 2004, we will complete the gap analysis of needed security efforts, review various technologies for near term application, and target areas that have the potential for significant long-term contributions. Throughout this effort, we will engage with the ongoing efforts and experiences of the Department of Energy's other program areas and National Laboratories as well as other Federal agencies such as Departments of Defense and Homeland Security, to help assure sharing of best practices and maximum leveraging of our resources.

RELATIONSHIP TO DEPARTMENT OF HOMELAND SECURITY

The standup of the NNSA has been shaped by the Nation's response over the past eighteen months to the terrorist attacks on September 11, 2001. Because the NNSA is the steward of the facilities and assets for the Nation's nuclear weapons complex, we placed the highest priority on addressing urgent, emergent concerns about the safeguards and security posture of our nationwide complex of facilities and transportation systems. We also upgraded our emergency response assets, which are available to be deployed in emergencies around the world. We have accelerated research and development on chemical and biological agents, and have shared the expertise resident in our laboratories and other facilities with other agencies and municipalities as part of the expanded focus on homeland security across the government. NNSA has contributed research and development and Federal support programs to the new Department of Homeland Security (DHS) and provided expertise and administrative support for startup of the new department. These programs, totaling about $88 million, include research and development to counter the chemical and biological threats; nuclear smuggling research and development; nuclear assessments program, from MPC&A; and, Federal program direction funding in support of these programs.

The legislation establishing the new Department specified that the Nation's radiological response capabilities will remain under the direction of the Secretary of Energy and NNSA Administrator. Funding for the radiological assets will remain within NNSA's Nuclear Weapons Incident Response programs ($90 million in fiscal year 2004). The assets will continue to respond to radiological accidents at Departmental facilities and will support Federal law enforcement activities where nuclear materials may be involved. NNSA's Office of Emergency Operations will work cooperatively with the DHS, and, when deployed in formally designated situations, the radiological assets will take direction from the Secretary of Homeland Security as the Lead Federal Agency. A Memorandum of Agreement establishing a framework for DHS to access the capabilities of these assets was finalized between the two Departments last month.

OFFICE OF THE ADMINISTRATOR

Finally, I will summarize the fiscal year 2004 budget request for the NNSA Federal workforce, both Headquarters and field. The Office of the Administrator account provides the 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 workforce of the NNSA. This account now represents the consolidated program direction funds from the former Weapons Activities and Defense Nuclear Nonproliferation accounts; the Naval Reactors and Secure Transportation Asset activities retain separately funded program direction accounts. Our fiscal year 2004 budget request of $348 million reflects declining staffing levels and includes about $16 million for re-engineering incentives and relocation costs necessary to bring about the new NNSA organizational model.

MANAGEMENT ISSUES

I would like to conclude by discussing some of the management challenges and successes NNSA has faced. The most obvious challenge has been the ongoing problems at the Los Alamos National Laboratory. There are three specific areas of concern at Los Alamos: improper use of government-issued credit cards; potentially fraudulent use of purchase orders; and, poor accountability of government property. These problems taken together reveal significant weaknesses in business practices at the Laboratory.

As soon as we learned about the extent of these problems this past fall, Secretary Abraham and I insisted that the University of California, which manages the laboratory for the Department, take corrective action. Subsequently, the University has replaced the Los Alamos Director and Deputy Director, and demoted or replaced 15 other officials. The University also has subordinated business services and auditing at the laboratory directly to the University, brought in outside firms to conduct detailed audits, and made numerous changes in the internal procedures. Generally, we are satisfied with the corrective action taken to date. The Secretary has directed the Deputy Secretary and me to conduct a review of the future relationship between the University of California and the Department. This review will be complete by the end of April. In addition, we are compiling a comprehensive set of "lessons learned" from the Los Alamos problems to share with all DOE sites.

On a more optimistic note, good progress has been made in implementing the intent of the Congress in creating the NNSA. The National Nuclear Security Administration is in its third year of operation, focusing the management of the Nation's nuclear security programs through a single organization. The new organization brought together the Department of Energy's Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors organizations in a separately organized and managed agency within the DOE. The standup of the organization has been a complex undertaking, and I am pleased to report that NNSA is now fully operational. As a result of our strategic planning exercises last year, and the resulting re-engineering of program responsibilities and organizations, we are getting a better handle on the many diverse components of the NNSA programs. Through an emphasis on our new Planning, Programming, Budgeting and Evaluation (PPBE) process, we are planning programs with a long-term view, budgeting within a firm five-year resource envelope, and managing program and budget execution with more discipline, all leading to better results for the citizens of the United States.

On December 20, 2002, the NNSA began a fundamental restructuring of its management structure designed to implement the President's Management Agenda to create a more effective NNSA. The NNSA of the future will build upon the successes of the past by giving outstanding people the tools needed for strong and effective management of our vital national security mission. This reorganization eliminated a layer of Federal management oversight in the field by disestablishing NNSA's three Operations Offices at Albuquerque, Nevada, and Oakland; shifting the locus of Federal management oversight to eight Site Offices, closer to where the actual work is performed; and, consolidating all business and administrative support functions into a Service Center to be located in Albuquerque to increase overall efficiency. These changes were the culmination of nine months of functional and business process re-engineering, as first described in the Administrator's February 2002 "Report to Congress on the Organization and Operations of the National Nuclear Security Administration." These management and organizational reforms are expected to permit NNSA to achieve significant Federal staff reductions of about 20 percent in the nuclear weapons enterprise by the end of fiscal year 2004.

As we continue to implement the NNSA Act, we are particularly mindful of the President's Management Agenda to which we are firmly committed. We have invested much time and energy over the past year to carrying out its five major initiatives. Implementation of a PPBE process as NNSA's core business practice is designed to improve budget and performance integration throughout the organization. During the past twelve months, NNSA has been involved in an intensive effort to design and implement a PPBE framework simultaneously with the standup of the

new NNSA organization. The processes have been designed in-house, along the lines of the DOD's PPBS system but tailored to our needs. We are adapting processes to address NNSA's emerging organization and unique business operations, and working within limited administrative staffing levels.

Budgeting structures are being updated and aligned with management structures. We are making excellent progress in finalizing the cascade of performance metrics linked from the NNSA Strategic Plan to the individual budget and reporting (accounting) codes and contractor work authorizations. There is a very significant improvement in the Performance Measures across all programs for fiscal year 2004. Evaluation is becoming formalized through linkage with the budget, and improved by the realignment of roles and responsibilities for program managers and financial managers across the complex.

We are pleased with the early progress of PPBE in becoming the core operating philosophy for NNSA. The first year was spent on process design, integration of the NNSA programs primarily at Headquarters, and in consultations and coordination of our efforts with the DOE Office of Management, Budget and Evaluation/Chief Financial Officer and the Administration. The DOE Inspector General is currently auditing the first year's implementation, with a report expected in late Spring 2003. Our near term goal is to extend more formalized PPBE roles and missions from our Headquarters organizations to the new NNSA Federal field structure and the M&O contractors as the NNSA re-engineering proceeds during the next 12–18 months. It will take several budget cycles and lessons learned to complete the culture change, and to properly staff the organization to fully realize the benefits of PPBE. The NNSA remains committed to this goal.

The NNSA also participated in the Administration's Performance Assessment Rating Tool (PART) analyses, evaluating four programs that encompass about 20 percent of NNSA's annual funding. The PART assessment noted that the NNSA programs were well managed and that NNSA management was proactively working to make additional improvements to program effectiveness and efficiency. Two of the NNSA programs, Advanced Simulation and Computing and International Nuclear Materials Protection and Cooperation, were rated in the top 5 percent of programs government-wide and received the highest PART ratings of "Effective" from the Office of Management and Budget. The PART analysis tool embodies and reinforces the PPBE processes and discipline we are implementing throughout NNSA. We plan to incorporate the PART assessment for all of NNSA's programs as part of our annual Evaluation cycle, starting with the fiscal year 2005 budget this summer.

CONCLUSION

In conclusion, I remain confident that we are headed in the right direction. Our budget request will support continuing our progress in protecting and certifying our nuclear deterrent, reducing the global nuclear danger from proliferation and weapons of mass destruction, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of our people, information, materials, and infrastructure. Above all, it will meet the national security needs of the United Stated in the 21st century.

Mr. Chairman, this concludes my prepared statement. Now, I would be pleased to answer any questions that you and members of the Committee may have.

Senator DOMENICI. I think what I am going to do is go to the Admiral and then have a few questions and observations before I get to Dr. Beckner.

Ambassador BROOKS. Certainly.

Senator DOMENICI. All right. Admiral, might I say before you testify, that I am in the process, as part of my own recapping of my activities as a Senator, the process of putting a book together on nuclear and where we made mistakes as a Nation——

Admiral BOWMAN. Sir.

Senator DOMENICI [continuing]. In not proceeding with nuclear power. And I might suggest to you that, right up front, I use as an example the safety record of yours, and the fact that you now have well over 100 ships at sea with one or more nuclear power plants on board. You were denied access to no seaport other than one in New Zealand, which means that, for those who wonder about the safety or, conversely, the danger of nuclear fuel rods, the

world has indicated that they permit them to move everywhere and anywhere in and about the seas, oceans, and seaports, and close to boats and far away from them, and nobody seems to be the least bit worried about the pollution that certainly would be very apt to exchange if there was something amiss, because nothing will carry it better than the water.

Admiral BOWMAN. Sure.

Senator DOMENICI. And it is a perfect setting for, where have we gone awry in being so frightened about what to do with spent fuel rods and what to do about them? So in that regard, much of what you have said and one of the late speeches that you made, I think, the year before last, is something we—I have been looking at very carefully, and we thank you for that.

Admiral BOWMAN. Thank you, sir. I think smart ball for me would be to not testify now and just wait for additional questions.

Senator DOMENICI. We will make your speech a part of the record in any event, but, sir, you had better talk.

STATEMENT OF FRANK L. BOWMAN

Admiral BOWMAN. Well, thank you very much, Mr. Chairman, for those kind words and for the opportunity to testify today. With your permission, I do have a more detailed statement for the record.

Senator DOMENICI. Yes, sir.

Admiral BOWMAN. Let me also thank you, though, for the years and years of support that your committee and you personally have continued to provide this program. Without your support, that record that you just referred to would have been absolutely impossible. We have worked very hard to earn the trust and faith that you place in the program, and the citizens of this country place in this program. We will continue to do what is needed to make sure our nuclear fleet remains deployed around the world, fighting terrorism as it is doing right now.

We all recognize the very serious threats our country faces today; some from hostile nations, some from organizations with no fixed borders, operating under a veil of secrecy and outside the international community.

Right now, nuclear-powered warships are on the front line ready to strike against any threat to the Nation. Nuclear propulsion is and has been essential in providing the mobility, the flexibility, and the endurance that today's much-smaller Navy needs to meet a number of growing global missions. Events since September 11, 2001, have continually highlighted the value of Naval presence and, in particular, of nuclear power for the Navy's major combatants.

On March 19, 2003, when Operation Iraqi Freedom began, 33 nuclear-powered aircraft carriers and attack submarines were at sea. Three nuclear-powered aircraft carriers were ready to carry out the initial strike on Iraq. The U.S.S. *Theodore Roosevelt*, U.S.S. *Abraham Lincoln*, and U.S.S. *Harry Truman*, and U.S.S. *Nimitz* were on the way. The opening salvo of Operation Iraqi Freedom included Tomahawk cruise missiles launched from nuclear attack submarines. We had 10 nuclear attack submarines in the Red Sea alone.

Some of these submarines had been covertly monitoring events offshore. By preparing for the attack and providing intelligence to national decisionmakers, submarines helped integrate the total battleship picture. This is just another example of the versatility and flexibility of these nuclear-powered submarines.

Recent U.S. military operations in Afghanistan, along with those associated with Operation Iraqi Freedom, re-validated, again, the value of these forward-deployed nuclear-powered carriers. These very powerful ships are four and a half acres of sovereign territory from which we can conduct sustained combatant operations and, as you said, without having to negotiate staging rights from, or overflight rights over, foreign soil. Diplomatic activity over the last year has shown how unpredictable and troublesome those issues can be. Nuclear power provides the flexibility for these ships to sprint where needed and arrive ready for action.

Many of the impressive capabilities these nuclear-powered ships and submarines possess were developed with the funding that this committee has supported. The Navy's new Virginia-class attack submarine will be delivered this coming summer—or summer of 2004, I should say. And the next generation class of aircraft carrier, CVN–21, will carry us through the 21st century and well beyond.

Even though these new designs are important, Naval Reactors' number one priority is ensuring that the officers and sailors at sea operating these plants and defending our Nation's interests, are operating in a safe, effective, reliable situation. This is where most of Naval Reactors' funding goes.

At the end of 2002, the average age of our nuclear-powered ships was 17 years. By 2012, 10 years from then, the average age will increase to over 24 years. As these ships age, they place a greater and greater demand on my budgets. And as critical components and systems fail in service or become obsolete and require replacement, the problem gets harder as time goes on.

Since September 11, 2001, the demand for submarines has increased by 30 percent. We are trying to make do with the numbers we have, which are 54 attack submarines today, by running these submarines harder. If we continue to operate at today's operational tempo, these submarine reactor cores will not last the 30-plus years that we talked about last year.

In response, and in conjunction with the new core design required by shifting to a lower uranium enrichment, Naval Reactors has begun work on an advanced transformational technology core that the Ambassador referred to, that will deliver a significant energy increase to future Virginia-class submarines.

The TTC is a direct outgrowth of the program's advanced reactor technology work. It will also be a stepping stone for future reactor development. The TTC will use new core materials to achieve a significant increase in core energy density; more energy in the reactor without increasing the reactor size, weight, or space, and at a very reasonable cost.

The TTC can do one or more of the following: We can extend the ship life if we ever go back to the pre–9/11 operating tempos, we can maintain the planned 30-plus-year lives if we continue on this increased operational tempo, or we can provide more power for the

weapons and weapons systems of the future. It will not require any changes to the Virginia-class submarine itself or major designs within the propulsion plant.

We are trying to do our part to help fill this gap of the need for submarines for the country. But this increased tempo of operations can only go so far and last so long. We really need to buy more submarines. And the only way we can get there is to buy submarines smarter, so we can afford more.

Buying submarines one at a time will not achieve the numbers we need for the future, nor is it a cost-effective way to buy anything, including submarines. As included in the President's budget this year, multi-year procurements coupled with buying material and economic ordering quantity, and increasing production to two ships per year will provide significant savings. I ask for your support of innovative contracting approaches.

Let me talk just very briefly, sir, about this year's budget request. Naval Reactors' fiscal year 2004 budget is $768 million, an increase of some $49 million, 7 percent after inflation, compared to fiscal year 2003. The funding increase supports this transformational core that I was talking about plus accelerated remediation work and facility upgrades.

The ongoing support of this committee is one of the most important factors in Naval Reactors' success story. This subcommittee has recognized the requirements and demands of our program, our growing need for power projection and forward presence far from home which further strains our aging nuclear fleet, and the funding required to meet these commitments today and into the future.

The unique capabilities inherent in nuclear power have played a vital role over the past 50 years in our country's defense. This legacy is strong. It is as strong and vibrant today as it ever has been. With your continued support, it will continue far into the future. Naval Reactors' record is strong as you mentioned, sir, and the work is important, and the funding needs, I think, are modest.

PREPARED STATEMENT

Mr. Chairman, also, with your permission, I would like to submit for the record the program's annual environmental occupational radiation exposure and occupational safety and health reports. I thank you for your continued support.

Senator DOMENICI. It will be made a part of the record. Thank you.

[The statement follows:]

PREPARED STATEMENT OF FRANK L. BOWMAN

Thank you for inviting me to testify on Naval Reactors' fiscal year 2004 Department of Energy/National Nuclear Security Administration budget request.

Let me also thank you for the support you continue to provide my Program. I know that with your support, we will continue the success we have had for more than 50 years. We have worked hard to earn the trust and faith you place in the Program. We will continue to do what is necessary to ensure our nuclear fleet remains deployed around the world, actively involved in Operation Iraqi Freedom and the Global War on Terrorism (GWOT).

We all recognize the serious threats our country faces today. The threats come not only from hostile nations, but also from organizations with no fixed borders, operating under a veil of secrecy and outside the international community.

Nuclear-powered warships are on the frontline ready to strike against any threat to our national interests and to respond to any aggression against the United States. Nuclear propulsion is essential in providing the flexibility, speed, endurance, and multimission capability that today's smaller Navy requires to meet a growing number of global missions.

Last year, I recounted the events of September 11, 2001, and how rapidly nuclear-powered warships were able to get on-station in the North Arabian Sea—validating again the value that nuclear power brings to our Navy. I discussed the significant contributions that nuclear-powered warships made during Operation Enduring Freedom.

I'm here to tell you this year that as the events of the GWOT and Operation Iraqi Freedom unfold, the value of naval presence, and in particular of nuclear power for the Navy's major combatants, has been continually highlighted.

Over the past year, U.S. military operations in Afghanistan and the Persian Gulf have revalidated and underscored the value of forward-deployed nuclear-powered warships. Nuclear-powered submarines have been covertly monitoring al Qaeda, providing intelligence to national decisionmakers for the GWOT. Keeping track of merchant ships that have possible connections with al Qaeda—knowing who's aboard, what the ships are carrying, what the names of the ships are, what color they are when they go into port, and what different color they might be when they come out of port—is all of inestimable value to our Nation during the GWOT.

On March 19, 2003, when Operation Iraqi Freedom began, there were 33 nuclear-powered warships, both aircraft carriers and attack submarines, at sea. Three nuclear-powered aircraft carriers were ready to carry out the initial air strikes on Iraq—USS THEODORE ROOSEVELT (CVN 71), USS ABRAHAM LINCOLN (CVN 72), and USS HARRY S. TRUMAN (CVN 75)—with USS NIMITZ (CVN 68) on the way. The opening salvo of Operation Iraqi Freedom included Tomahawk cruise missiles launched from nuclear-powered attack submarines.

Nuclear-powered aircraft carriers continue to provide 4½ acres of sovereign U.S. territory from which we can conduct sustained combat operations quickly without having to negotiate staging rights on—and potentially overflight rights across—foreign soil. Diplomatic activity over the last couple of months has shown how unpredictable and troublesome these issues can be. 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 a 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.

Again and again, the ability to change from mission to mission is demonstrated by our nuclear-powered warships. The versatility and flexibility of our nuclear-powered attack submarines and aircraft carriers are vital to defending our national interests. As we look to the future, new and extremely valuable missions and capabilities are on the horizon for nuclear-powered warships. In January 2003, the highly successful SSGN GIANT SHADOW experiment onboard USS FLORIDA tested strategic concepts and hardware that could double or triple the value of submarines while reducing risk to the crews. GIANT SHADOW explored how a network of forces—a network including submarines carrying unmanned underwater vehicles (UUVs), unmanned aerial vehicles (UAVs), and various aerial, underwater, and ground sensors—could be used to provide surveillance, collect real-time intelligence, develop and recommend a course of action for the joint commander, and launch a time-critical strike, including covertly deploying special forces ashore. This capability will offer powerful options to force commanders for covert surveillance and weapons delivery.

In our unstable world environment, nuclear-powered warships will continue to adapt. They will be ready to meet the changing needs of our national security today, and in the future.

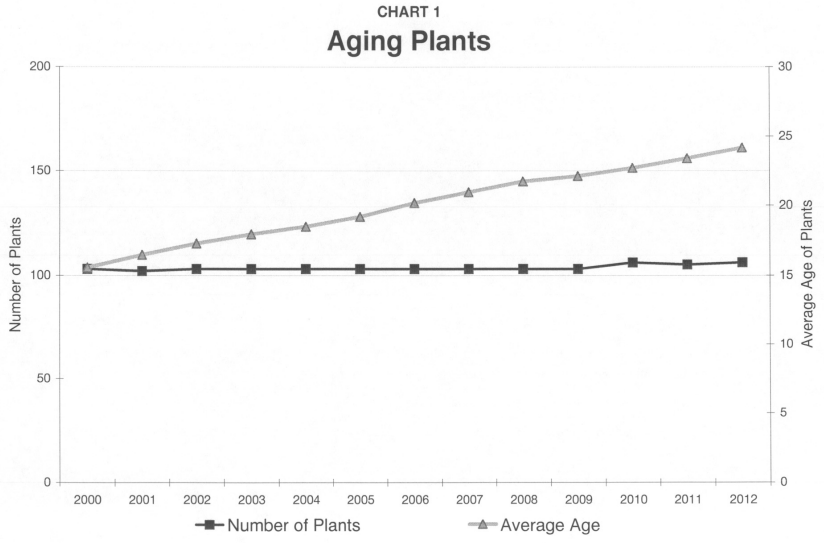
NUCLEAR POWER—TODAY AND IN THE FUTURE

A forward-deployed, highly mobile Navy is imperative for the Navy's Sea Power 21 in support of our country's global responsibilities and obligations. Nuclear power delivers that mobility and delivers the endurance that goes with it, both of which are absolutely necessary in the world today, and as far out into the future as I can see.

Many of the impressive capabilities these ships possess were developed with funding that was supported by this subcommittee.

Naval Reactors' number-one priority is ensuring that the officers and sailors at sea defending our Nation's interests are operating safe, effective, reliable nuclear propulsion plants. This is where most of Naval Reactors' funding goes. Today, the Naval Reactors Program supports 103 reactors (the same number of reactors that operate commercially in this country) in 54 operational attack submarines, 16 ballistic missile submarines, 2 SSGNs (under conversion), 9 nuclear-powered aircraft carriers, 4 training and prototype platforms, and a deep submergence vehicle. In addition, we are in the various stages of building five more attack submarines and three carriers, and refueling four LOS ANGELES-class submarines and one NIMITZ-class carrier.

At the end of 2002, the average age of these ships was 17 years. By 2012 the average age will increase to over 24 years (see chart 1). As these ships age, they place a greater and greater demand on Naval Reactors' DOE budgets as key components and systems obsolesce and require replacement.



Another priority of the Program is designing and developing new nuclear propulsion plants to meet the Nation's needs. The Navy's new VIRGINIA-class attack submarine will be delivered in summer 2004; and the next-generation class of aircraft carriers, CVN–21, will carry us through the 21st Century and well beyond. Naval Reactors has begun work on an advanced Transformational Technology Core (TTC) that will deliver a significant energy increase to future VIRGINIA-class submarines.

Since September 11, 2001, the Combatant Commanders' demand for submarines has increased 30 percent, which validates the need for 68–70 attack submarines. We are attempting to make do with the numbers we have (54 attack submarines today) by running these submarines harder. We have increased our transit speed (speed of advance), increased our operating tempo (time underway during deployment), and reduced our turnaround ratio (which means the non-deployed time divided by the time deployed). Before September 11, 2001, our basis for planning had been to move these submarines from point A to point B at 16 knots. Today, many submarines travel from point A to point B to point C at 20 knots. The Navy's planning goals state that we should be operating while deployed for 65 percent of the underway time (35 percent in port, showing the flag and giving the crew some much needed rest or doing some needed maintenance). Instead, most deployed attack submarines are now at about 80 percent operational tempo. So we are trying to make ends meet, but what's going to give at the end of the day is reactor core endurance, because we are burning uranium out of these cores at a much faster rate. If we continue to operate at today's level, these submarine reactor cores will not last the 30-plus years we had planned.

TTC—RIGHT CORE AT THE RIGHT TIME

To help meet these ever-increasing national security demands with a too-small submarine fleet, Naval Reactors has begun conceptual studies on the Transformational Technology Core. The TTC is a direct outgrowth of the Program's advanced reactor technology work. It is a stepping stone for future reactor development; this development should support procurement of the first core in about fiscal year 2008 for insertion into a 2010 Virginia Class.

The TTC will use new core materials to achieve a significant increase in core energy density (that is, more energy in the reactor without increasing reactor size, weight, or space) and at a reasonable cost. The timing of TTC development also corresponds to the need to transition from 97 to 93 percent enriched uranium fuel—necessitated by the decision to use uranium from retired nuclear weapons as starter material for naval nuclear reactors in order to allow shutting down U.S. highly enriched uranium enrichment facilities.

The TTC can do one or a combination of the following:

—Extend ship life if we return to past usage rate.

—Increase operating hours per operational year.

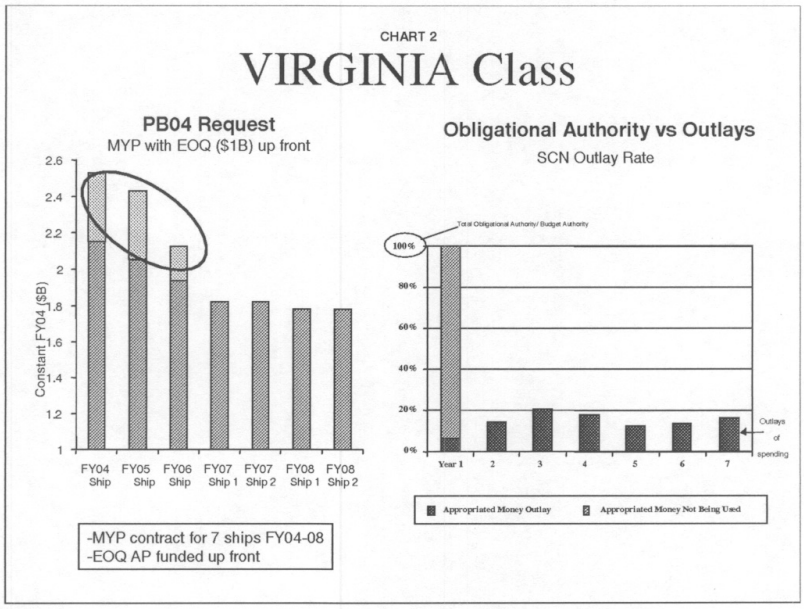
—Increase average power during ship operations, which could enable the offboard sensors and UUV/UAV concepts or the higher speed of advance discussed earlier

TTC will also save taxpayers' dollars. Once we achieve the submarine force level needed to meet national security requirements, increasing ship life will reduce the number of ships we need to buy to sustain the force level.

The TTC is intended for forward fitting in VIRGINIA-class submarines, which will be the mainstay of the submarine fleet in future decades. We believe the first TTC will be available for installation in a 2010 VIRGINIA-class ship; at that time 14 of the expected 30 ships will be at sea or under construction. Because the TTC will not require a VIRGINIA-class ship redesign, the end result is significantly greater operational ability and flexibility. The TTC is truly the right core at the right time.

Although the TTC will help submarines better meet increasing operational demands, the only long-term solution to meeting force level requirements is to build more submarines. It is imperative that we increase the VIRGINIA-class submarine build rate to meet the Nation's long-term force level requirement for attack submarines. To that end, the President's budget supports one VIRGINIA-class ship per year until 2006 and then 2 per year in 2007 and 2008.

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, including submarines. This year's shipbuilding plan helps the Navy get to where it needs to be by procuring two per year starting in fiscal year 2007. In addition, the increased production coupled with a multi-year procurement strategy that includes material buys in economic ordering quantities will provide significant savings (see chart 2).



FISCAL YEAR 2004 DEPARTMENT OF ENERGY BUDGET REQUEST

Naval Reactors' fiscal year 2004 DOE budget request is $768.4 million, an increase of $49 million (after inflation) from fiscal year 2003 to fiscal year 2004. The funding increase supports Transformational Technology Core (TTC) development, remediation work, and facility upgrades.

—*TTC ($33 million increase)*.—As discussed earlier, Naval Reactors has begun conceptual studies on the TTC to meet ever-increasing national security demands caused by a smaller Fleet size and higher operating tempo. Based on design core life, continuing the current ship operating tempo could reduce the expected submarine core life to less than 30 years. The TTC could extend ship life beyond 33 years by at least 30 percent if we return to the baseline operating tempo, or increase annual operating hours or average power output without increasing the current size, weight, or space of the current reactor. The TTC will be provided at a reasonable cost while enabling the Fleet to meet the increasing demand on the operating nuclear-powered ships.

—*Remediation ($10 million increase)*.—Naval Reactors will continue remediation efforts at Program sites in New York, Pennsylvania, and Idaho. It is important that we continue our "clean as we go" policy, to minimize any potential impact on the environment or site workers. Over the past few years, older facilities have been inactivated at a faster pace than our cleanup rate has been able to match, and additional facilities will be inactivated over the next several years. Accelerating cleanup is necessary to minimize the potential for future chemical or radiological releases to the environment, to minimize the costs of maintaining idle facilities, and to free up central areas at the various sites for future Program use.

—*Facilities ($6 million increase)*.—Naval Reactors has consistently funded facility and infrastructure maintenance within Program targets. However, additional funding is necessary to accomplish major maintenance and replacement of some of the Program's more-than 50-year-old infrastructure, located in New York, Pennsylvania, and Idaho. Significant infrastructure work is required to ensure protection, preservation, and continued reliable operation of Program facilities. Naval Reactors has worked within targets to maintain facilities, but the cost of necessary work now exceeds current funding.

Naval Reactors supports the 82 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, and developing improved reactor plants to support the Navy's needs for the future.

Sustaining today's 103 operating reactors (the country also has 103 commercial 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 have the resilience to respond to rapidly changing demands for power; be robust enough to withstand the rigors of battle and shock and to accommodate ships' pitching and rolling; 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 offline time for maintenance. Increasing ship availability also increases the Navy's warfighting capability and supports the Navy's unplanned surge requirements that we've seen recently, 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 that 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 have been able to extend the lifetime of some existing reactor plants because of the robust designs that resulted from solid engineering done over the past 50 years. After significant additional engineering, 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 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, continuing the design for CVN–21, and working on the Transformational Technology Core. In order to accommodate this work, we have had to throttle back on some promising advanced concepts technologies that include high-temperature fuel and direct energy conversion.

The design of the reactor plant for the VIRGINIA-class submarine is nearly complete. Shipboard acceptance testing continues. VIRGINIA will go to sea early next year and will provide needed capability for the Navy at an affordable price.

The CVN–21 nuclear propulsion plant design is well underway. CVN–21 is the first new carrier designed since the 1960's NIMITZ class. The CVN–21 reactor plant will build on three generations of nuclear propulsion technology developed for submarines since NIMITZ. The new high-energy reactor design for CVN–21 represents a quantum leap in capability. Not only will CVN–21 enable the Navy to meet operational requirements of the future, but just as importantly, it will provide flexibility to deal with changing warfighting needs in the future. Reactor plant design work is on schedule to support the long design and manufacturing lead-times of reactor plant components needed for the CVN–21 construction schedule.

Major inactivation work on seven shutdown prototype reactors is finished. The four prototype reactors at the Naval Reactors Facility in Idaho are defueled and in an environmentally benign, safe layup condition; site and reactor plant related remediation work, including State-mandated inactivation efforts, is planned for fiscal year 2003 and future years. Dismantlement and cleanup work at the Windsor site in Connecticut is complete, and approval from the EPA and the State to release the site for unrestricted future use and property transfer is expected in fiscal year 2004. The two shutdown prototype reactors at the Kesselring site in New York have been inactivated and defueled, and major dismantlement work was completed in fiscal year 2002. Other inactivation work is continuing.

The MARF and S8G prototypes in New York continue to operate to train students and provide a test platform for new nuclear propulsion plant equipment. There are no near-term plans to inactivate these plants.

NAVAL REACTORS FISCAL YEAR 2004 DEPARTMENT OF ENERGY BUDGET DETAIL

Since the early 1990s Naval Reactors' DOE budgets have decreased more than 30 percent. The Program's DOE budget has been flat (in real terms) from 2000 to 2003. 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. Bettis Atomic Power Laboratory and Knolls Atomic Power Laboratory, the Program's two laboratories, respectively have the first and the third lowest overhead costs as a percentage of total budget out of 30 DOE sites featured in the "fiscal year 2001 Functional Support Cost Report of 30 Major DOE Contract Sites."

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 $236.5 million requested for Reactor Technology and Analysis will continue design work on both the next-generation reactor for the VIRGINIA-class submarine and the new reactor for CVN–21, 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 predict reactor performance more accurately and to identify and avoid problems. The continued push for longer life cores means that our reactors will have to operate beyond our operational experience base for many years to come. Fortunately, improved analysis tools and understanding of basic nuclear data will allow us to predict performance more accurately and thus better ensure safety throughout the extended core life. Other efforts in this area include revising core manufacturing processes to reduce cost and hazardous waste, performing reactor safety analyses, designing advanced control drive mechanisms, developing components and systems to support the Navy's acoustic requirements, and developing improved shield designs to reduce both weight and costs. These efforts support the introduction of the Transformational Technology Core, a new high-energy core to support increased Fleet operational requirements. TTC is a direct outgrowth of the Program's advanced reactor technology work and will not only help meet national security demands, but also serve as a stepping stone for future reactor plant development.

—The $131.4 million requested for Plant Technology provides funding to develop, test, and analyze components and systems that transfer, convert, control, and measure reactor power in a ship's power plant. Reactor plant performance, reliability, and safety are maintained by a full understanding of component performance and system condition throughout the life of a ship. The request reflects the goal of enhancing steam generator performance, which will benefit both CVN–21 and VIRGINIA-class steam generators. Development work for improving VIRGINIA steam generator performance is needed to meet energy and power requirements for the TTC. Naval Reactors is developing components to address known limitations or to improve reliability of instrumentation and power distribution equipment to replace aging, technologically obsolete equipment that is increasingly difficult to support. Additional technology development in the areas of chemistry, energy conversion, instrumentation and control, plant arrangement, and plant components will continue to improve reactor performance and support Fleet operational requirements.

—The $137.7 million requested for Materials Development and Verification funds material analyses and testing necessitated by our having extended the life of our ships beyond the original projection. It also funds a portion of Naval Reactors' work at the Advanced Test Reactor (ATR), a specialized materials testing facility operated by the DOE Office of Nuclear Energy, Science, and Technology. Materials in the reactor core and reactor plant must perform safely and reliably for the extended life of the ship. Testing and analyses are performed on the fuel, poison, and cladding materials to verify acceptable performance, as well as to develop materials with increased corrosion resistance. Testing and development of reactor plant materials also ensures reliable performance and leads to improvements such as reduced stress in materials and reduced potential for cracking.

—The $161.3 million 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 Advanced Test Reactor. Reactor core and reactor plant materials, components, and systems in these plants provide important research and development data and experience under actual operating conditions. These data aid in predicting and therefore preventing problems that could develop in Fleet reactors. 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 the initiation of a dry spent fuel storage process line that will allow us to put naval spent fuel currently stored in water pits at the Idaho Nuclear Technology and Engineering Center and the Expended Core Facility at the Naval Reactors Facility (NRF) into dry storage at NRF. This process has now begun and will require small increases to the Naval Reactors budget request in future years. Additionally, these funds support ongoing cleanup of facilities at all Naval Reactors sites to minimize 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 2004 budget request includes:

—*Facility Operations*.—$57.7 million in funding is to maintain and modernize the Program's facilities, including the Bettis and Knolls laboratories and the Expended Core Facility (ECF), through Capital Equipment purchases and General Plant Project upgrades. Because the cost of necessary work currently exceeds funding, Naval Reactors has requested an additional $6.0 million in the fiscal year 2004 budget to help accomplish major maintenance and replacement of some of the Program's more-than 50-year-old infrastructure to ensure protection, preservation, and continued reliable operation of Program facilities.

—*Construction*.—$18.6 million in funding is to refurbish and replace Program facilities. This includes the continuation of the ECF Dry Cell project in Idaho, a project that will significantly improve Naval Reactors' ability to process naval spent fuel for dry storage. (Under a Settlement Agreement signed by the Department of Energy, the Navy, and the State of Idaho, Naval Reactors spent fuel must be among the early shipments to the first permanent repository or interim storage facility.) The requested funding also enables the continuation of the Cleanroom Technology Facility.

—*Program Direction*.—$25.2 million in funding is to cover Naval Reactors' 186 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.

PRESIDENT'S MANAGEMENT AGENDA

The President's Management Agenda promotes efficiency and improvement. All Federal agencies are adopting and implementing the initiatives where feasible. Naval Reactors has a proven track record of results, especially within the following two areas of the President's Management Agenda:

Budget and Performance Integration

Naval Reactors planning leads to well-documented, quantifiable, proven accomplishments. The Program consistently meets midterm and end-of-year goals. Milestones and research outputs are clearly linked to the long-term Program goals of supporting operating naval nuclear propulsion plants, providing new propulsion plants to meet national security requirements, and maintaining outstanding environmental performance.

Naval Reactors' comprehensive multi-year planning process requires all Program activities to identify performance indicators clearly. This process ensures that the Program continually meets or exceeds its performance goals.

Better R&D Investment Criteria

Naval Reactors work builds on existing generic technology and as such is evolutionary in nature. For general development efforts, the Program's multi-year planning process helps measure progress and ensures that goals are achieved. During reviews, competing lines of research are evaluated to ensure that the highest priority work is accomplished within existing resources. Each individual development

effort has clear starting and ending points, with established milestones and off ramps. All plant types benefit from development work targeted at specific platforms—including work on new, advanced plant types, which could benefit existing submarines and aircraft carriers.

PERFORMANCE MEASUREMENTS, GOALS, AND ACCOMPLISHMENTS

Naval Reactors has a long history of operating with the highest levels of integrity and operational accountability. Our husbanding of taxpayer dollars provided by this subcommittee is well recognized. Last year in forwarding the President's fiscal year 2003 budget request to you, the Office of Management and Budget (OMB) rated Naval Reactors as "Effective"—the highest 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 Projected performance. Additionally, Naval Reactors Headquarters maintains close oversight of its Management and Operating contractors through periodic reviews, formal audits, and performance appraisals.

For the fiscal year 2002 end-of-year performance results, my Program met or exceeded all 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. By the end of fiscal year 2002, U.S. nuclear-powered warships had safely steamed over 124 million miles. Naval Reactors developed new technologies, methods, and materials to support reactor plant design, which included surpassing the fiscal year 2002 goal of 96 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 (5 rem per year) for radiation exposure, and program operations had no adverse impact on human health or the quality of the environment.

Naval Reactors expects to meet or exceed all fiscal year 2003 performance targets, which are to achieve 90 percent utilization availability for operation of test reactor plants; to exceed 126 million miles safely steamed; to complete 99 percent of the next-generation submarine reactor; to complete 55 percent of the CVN–21 reactor design; to continue ensuring that no personnel exceed 5 rem per year of radiation exposure; and to have no adverse impact on human health or the quality of the environment.

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 Nation's defense. This legacy is as strong and vibrant today as it ever has been. With your 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 important, the funding needs modest.

I thank you for your support.

Senator DOMENICI. Perhaps we will just proceed rather quickly with the next witnesses. I do not think it will take too long.

Okay, Dr. Beckner.

STATEMENT OF EVERET H. BECKNER

Dr. BECKNER. Mr. Chairman, members of the subcommittee, it is a pleasure to be here this afternoon to review several significant programmatic accomplishments.

As Ambassador Brooks has highlighted, the stockpile stewardship program has allowed us again this year to certify to the President that the nuclear weapons stockpile is safe, secure, and reliable. And at this time, there is no need to resume underground testing.

Using the cutting-edge scientific and engineering tools of stewardship, we have a more complete understanding of the condition of the stockpile with each passing year. We annually withdraw approximately 100 weapons from the active stockpile and perform a comprehensive diagnostic exam of the weapons at the Pantex plant. This examination studies the hundreds of parts that make up the weapon. While most of these weapons are reassembled and returned to the services, several are subject to destructive evaluation, providing us additional insights into the health of the stockpile.

To ensure that the existing stockpile continues to meet its military requirements, the NNSA also has a comprehensive refurbishment program known as stockpile life extension where we are presently working on four warhead types in the enduring stockpile, the W–76, W–87, B–61, and the W–80. This program designs, builds, tests, and installs new subsystems and components, thereby extending the operational service life for those warheads. For example, we have already refurbished the parts from nearly three-quarters of all W–87 warheads for the Air Force. NNSA is also restoring the full suite of manufacturing capabilities needed to respond to any stockpile contingency.

As you can see, while we are maintaining and refurbishing the stockpile, with each passing year it is getting to be a bit harder to do so. In fact, it now appears that by the year 2020 or so, we will have refurbished every weapon in the stockpile.

Returning to the present, as members of this committee are aware, we are installing an interim pit production capability at Los Alamos. Within the next few weeks we expect Los Alamos to deliver a W–88 pit, as Ambassador Brooks stated. It will meet all quality manufacturing requirements for use in the stockpile. It will be the first certifiable pit made by the United States since the shutdown of Rocky Flats in 1989.

To obtain a better permanent manufacturing capability NNSA has begun work on design and siting for a modern pit facility that will be capable of manufacturing all pit types for the current stockpile and any new requirements that we can reasonably foresee should they arise.

To complete the material supply story, NNSA has recently restarted wet chemistry operations at the Y–12 plant in Oak Ridge, Tennessee, to produce highly-enriched uranium metal. And further, we will begin producing new tritium for the stockpile by irradiation of tritium-producing rods at a TVA reactor this fall. To complete the story on tritium, in concert with the Defense Department, we have adjusted the tritium production plans to reflect changes resulting from the MPR and the Moscow Treaty.

Critical to many aspects of stewardship is the role of secure transportation. Again, this year, this organization of Federal agents has safely and securely moved nuclear weapons, nuclear components, and special nuclear materials over a hundred million miles without serious accidents or compromise of cargo. Our agents, many of them veterans of the armed services, are highly skilled and authorized to use deadly force in the performance of their duties.

But stewardship is more than maintenance and refurbishment; it is also about the future. With the support of the Congress, we are investing in leading edge scientific and engineering tools required to support the stockpile now and into the future.

Three areas deserve special mention. First, the Advanced Scientific Computing Initiative, ASCI. Over the last several years we have deployed several world class super computers: White at Lawrence Livermore, Q at Los Alamos, and Red Storm at Sandia. These machines are working full-time to address SFIs and to support the important life extension work I mentioned earlier.

Late next year we will begin to take delivery of two even more capable machines including the largest and most capable machine in the world, a 100 TeraOPS machine at Lawrence Livermore National Laboratory. This suite of capabilities is allowing us to solve critical weapons assessment problems that only a few years ago were impossible.

Two, the Dual Access Radiographic Hydro Test Facility at Los Alamos, called DARHT, is providing CAT-scan-like images of weapons implosion processes. This facility is proving to be even better than we anticipated in providing critical hydrodynamic data to validate the ASCI codes. Increasingly, this facility will become our workhorse for the study of ultra-high density hydrodynamics, providing data previously available only from full-scale testing.

And three, I am also pleased to report that the National Ignition Facility at Lawrence Livermore National Laboratory continues to make excellent progress in meeting and even exceeding its technical milestones. On March 6, laboratory scientists delivered four beautiful beams of ultraviolet laser light into the target chamber well ahead of schedule. Stockpile stewardship experiments in the NIF will begin in fiscal year 2004.

Now, let me say a few words about the changes we are planning in the fiscal year 2004 budget submission in response to the Nuclear Posture Review and the threats this country faces today. To ensure that future American presidents have deterrent options to deal with these threats, we are proposing a modest increase in the advanced concepts program in 2004.

The most significant elements of that program will be the Robust Nuclear Earth Penetrator, RNEP, which was mentioned previously. As you know, this program will be conducted jointly with the Air Force to examine whether or not one of two existing warheads in the stockpile, the B–61 or the B–83, can be sufficiently hardened, packaged, and delivered to allow the weapon to survive penetration into various geologies and attack-hardened, buried targets with high reliability. The remaining $6 million of advanced concepts funds will be divided between the weapons labs for studies of other new concepts.

Mr. Chairman, that concludes my remarks. I would be pleased to answer your questions.

Senator DOMENICI. Thank you very much.

Mr. Baker, it is good to have you back.

STATEMENT OF KENNETH E. BAKER

Mr. BAKER. Thank you, it is always a pleasure to brief you, sir, on our program——

Senator DOMENICI. Thank you.

Mr. BAKER [continuing]. And the opportunity to give you, sir, our 2004 budget request.

NNSA's nonproliferation activities are central to the Bush administration's national strategy to combat weapons of mass destruction. NNSA continues to be committed to the nonproliferation mission as reflected in the breadth of our programs to address nonproliferation concerns in Russia, other former Soviet states and, increasingly, throughout the world.

The nonproliferation challenge is multidimensional, and our budget request addresses the challenges on many fronts and in many places. While much of our work is with Russia, we are taking global commitments to address global threats.

September 11, 2001, and the aftermath have made it clear that the threat comes not only from so-called rogue states, but some national terrorist organizations that may take any imaginable step to pursue their ruthless ends. The threat can come from any region and can take many forms. So we need to address it broadly.

Our 2004 request, as Ambassador Brooks has stated, is 31 percent above last year's appropriation. Most of the money is in three areas. First, the United States and Russia are nearing agreement on purchasing Russian highly-enriched uranium for research, U.S. research reactors, and down-blending uranium from Russian weapons for its strategic uranium reserve. We have requested $30 million for this initiative. This is in addition to the approximately 170 metric tons of weapons usable material already blended down and sent to USEC.

The largest fiscal year 2004 budget request is about $276 million that supports our plutonium disposition program. The United States and Russia will each dispose of 34 metric tons of weapons-grade plutonium by irradiating it in mixed oxide, MOX, fuel in existing nuclear reactors. Russia has told us that they will use the U.S. design for the MOX fuel fabrication facility, thus ensuring the programs remain roughly on the same schedule. Construction of both U.S. and Russian MOX fuel facilities is scheduled to begin in fiscal year 2004.

We have also requested a small increase in another program to fund the IAEA additional protocol, and to help the IAEA verify the extent and dismantlement of foreign clandestine nuclear programs.

With this background, sir, I would like to touch on a broad range of programs that we will pursue to support the President's nonproliferation agenda with your help. We are working with the global partners to reduce the proliferation threats. For example, the global partnership against the spread of weapons of mass destruction, formed at Kananaskis summit in June 2002, has recommitted the G–8 nations to increase greatly the assistance to the non-

proliferation, disarmament, counterterrorism and nuclear safety area. The partnership has pledged to provide $20 billion over the next 10 years for the nonproliferation and threat reduction in Russia and elsewhere. The United States will provide half of that money.

We are working with the international community to better secure high-risk radioactive sources that can be used for dirty bombs. Six weeks ago, Secretary Abraham presided over an international conference on this issue which was attended by 750 participants and 124 countries, far beyond our expectations. And I think there could be no better symbol on how seriously this world takes the dirty bomb. There is much to be done and the fiscal year 2004 request is $36 million for this purpose.

We are continuing to provide physical security of nuclear material through the IAEA, through bilateral arrangements, such as materials protection control and an accounting program in Russia. In fiscal year 2004 this will include security upgrades to approximately 24 additional metric tons of Russian nuclear material and 1,200 Russian navy nuclear warheads, in general. We expect to be complete with security improvements to the under-secured weapons usable material in 2008, about 2 years ahead of schedule.

While we have included a request for $24 million to address the under-secured nuclear warheads at the strategic rocket forces, NNSA has sought not to increase an overall budget for Russian MPCEA. The pace of the program is now primarily governed by Russia's ability to absorb assistance and by access arrangement, now that we have our funding.

We are consolidating nuclear materials into Russia by reducing the number of locations where the material was stored and thereby reducing its vulnerability to theft and sabotage. By the end of 2003, we will have removed all weapons usable materials from 23 buildings, reducing the total number of buildings where there is such material from 75 to 52. Over time this number will decrease more.

The NNSA will help to end the production of Russian nuclear material that could be used for nuclear weapons. Just a few weeks ago, Secretary Abraham and Minister Rumyantsev signed a key agreement that paved the way for the NNSA to work with Russia to shut down the three plutonium reactors that are still producing weapons-usable plutonium. These reactors, located at Seversk and Zheleznogorsk will be replaced with fossil fuel energy plants to meet energy needs of the local Russian communities.

Additionally, our export control and second line of defense programs are minimizing the risk of illicit movement of radiological materials and WMD-related dual use commodities across international borders. Under a new initiative called Megaports, we will improve our ability to detect and stop illicit traffic—transfer of such materials in major transfer hubs around the world.

Additionally, Mr. Chairman, a program that you started many years ago continues to be more and more effective every day. And that is our program to prevent the adverse migration of WMD scientific expertise from Russia. This program funnels former weapons scientists, their expertise into some commercially viable area and peaceful business ventures, and shrinks the complex from mov-

ing fences, from closing buildings, and for other alternate forms of employment.

We have been continually improving our ability to detect proliferation of timely potential targets through our robust R&D detection program. Research and development of proliferation detection provides the United States timely detection of potential threats. Our R&D efforts are key to identifying threats at critical thoroughfares, detecting clandestine perverse proliferation activities and verifying treaty adherence.

In summary, we in the NNSA are addressing the threat of proliferation of weapons of mass destruction in all dimensions. I am proud of the work we do and more proud of the men and women that spend weeks and months away from their family and the comforts of their home and work this tireless mission as fast as they can.

Mr. Chairman and Senator Reid, also, I want to thank you for the years of support for these programs. With your help and your continued help, we are making this country a safer place. Thank you, sir.

Senator DOMENICI. Thank you very much. I am going to submit a number of questions for you all to answer in perhaps 2 weeks, an adequate time.

I just want to say how thrilled I am to listen to the testimony, to hear about the progress being made in some areas that just a few years ago I never thought we would ever be involved in. And to hear the progress in MOX and that the Russians are now going along with it, we are both going to be doing the same thing with reference to that program, is just incredible. I never thought we would be there. There is a substantial amount in the budget to proceed with dispatch in that regard.

And, Mr. Ambassador, I note that much discussion today about NNSA and I just want to continue to urge that you move ahead wherever you can to make the transition total. And you are—you are moving as fast as you can toward making the NNSA the semi-autonomous agency contemplated by the statute, and Senator Reid complimented you today and complimented it today. I am pleased to hear that. And you know of my insistence that once we have that statute drawn, that you proceed to live with it and move in that direction as rapidly as you can. I note the testimony here today by NNSA on many fronts is very good, and I am very proud of it.

A couple of observations. I wanted to say, Admiral, believe it or not, in another committee here in the Senate, the Authorizing Committee for Energy and Natural Resources, just today we approved as part of a new energy—comprehensive energy bill, the creation of a testbed for the United States to begin the development of a brand new nuclear reactor for civilian use, a model, with many new characteristics which will make even the latest of our light water reactors appear to be an ancient, ancient mariner. And that will have a 10-year program development which, hopefully, agencies as far as yours will participate in helping them move ahead rapidly. It is not intended to be a production reactor. It is intended to be a model of the kind that could be used by America or the world as the next generation of energy producers that would

have many things that the current reactors do not have; passivity in terms of the physics of the instrument; many things that worry people, it is as safe as could be even today, even to make them better. That is going to be approved from what I can tell by the Congress as a new activity.

That is pretty visionary and it is long overdue, but in the environment that you and I lived in the last 15 years, it is something we probably would never have expected to happen.

Admiral BOWMAN. Yes, sir.

Senator DOMENICI. In terms of the war we are in right now and the aftermath of it, I can just surmise, not knowing anything specifically, but I would think our President would be very excited about moving ahead rapidly in some of the areas that you were describing to us here today. It is obvious to me that he is going to be interested in taking an international lead in getting weapons of mass destruction more under control in the world. And I am sure that as he asks about that, he will find that within the Department of Energy many of the things that he is going to want to be doing, the groundwork is there for him to take the leadership in the world. I am very, very pleased about that.

Dr. Beckner, I appreciate your testimony about NIF. I only hope you are right. It has been so wrong early on that I am almost tempted to call a separate hearing on NIF just to make sure that I get it straight and that they get it straight. But I did note your testimony and I will reread it.

In summary, it is on schedule and as an expert and supervisor you were saying it is probably going to do what it was intended to do, is that correct?

Dr. BECKNER. That is correct.

Senator DOMENICI. It is not just going to have these rays; they are going to do what they are supposed to do?

Dr. BECKNER. Yes, sir.

Senator DOMENICI. They are going to be hot enough when we are finished to do it?

Dr. BECKNER. There is every reason to believe so at this time.

Senator DOMENICI. As an aside, I was just going to ask: What do either of you think about the Z machine at Sandia? I assume we have another reading out of it. I imagine it is another rather incredible instrumentality out there.

Dr. BECKNER. It continues to perform very well.

Senator DOMENICI. And what will it be used for?

Dr. BECKNER. Well, among other things, we are looking at whether we may be able to do some plutonium hydrodynamics experiments with it now. It remains to be seen if that will be possible, but that is one of the new possibilities. So we are encouraged by that.

Senator DOMENICI. It certainly is an example of an achievement of high significance, so I assume it will be used for something great.

Dr. BECKNER. Certainly.

Senator DOMENICI. Is that a fair assessment?

Dr. BECKNER. Of course. Yes, sir.

Senator DOMENICI. Just because NIF is coming along does not mean we should throw it away. The reverse might have been true had we known about it.

I cannot think of anything else, other than that I will submit questions. Did you want to make any other observations, Mr. Ambassador, having heard the testimony or heard my ad-libbing up here, blithering so to speak?

Ambassador BROOKS. No, sir. Except to say, again, how much all of my colleagues and I appreciate both the committee's support and your strong personal support for these programs over the years.

Senator DOMENICI. I think we are making some headway with the OMB. It is a good-looking budget for a change. We do need a little bit more money in some areas.

We are—incidentally, Mr. Baker, on the issue of the Megaports and the machines, we had asked for an extra $150 million for that program, knowing that we are ready to go and that there is some in the budget but not enough. It is still there waiting to be decided as one of the issues. If that happens, then we will not have to squeeze the budget so much. We will have received that money in a supplemental for some of the activity you are referring to.

Mr. BAKER. Thank you very much, sir.

ADDITIONAL COMMITTEE QUESTIONS

Senator DOMENICI. We are asking for more than is in the budget in our supplemental request.

[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

SAFEGUARDS AND SECURITY FUNDING

Question. The NNSA has a unique and challenging security environment because of the special nature of our mission and the many tons of material and weapons under our control. Security costs throughout the Department have been increasing for years, and particularly in the aftermath of September 11. And now that are country is at war with Iraq, the security condition has been raised to the higher "orange level" security condition. As a result of this, Senator Reid and I, with great help from Senator Stevens, last week led the fight here in the Senate to add significant sums to the fiscal year 2003 supplemental to cover projected heightened security costs that the Department did not budget for. What threat level or security condition did you assume in developing the fiscal year 2004 budget request?

Answer. The Department and the NNSA implement and maintain our Security Condition based upon the Homeland Security Advisory System developed by the Department of Homeland Security. For instance, our Security Condition 3 (SECON 3), which corresponds with Homeland Security "Number 3 Elevated Condition (Yellow)," was anticipated for routine day-to-day security operations during fiscal year 2004 and was used for budget development.

Question. Will it be sufficient if the Department remains at Security Condition 3 for all of fiscal year 2004?

Answer. Yes, that was the minimum baseline because of the present world-wide tension.

Question. Are there investments we could make today that would dramatically reduce operational security costs over the next few years? If so, please provide specifics for the record.

Answer. Yes, we believe that there are ways in which we can increase the efficiency of security operations, and we are working on them. For instance, we are working with other agencies striving to identify advanced technologies to maintain or improve security at reduced costs. Additionally, we will continue to review our physical and cyber protection measures by assessing vulnerabilities and protection

strategies, and identifying common cost effective solutions for all NNSA sites. We are also working with the Department of Energy, Office of Security, to expedite security clearances for individuals who, when cleared, will reduce our guard force overtime costs. In addition, our sites continue to evaluate changes in their operations, such as consolidation of nuclear material and changes to security perimeters that can provide increased detection and assessment capabilities.

OVERALL BUDGET FOR STOCKPILE STEWARDSHIP

Question. Could you use additional resources in these areas if they were provided?

Answer. The Stockpile Stewardship Program (SSP) is planned and budgeted for by the NNSA Planning, Programming, Budgeting, and Evaluation/Execution (PPBE) system, which establishes a formal, resource-constrained baseline for the SSP. Within the 5-year planning horizon of the Future-Years Nuclear Security Plan, workload has been prioritized to fit this resource-constrained baseline.

Question. What are some of the highest priority tasks that you will not be able to achieve within the requested budget?

Answer. Because of the way in which the NNSA budget is formulated, particularly the programming part of the PPBE system, SSP's highest-priority needs are addressed in the fiscal year 2004 budget request.

TRITIUM

Question. The NNSA is preparing to spend over $500 million on a Tritium Extraction Facility over the next few years in South Carolina. The project is not going particularly well and last year its cost was re-estimated to increase 25 percent. What is the status of the Tritium Extraction Facility project?

Answer. A new baseline for the cost and schedule of the Tritium Extraction Facility construction project (98–D–125) was approved by the Deputy Secretary on February 24, 2003, following independent management reviews. The total project cost is $506 million and the facility will be operational by July 2007. When measured against the new baseline, to date, the project is on schedule and spending is within the planned profile.

Question. Given a possible change in tritium requirements as a result of the Moscow Treaty and other arms reductions, what is the date that we must resume tritium production? (Note: We don't need tritium until well beyond 2012 now.)

Answer. Taking into account the Moscow Treaty, the NNSA plans to initiate tritium production in October 2003 by irradiating several hundred tritium-producing rods in the Tennessee Valley Authority Watts Bar reactor until March 2005. Those rods will then be stored until the Tritium Extraction Facility is ready to begin extraction operations in fiscal year 2007. The NNSA will continue to use the Watts Bar reactor to irradiate rods and to operate the Tritium Extraction Facility. There are no current plans to use either of the Sequoyah reactors in the foreseeable future.

This low-tempo operating approach has advantages over a scenario that would delay the start of tritium production. First, this approach yields the earliest demonstration that tritium capabilities have been restored, which, in turn, enhances the confidence of NNSA and the Department of Defense, thus reducing the need for a 5-year tritium reserve. Reducing or eliminating the reserve would be a significant factor in reducing tritium production requirements. Second, the continuing low-tempo plan is the best way to ensure that tritium-production experience is gained by maintaining the current government and commercial capability base, thus eliminating the need for costly reestablishment efforts in the future. This approach has been briefed to the Nuclear Weapons Council.

We need tritium well before 2012. The lead time to produce tritium to meet currently projected requirements is 3 to 5 years. Under NNSA's current plan, the rate of tritium production will increase by fiscal year 2008 in order to ensure that minimum projected stockpile requirements are satisfied.

PIT PRODUCTION

Question. Ambassador Brooks or Dr. Beckner, we have had many tough conversations about the pit program over the years, and I have had to work hard to add tens of millions of dollars over the last several years to get it on track. As you know, I have always felt that our ability to demonstrate our ability to rebuild this very important weapons component was a key test of the stockpile stewardship program. I understand we have, or will soon achieve an important milestone of progress. Can you give the subcommittee an update on where we are on pit production?

Answer. The Department of Energy/NNSA recognizes that manufacture and certification of a W88 pit is a pivotal element of the Stockpile Stewardship Program. As such, the NNSA has worked with Los Alamos National Laboratory (LANL) to

projectize the pit manufacturing and certification campaign to ensure a disciplined process. The result of this effort is that Los Alamos has completed the manufacture of the first certifiable W88 replacement warhead pit in April 2003. This is the first step to establish a capability to manufacture 10 pits per year at Los Alamos in fiscal year 2007. Initially, Los Alamos will only manufacture W88 pits and processes to manufacture other pits will be developed at both Los Alamos and Lawrence Livermore National Laboratory in fiscal year 2009.

Question. When do you expect you will be able to certify the first pit? (Note: Los Alamos produced its first "certifiable pit" this week. The internal milestone was to have it done by April 30.)

Answer. Los Alamos National Laboratory (LANL) is currently scheduled to certify that W88 pits manufactured at LANL will meet W88 warhead requirements in fiscal year 2007. This success-oriented fiscal year 2007 schedule requires that non-nuclear experiments and analysis remain on track. Because the W88 pit is scheduled to be certified without a nuclear test, a new level of precision in pit manufacturing and certification must be established. This precision is essential to ensure high confidence in stockpiled W88 warheads that would use a Los Alamos manufactured pit.

SUPERCOMPUTING

Question. Ambassador Brooks or Dr. Beckner, as you are well aware, this subcommittee has raised a number of questions about the direction of the ASCI supercomputing program within NNSA. A particular point of concern is the way in which the platform acquisition strategy has been in a state of constant change over the last several years. The original ASCI acquisition schedule (circa 1995) proposed the acquisition of the following platforms at a projected total program cost of $1.7 billion from 1996 through 2001:

—1 T—1997;
—3 T—1998;
—10 T—2000;
—30 T—2001;
—100 T—2003.

Actual costs during that period were approximately $2.9 billion. Furthermore, the platform acquisition schedule continues to change. As of today, NNSA has acquired or is planning to acquire the following:

—3 T—Red (SNL);
—3 T—Blue Mountain (LANL);
—3 T—Blue Pacific (LLNL);
—12 T—White (LLNL);
—20 T—Q (LANL);
—40 T—Red Storm (Sandia);
—100 T—Blue Jean (LLNL).

Is the current ASCI approach the most cost-effective and efficient manner of achieving the desired capability and capacity?

Answer. We believe that the current approach has provided the Stockpile Stewardship program with effective and efficient computing cycles. High-end computing solutions emerging over the past year, principally the advent of low-cost, high-performance Linux clusters, are providing us opportunities to obtain even more cost-effective machines for smaller jobs.

All of the ASCI platforms have been acquired through competitive procurements, and in every case the machines have been brought in for the amount we have budgeted. We have met all of our planned schedules for the deployment of these computer platforms, except for the Q machine at Los Alamos, which was downsized due to Congressional budget reductions. The increase in the ASCI budget in the 2001 timeframe was not caused by a change in our platform acquisition strategy. Instead, increased program costs were caused by the merger of original ASCI with the old Stockpile Computing program and by the inclusion of several new program elements, including code verification and validation, distance computing, visualization, and University Alliances.

Question. What are the mission requirements driving the ASCI program?

Answer. The ASCI program, together with a vigorous experimental program, is an integral part of the Stockpile Stewardship program. ASCI provides the simulation capability, both software and hardware, to enable decision-making to support the existing and future nuclear weapons stockpile. Activities supported include annual assessment for all current stockpile systems, resolution of significant findings (SFIs), peer review and independent assessments, design and analysis of weapons-related experiments and requirements for facilities, resolution of technical issues affecting the production complex, nuclear test readiness, the ability to respond rapidly

to new military or design requirements, and the development and validation of advanced physics models and codes for more fundamental understanding of weapons physics to reduce uncertainty in system margins and respond effectively to future issues or significant findings that may arise.

Question. How much capacity is needed and when is it needed over the next 10 years?

Answer. Our current acquisition strategy reflects the capacity needs given to us by our weapons designers. However, the early success of our code projects has increased demand for computer cycles beyond our initial projections. We are in the process of reevaluating our need for these cycles and extending our strategy through the end of the decade.

Question. What is the maximum capability required in the top ASCI platform, and when, over the next 10 years?

Answer. Since the inception of the ASCI program, the 2004 objective has been to produce a supercomputer operating environment capable of performing high-fidelity, three-dimensional weapons calculations at a resolution sufficient for confident prediction of weapon behavior. In 1995, this appeared to be an ambitious and risky undertaking. ASCI progress to date shows that we will be able to perform such calculations at the rate of about one per month on a 100 Tera OPS machine. As the nuclear weapons stockpile continues to age, the challenges will grow ever more complex demanding greater computing capabilities and faster turnaround times. We estimate that a 1–2 Peta OPS (quadrillion operations per second) system will be required. We believe that machines of this size will be technically feasible and affordable near the end of the decade based on the continuing pace of technology advances.

Question. Was the NNSA wise to abandon custom-designed chips and vector architecture for much cheaper, commodity chip-based, massively parallel systems?

Answer. The designers and engineers at the weapons laboratories are using the ASCI machines to solve weapons related problems that only a few years ago would have been impossible to solve. We did not make a decision to abandon custom-designed chips and vector architectures. The only bids we received on our early procurements were for massively parallel machines based on commodity microprocessors. During this period, the single U.S. vendor of vector architectures was purchased by another company, and their vector machines were not available. Only within the past month or so has a U.S. vendor been capable of delivering a vector machine. We hope to see this architecture bid competitively in our future procurements, and we are eager to see whether there are applications for which this technology provides a cost-effective solution.

Question. What level of customization is needed for the various government interests in supercomputing (e.g. weapons design, molecule modeling and simulation, cryptanalysis, bioinformatics, climate modeling)?

Answer. We believe that computer architecture diversity is healthy for the United States scientific community and the Nation. Different scientific applications are unlikely to perform with high efficiency on a single architecture. Through our Advanced Architecture and Pathforward programs, we are currently supporting development of custom architectures that we believe will yield effective performance for weapons simulations and a large number of related scientific applications for the Department of Defense. We do not have enough experience with other applications, including cryptanalysis, bioinformatics, and climate modeling, to be able to predict what architectures are best suited to those problems.

Question. How effective are the current or planned ASCI platforms in addressing the requirements of the program?

Answer. Our platforms are performing well, albeit they are oversubscribed. They are being used to address relevant stockpile issues in closing Significant Finding Investigations, certifying weapons components, and supporting Stockpile Life Extensions and peer reviews.

Question. Are there alternative architectures, interconnect technologies, systems software and tools, or other approaches that will result in improved performance for future ASCI platforms?

Answer. The answer, as with all technology dependent programs, is yes. We have a long history of exploring, identifying and funding technologies that help improve the performance of future platforms. When better technologies become available, we would like to retain enough flexibility in our procurement strategy to be able to take advantage of them.

Question. If so, can industry supply the required alternative architecture and software, i.e. is industry properly incentivized? Or, must government lead the development of alternatives?

Answer. The computing industry is driven by market forces of which high end computing represents a very small share. Nevertheless, our investments have an

impact out of proportion to our market share. We have been extremely successful with our Pathforward program, which has benefited the broader high-end computing community and is acknowledged as a successful approach to incentivizing industry. Although the funding for this program element is not as robust as in past years, ASCI continues to make investments in Pathforward with industry partners.

Question. As it relates to the ASCI mission requirements, what is the cost/benefit of investing more heavily in capacity now, and deferring acquisition of capability machines, thereby taking advantage of the falling price/teraflop?

Answer. Our procurement strategy has provided cost-effective supercomputers to our weapons designers and code teams. We are investing heavily in the development of 3-D, high-fidelity physics applications, which are addressing urgent stockpile issues. Effective use of these applications by weapons designers will be impossible without our largest platforms, and delays will severely limit our ability to address these issues promptly.

MODERN PIT FACILITY

Question. Ambassador Brooks or Dr. Beckner, the NNSA is planning on building a modern pit production facility that would come on line in 2019. Dr. John Foster has suggested that the NNSA should have a significantly more flexible and accelerated approach that would allow you to have a modular facility on line as early as 2010. Will you update us on this project?

Answer. The Department has not made a final decision to proceed with a Modern Pit Facility to ensure long-term pit production to meet the needs of the United States nuclear stockpile. However, a Critical Decision–0 (CD–0) on mission need relative to a Modern Pit Facility (MPF) was made in May 2002. This decision enabled the start of the National Environmental Policy Act (NEPA) process, including preparation of an Environmental Impact Statement (EIS) and conceptual design of a MPF in fiscal year 2003. A preferred site will be announced in that document. The Department plans to issue a Record of Decision (ROD) in 2004. The ROD will be based on the MPF Environmental Impact Statement and other factors such as cost and technical considerations.

Question. How much more would it cost if you used a flexible/modular approach suggested by Dr. Foster?

Answer. We are currently utilizing a modular approach and are developing a range of costs relative to that approach. If it is determined that it is necessary to accelerate the project, the costs will likely rise in the early years of the project.

Question. Are you still planning on making a siting decision as early as December of this year?

Answer. We are committed to a Record of Decision milestone of April 2004. However, our goal is to arrive at the Record of Decision earlier.

FACILITIES AND INFRASTRUCTURE INITIATIVE

Question. Ambassador Brooks or Dr. Beckner, 2 years ago I was very pleased to work with Chairman Reid in getting the Facilities and Infrastructure rebuilding effort underway with $200 million. For fiscal year 2004, you have requested a total of $265 million. The state of the complex had too long been a neglected issue. But last year, this committee's focus on infrastructure was reaffirmed in the Nuclear Posture Review—which concluded that we must have a flexible and responsive nuclear weapons enterprise in order to meet the challenges of an uncertain and unpredictable threat environment. However, I am still concerned about two points. Past evidence put before this committee indicated we needed to be spending an additional $300 to $500 million per year for the next 15 or so years to refurbish the weapons complex. Why have you requested significantly less?

Answer. The fiscal year 2004 budget request of $265 million is substantial and will support some 150 Recapitalization, Facility Planning, and Facility Disposition projects that will provide capital renewal and sustainability, with an emphasis on deferred maintenance reduction. Facility Disposition projects will reduce the footprint of the complex by approximately 325,000 gross square feet. From the turn of the century, the fragile condition of the nuclear weapons complex has been described in a series of internal and external assessments. The Foster Panel, Chiles Report, the DOE Inspector General, the Defense Department, and the NNSA comprise the reports in the series. Independently, each concluded that the complex is old, with half of the facilities 40 years or older; and, to restore the complex to an acceptable condition, substantial additional annual funding was needed, on the order of some $300 to $500 million for about a decade. In addition, all agreed that although money is important and needed, strong structured management, absent in the past, is as important.

Two components dominate the NNSA's corporate management approach—securing the appropriate level of funding, and rigorous management. Current funding levels meet NNSA's planned facility requirements and are approved by the OMB, and most importantly, the Congress. In addition, improved management of the infrastructure is developed and implemented through integrated management tools that include the Ten-Year Comprehensive Site Plans (TYCSP), Project Execution Plans, a well-structured Planning, Programming, Budget, and Evaluation process, upon which is determined the longer view of program needs described in NNSA's Future-Years Nuclear Security Program (FYNSP). The request for resources shown in the FYNSP seeks annual incremental increases of about $50 million building to $500 million in fiscal year 2008. The NNSA believes that growth of the Facilities and Infrastructure Recapitalization Program is building in accordance with the changing culture regarding improved facilities management and the ability to successfully execute the funds provided. The program has 2 years of full funding experience, is proceeding according to plan, and has a number of impressive successes to its credit.

Question. Secondly, if we are ever going to effectively reduce the maintenance backlog, we must stop contributing to the backlog. My review of the budget requests for regular maintenance of facilities is still below what is needed. So while we are trying to reduce the maintenance backlog through the F&I program, we are adding to it by under funding regular maintenance. Do you agree with my contention? Please respond.

Answer. The Readiness in Technical Base and Facilities (RTBF) Operation of Facilities budget identified in the Future Year Nuclear Security Plan (FYNSP) in conjunction with the Facility Infrastructure Recapitalization Program (FIRP) budget is adequate to maintain the complex in a safe, secure, and compliant status. The President's fiscal year 2004 request for RTBF proposes an overall increase of 7.4 percent and a 4.2 percent increase for Operations of Facilities. The RTBF program is committed to ensuring its facilities have responsible maintenance programs and adequate funding to support the mission. NNSA has established a goal of stabilizing (i.e., zero growth) the program facility deferred maintenance backlog by fiscal year 2005 and to reduce it to industry standard levels (or better) by fiscal year 2009. RTBF will fund the complex at an adequate level; this will enable (FIRP) to execute its deferred maintenance reduction responsibilities and help recapitalize the complex.

Historically, the maintenance backlog has not been measured consistently through the application of consistent direction across the complex. In fiscal year 2003, NNSA has taken action to assure consistent application of standardized definitions to create a "corporate" business process and allow the establishment of a baseline. Until this was done, it was not possible to understand the magnitude of what is needed. In fiscal year 2004 and beyond, NNSA will track funding of maintenance and measure the maintenance backlog to assure that actual progress is being made. With these tools and measures in place, NNSA can and will ensure that maintenance is not under funded.

Question. Will you update the committee on the Facilities and Infrastructure Initiative?

Answer. The effort to restore the nuclear weapons complex began as the Facilities and Infrastructure (F&I) Initiative. Upon congressional authorization, the F&I Initiative became the Facilities and Infrastructure Recapitalization Program. The physical infrastructure of the nuclear weapons program is managed by NNSA within a corporate facilities management framework, which is designed to stabilize the deferred maintenance backlog, improve the complex through facility upgrade and new construction, while at the same time reducing the footprint of our facilities through elimination of excess facilities, yielding an operationally more economical, revitalized enterprise. The general NNSA approach is that daily operations and maintenance to ensure the availability of facilities and infrastructure essential to the Stockpile Stewardship mission are principally funded within the Readiness in the Technical Base and Facilities (RTBF) program. Capital renewal and sustainability are the focus of the Facilities and Infrastructure Recapitalization Program. Capital acquisition (line items) is managed across several program areas, in accordance with an Integrated Construction Program Plan.

The mission of the Facilities and Infrastructure Recapitalization Program (FIRP) is to restore, rebuild, and revitalize the physical infrastructure of the nuclear weapons complex. The program applies new direct appropriations to address an integrated, prioritized series of repair and infrastructure projects that will significantly increase the operational efficiency and effectiveness of the NNSA weapons complex sites. The FIRP mission is an integral component of the NNSA Strategic Goal to provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements. The Nuclear Pos-

ture Review discussed the need to revitalize the nuclear weapons complex as the third leg of the New Triad of our national nuclear strategy. The Facilities and Infrastructure Recapitalization Program was established specifically to address these concerns and assure that the NNSA continues to meet its major performance objectives of ensuring the vitality and readiness of the national security enterprise.

Base maintenance and infrastructure efforts at NNSA sites are primarily funded within Readiness in Technical Base and Facilities (RTBF)/Operations of Facilities and through site overhead allocations. These efforts focus on ensuring that facilities necessary for immediate programmatic workload activities are maintained sufficiently to support that workload. FIRP addresses the additional sustained investments above this base for deferred maintenance and the infrastructure that are needed to extend facility lifetimes, reduce the risk of unplanned system and equipment failures, increase operational efficiency and effectiveness, and allow for recapitalization of aging facility systems. FIRP also manages utility line items. This capital renewal and sustainability focus is the core mission of the Facilities and Infrastructure Recapitalization Program.

A major metric for the recovery of the facilities and infrastructure of the nuclear weapons complex is the reduction of the NNSA's deferred maintenance, currently in excess of a billion dollars. The NNSA has committed to stabilize its deferred maintenance by the end of fiscal year 2005. Additionally, by the end of fiscal year 2009 the NNSA has committed to reduce deferred maintenance to within industry standards and return facility conditions for mission essential facilities and infrastructure to an assessment level of good to excellent (deferred maintenance replacement plant value less than 5 percent). FIRP will provide the major funding, and management effort, to achieve this reduction.

A separate but vital sub-program is Facility Disposition. This congressionally directed effort requires that at least $50 million of the FIRP funding be used each year to dispose of excess facilities that will provide the greatest impact on reducing long-term costs and risk. In the near term, this has meant focusing on footprint reduction. The facility disposition effort not only frees high value real estate to enable the modernization of the complex, but also provides NNSA the foundation to manage the entire range of its excess facilities portfolio. The NNSA is committed to reduce the nuclear weapons complex footprint by 3 million gross square feet of excess space by 2009. FIRP will provide the major funding and management effort to achieve this reduction.

Embedded within the FIRP program management is the NNSA commitment to congress to demonstrate credible deliverables, efficient management, and fiscal accountability. The program's funding significantly ramps-up over the next several years until it reaches the level determined by the NNSA, and external reviews, required to restore the nuclear weapons complex and ultimately return the condition of the complex to industry standards by fiscal year 2009.

The NNSA is committed to responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards. This integrated corporate long-term goal, encompassing improved facilities management and significant additional funding, will ensure the recovery and subsequent sustainment of the nuclear weapons complex.

Question. What have you accomplished, and where do we need to go in the future?

Answer. The backdrop for the restoration of the weapons complex is set in the following remarks/commitments made by General Gordon to the Congress:

—Infrastructure is aging, in some cases failing. (HASC Oversight Panel—11 July 2000)

—Cannot let our infrastructure decay . . . it's potentially dangerous, it sends wrong signal . . . (HASC Oversight Panel—11 July 2000)

—Are we under invested in facilities? . . . today I am positive of the answer: we are under invested by a lot. (Senate Water and Energy Subcommittee, Senate Appropriations Committee—13 March 2001)

—The facilities that underpin the American nuclear deterrent require immediate attention, on the order of $500 million a year for at least the next 10 years. (Senate Water and Energy Subcommittee, Senate Appropriations Committee—13 March 2001).

General Gordon's early compelling argument, and successive semiannual status reports to the authorization and appropriations committees, prompted Congress to authorize $8.7 million in fiscal year 2001, $197 million in fiscal year 2002, and $243 million in fiscal year 2003 for the Facilities and Infrastructure Recapitalization Program to begin the restoration of the nuclear enterprise. With 2 years of full funding, the significant achievements of the Facility and Infrastructure Recapitalization Program (FIRP) are as follows:

—Established advocacy for facilities—the third leg of the New Triad of our national nuclear strategy
—Defined corporate facilities management, as an embedded concept in NNSA strategy, planning, facility restoration, recapitalization, and revitalization of the nuclear enterprise
—Introduced commonality and standardization regarding facility management and accountability
—Championed a corporate facility management data base (FIMS)
—Introduced a graded approach to life-cycle facility management
—Established an approach to facility budgeting
—Established a "first time ever" complex-wide prioritized project listing
—Developed criteria for priority approach to sifting requirements on a "worst first" basis
—Embedded comprehensive long-term planning (Ten-Year Comprehensive Site Plan (TYCSP))
—Established formal Federal review process
—Limned facility stewardship:
  —Established facility complex baseline conditions
  —Built performance measures to track conditions
  —Developed a prioritization and integration process for project selection
  —Established desired steady state goal for complex-wide facility condition
—Established fiscal visibility and accountability:
  —Established financial visibility—both direct and indirect
  —Established financial benchmarks
  —Developed and promulgated Federal facility budget guidance
  —Instituted institutional general plant projects for laboratories
  —Established the recapitalization program controlled by work authorizations and baseline change control
—Instituted procedural improvements:
  —Periodic and independent reviews of program
  —Performance measures/performance evaluation management plan/laboratory appraisal plan
  —Developing return on investment strategies/best practices such as the multi-site—Roofing Repair Pilot Program
  —Established strategic professional linkages—National Research Council's Federal Facilities Council, civilian industry's APPA; and the Energy Facilities Contract Group (EFCOG) as well as within the DOE
—Conceived the FIRP in three parts—recapitalization, facility planning, and facility disposition
—Established FIRP performance indicators for reduction of the backlog of deferred maintenance and reduction of the complex's facility footprint
—Established annual targets for achieving performance goals
—Managing FIRP with fiscal responsibility within FYNSP constraints
—Defined achievable targets for program execution in fiscal year 2002 and fiscal year 2003—$440 million
—Managing projects in accordance with a graded approach to meeting DOE Order 413.3
—Faithfully adhere to the "what and how" approach to headquarter and field responsibilities
—FIRP is executed through Federal field validation for baseline credibility, fiscal and legal accountability
—FIRP requires identification of site-specific Stockpile Stewardship Program supporting projects
—FIRP is managing to the parameters of a construction year—obviously different than the fiscal year cycle
—Receiving wide-spread recognition for performance of Federal and M&O staffs—congressional report language
—Congress continues to fund at growth levels established in Calendar Year 2000.

With regard to the future, the formula remains, leadership support within the NNSA, measurable results; Departmental support, OMB support, and most importantly, continued support of the Congress. Corporate facilities management is embedded at each of the eight sites, performance measures on a par with industry standards management of the backlog of deferred maintenance projects is occurring, the footprint is shrinking ahead of plan, and the NNSA is performing within its means. NNSA is positioned to be able to adequately maintain the vital "Third Leg of the New Triad" of the Nation's nuclear posture.

NONPROLIFERATION BUDGET

Question. To Ambassador Brooks or Mr. Baker: I am pleased to see the broad and specific goals of your nonproliferation program continue to receive strong support from the Administration. Overall, I believe you have a pretty good budget for fiscal year 2004. How would you characterize your progress in the Nuclear Nonproliferation programs?

Answer. We are making good progress toward achieving our goals and objectives. We have had many successes in our programs, have accelerated our efforts in protecting nuclear materials, and are now aggressively ramping up several new cooperative programs and initiatives, as follows:

—On March 12, we signed agreements with the Russian Federation to initiate our work on the Elimination of Weapons-Grade Plutonium Production in Russia. This will allow us to begin work with our Russian partners to close down the last three operating plutonium production reactors in Russia.

—In a major development in reciprocal U.S. and Russian plutonium disposition efforts, the Russians have recently agreed to the U.S. design for their mixed oxide (MOX) fuel fabrication facilities. Construction should begin next year.

—We have recently begun cooperative work with Russia's Strategic Rocket Forces in order to improve the security of their nuclear warheads and we are providing security upgrades at two sites to which the Russian Ministry of Defense has permitted DOE access. We anticipate work on additional proposed sites in the future.

—We are working toward the goal of completing the materials protection, control and accounting (MPC&A) upgrades by 2008 at which point we will enter a sustainability phase and transition to Russian ownership of the programs.

—We have initiated a project to equip foreign seaports with radiological and nuclear detection systems to pre-screen containers destined for U.S. ports.

—In our efforts to engage Russian weapons scientists in commercial activities, our Russian Transition Initiative program has secured over $90 million in private venture capital, in addition to industry matching funds that bring in $3 for every $2 invested by the U.S. Government.

—We are supporting U.S. Government participation in the G–8 Global Partnership that involves the United States committing $10 billion of nonproliferation funds to be matched by $10 billion from the international community over the next 10 years.

These are just some of the programs and projects we are working on.

Question. How many sites did you protect last year compared to previous years?

Answer. We expect to significantly increase the number of sites protected under more extensive or comprehensive MPC&A upgrades than in previous years. We will complete comprehensive upgrades at an additional 8 sites in fiscal year 2003 verses 4 sites in fiscal year 2002, raising the total number of sites protected with comprehensive upgrades to 48. In fiscal year 2004, we will complete comprehensive upgrades at an additional 7 sites raising the total number of fully protected sites to 55.

Question. What, if anything, is needed to ensure the success of this program?

Answer. We believe that the strategies we are pursuing within our panoply of programs fully supported by the President and reflecting the outcome of the recent review of nonproliferation programs by the National Security Council are significantly reducing the WMD proliferation threat to the United States. However, I would like to stress the importance of the full and continued congressional funding for the Department's programs. I am grateful for the cooperation from Congress and look forward to continuing that cooperation as we advance our shared national security objectives. It is also essential that we enjoy full and complete cooperation from our international partners, such as Russia, in breaking down bureaucratic barriers to program implementation and take further steps to accelerate our efforts there. I also believe that success in working with our G–8 partners to advance our Global Partnership objectives will be essential to future success.

NNSA's nonproliferation mission and responsibilities set forth in the National Nuclear Security Administration Act are broad enough to encompass our conduct of nuclear nonproliferation activities outside of Russia. However, we are seeking to clarify in the National Defense Authorization Act for fiscal year 2004 that NNSA has the requisite authority to conduct its International Nuclear Materials Protection and Control Program not only in the former Soviet Union but in other countries where the risks of proliferation of weapons of mass destruction, materials, and technology also threaten the security of the United States.

MATERIALS PROTECTION IN RUSSIA

Question. Ambassador Brooks or Mr. Baker, I had an opportunity to visit yesterday with Minister Alexander Rumyantsev, the Russian Minister of Atomic Energy. We talked about many of our nuclear nonproliferation programs of common interest. I reassured him of my strong support for the programs, but I also raised with him my concerns that we were still not making progress as fast as we should and are not getting the access necessary to ensure our tax dollars are being properly spent. But he raised another issue of concern—that the legal agreements that form the basis of our cooperative efforts would expire this summer, and that our governments were having trouble renegotiating the agreements. That is potentially an issue of great concern. Will you comment first on the access issue—are we getting what we need to provide security upgrades in Russian production facilities storing the greatest amounts of nuclear material?

Answer. Our efforts to secure materials in Russia are proceeding well. We have made significant progress with the Russian Ministry of Atomic Energy (MinAtom), especially at "civilian" facilities with less stringent access restrictions imposed by MinAtom. In fact, we are finishing work at the first large MinAtom fuel processing facility, the Luch facility, this spring. Luch was the site of the attempted theft of HEU by a facility insider several years ago. We expect to complete at least 2 additional large MinAtom facilities next year (Novisibirsk & IPPE in Obninsk). Consequently, this part of our program is in the process of downsizing as work is completed.

Work at sensitive MinAtom facilities continues, but the pace is set mostly by the time it takes to overcome access restrictions more than anything else. We are making progress at these sites—contracts for upgrades have and will continue to be signed at places like Tomsk, Krasnoyarsk–26, Mayak, and C–70 as the year progresses. We are achieving concrete results with the MOD as well. Last year we completed negotiations for upgrades at the majority of the remaining sites in the RF Navy believed to require comprehensive upgrades. This is another area of our program that will be scaling down in the next couple of years—assuming the RF Navy does not introduce additional sites where upgrades are justified. However, our work with the Strategic Rocket Forces (SRF) is just underway, and we should be seeing increased activity in this area over the next few years.

We will continue to focus our efforts on providing upgrades to sites containing materials of concern that we have access to in order to reduce the threat as quickly as possible, while we negotiate access to the remaining weapons sites.

In our Nuclear Cities Initiative program, we have had no problems with access since signing an access arrangements document last year. The Russian side does still have some difficulty figuring out how it will provide access to foreign companies that want to own land and property in Russia. That has made it a little more difficult than we would like getting Western businesses to invest unreservedly in Russia, but the regional and municipal authorities, and MinAtom itself, are working to develop various proposals that will satisfy both the Western private sector and Russian security requirements.

Question. Also, what are you doing to ensure this important work is not stopped because of a failure to get proper legal agreements?

Answer. The bilateral agreements that govern our MPC&A activities do not expire until 2006. These include the U.S/Russian Cooperative Threat Reduction umbrella agreement and the 1999 Agreement. We will start the renegotiation process well in advance of this deadline. In the case of the NCI Government-to-Government Agreement, which is set to expire at the end of this September, we have received a letter from Minister Rumyantsev requesting extension of the Agreement for another 5-year term, without making any changes to the current text. However, the Administration is reviewing the liability protection in this agreement, which may impact our ability to extend it. We are working with the Russians and our interagency colleagues to identify ways to solve this problem.

MPC&A OUTSIDE OF THE FORMER SOVIET UNION

Question. Ambassador Brooks or Mr. Baker, historically the focus of our nonproliferation programs has been almost exclusively on the former Soviet Union. And Russia certainly remains the largest source of nuclear materials which could become potential threats to our security. But the events of the last 2 years have certainly shown us threats exist all over the globe. What nonproliferation problems and opportunities do you see outside the former Soviet Union?

Answer. While true that our programs focus on Russia, it's also true that for many years we have engaged in a variety of nonproliferation efforts around the world. Those nonproliferation efforts continue today and have in fact expanded since

September 11th. As you correctly point out, there are several countries outside the former Soviet Union, for instance in South Asia, that raise important nonproliferation issues. In that context, there may be opportunities for mutually beneficial exchanges that could lead to enhancements in the security of nuclear weapons, weapons-usable nuclear material, radiological material, and the prevention of illicit nuclear/radiological material from crossing borders. In some key cases, we have not fully engaged these countries because they remain outside the Non-Proliferation Treaty and we are therefore constrained somewhat by law and policy with respect to how we can assist them.

Question. What do you need in terms of money or agreements in order to begin addressing those threats?

Answer. The recent fiscal year 2003 Supplemental Appropriations included $15 million for nonproliferation work outside of the former Soviet Union. That should be sufficient to continue our longstanding engagement with these countries. However, if initial efforts in areas such as South Asia lead to large programs of direct assistance in these areas, additional resources would be required. We will be in a better position to identify the required funding level once the scope of such work has been more clearly defined and the U.S. Government has completed its evaluation of what types of security assistance are desirable and permissible.

NNSA's nonproliferation mission and responsibilities set forth in the National Nuclear Security Administration Act are broad enough to encompass our conduct of nuclear nonproliferation activities outside of the FSU. However, we are seeking to clarify by means of the fiscal year 2004 National Defense Authorization Act that NNSA has the requisite authority to conduct its International Nuclear Materials Protection and Control Program not only in the states that resulted from the former Soviet Union but in other countries where the risks of proliferation of weapons of mass destruction, materials, and technology threaten the security of the United States.

Beyond that, the legal requirements, like the funding requirements, will very much depend on the attributes of the country in question and the scope of work proposed. We will certainly keep you informed as these activities proceed.

Question. I remember that in Russia, early progress was accomplished on a scientist-to-scientist basis through the so-called "lab-to-lab" approach. Is the original "lab-to-lab" approach being revisited to encourage progress in some of the countries that may present threats?

Answer. Yes, in many countries we have found direct exchanges between technical experts to be a valuable tool of engagement. Specifically with respect to countries outside the former Soviet Union, we will use this approach in combination with other vehicles to engage on sensitive nonproliferation issues.

RUSSIAN PLUTONIUM DISPOSITION PROGRAM

Question. Ambassador Brooks or Mr. Baker, I am pleased to see us on the cusp of constructing facilities in the United States and Russia to finally carry out the disposition of up to 34 metric tons of plutonium in each of our two countries. However, I remain concerned about the schedule and our ability to begin construction in Russia in fiscal year 2004. I don't say that because you are not doing everything you can, I just say it because the job is very hard. Among the obstacles still out there are securing all of the $1 billion in international financing for construction, getting the right legal agreements in place, and finding another $1 billion to finance the operations of the MOX plant. How are we coming on those issues?

Answer. For the construction phase of the Russian plutonium disposition program, pledges thus far total $800 million, leaving a $200-million shortfall. We believe that the remainder of funding necessary for construction will be obtained shortly. As for the operations phase of the program, there are a number of non-government funding sources that could be used for this purpose, including receipts from the exports of Russian MOX fuel and displaced uranium fuel, cross-subsidies from other Russian programs and Russian domestic MOX fuel sales. In many cases, these are heavily dependent upon future developments in the Russian and international nuclear industries and markets, which are not predictable at the present time. Nonetheless, we believe that a combination of these revenue sources could be used to fund some or all of the operations phase of the disposition program.

In addition to obtaining funding, we have recently made significant progress in developing a multilateral structure that allows for bilateral U.S.-Russian program management. We are also working to adapt the detailed design of the U.S. facility for use in Russia and to reach agreement on licensing arrangements that will permit Russia to use Cogema MOX technology for its MOX facility. Once the key details of these efforts are decided, we can begin to set up the necessary legal implementing documents.

Question. What confidence do you have that we can stay on schedule?

Answer. We expect to begin construction of both the U.S. and Russian MOX facilities in fiscal year 2004. Russia's recent announcement to use the design of the U.S. MOX facility to dispose of 34 metric tons of its surplus weapons plutonium will greatly accelerate the Russian program. However, the requirement to maintain parallel progress between the two programs may cause the U.S. program to be delayed slightly in order to allow the Russian program to catch up.

RUSSIAN TRANSITION INITIATIVES

Question. Ambassador Brooks or Mr. Baker, 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 success, but the Nuclear Cities Initiative has had more difficulty in producing results, although it has had some. In the environment of a huge budget increase for nonproliferation, the budget request for these Russian Transition Initiatives remains flat at about $40 million. Should I conclude from that request that you do not see as much opportunity in those programs as some of the others focused on materials?

Answer. No, we still see a great deal of opportunity and need in the work of these programs focused on the human component of our proliferation concerns, and believe that these scientist engagement programs have a great deal of importance for our national security. At the end of World War II, the U.S. Government was concerned about German missile and nuclear expertise falling into the wrong hands, and we made sure those German scientists did not trade their information on the open market. Similarly, today we must make sure that the enormous scientific and technical expertise left over from the Cold War in the former Soviet Union does not find its way to rogue states or terrorist groups. I believe that our requested budget levels are sufficient to respond to the risk of adverse migration of this scientific and technical expertise to terrorists or rogue states—especially considering that these programs are highly leveraged by private sector investment and matching contributions that meet or exceed U.S. Government funding. But having performed a relative risk assessment of adverse migration versus the magnitude of the threat posed by unsecured materials, I believe the Administration has made some reasonable decisions about the relative distribution of funding requests.

Question. Is the Administration not as concerned about "brain drain" issues as it was several years ago?

Answer. Since September 11th, the Administration is even more concerned about nuclear know-how falling into the wrong hands. In recognition of that threat, the President requested and received a supplemental of $15 million in fiscal year 2002 from Congress for these programs. So "brain drain" from the former Soviet Union remains a strong concern. However, since the early and mid-1990's when some of these programs were begun, conditions have improved somewhat. The Russian economy has stabilized and we are not seeing the run-away inflation that stripped away life savings. The Russian Government is paying nuclear scientists more regularly. Also, the Russian economy is beginning to generate some private sector opportunities for these scientists. Our programs have adapted to these changes by focusing less on supplementing scientists' meager paychecks and more on seeking sustainable economic transformation and downsizing of the Russian weapons complex, taking advantage of market opportunities through technology commercialization.

ROLE OF NNSA LABS IN DEPARTMENT OF HOMELAND SECURITY

Question. Ambassador Brooks, approximately $140 million in R&D activities at the labs has been transferred over to the Department of Homeland Security to manage. As you know, I wrote several provisions into the Act creating the Department of Homeland Security that will ensure our national labs continue to bring their expertise to bear on many problems facing us in the war on terrorism. Will you please comment on how the transition of those programs is going?

Answer. The transition is progressing well. Of the approximately $150 million in functional transfers to the Department of Homeland Security (DHS), approximately $85 million of these programmatic activities were from the NNSA, $79 million from our Nonproliferation and Verification R&D program and $6 million from the nuclear assessments program. NNSA also transferred Program Direction funding associated with these activities in the amount of $3.7 million. Nonproliferation and Verification R&D program management is working closely with their DHS counterparts to assure a smooth transition of the R&D activities towards countering nuclear smuggling and preventing or countering the effects of biological or chemical terrorism. To facilitate this transition, DHS has asked NNSA to participate in execution of these

programs through fiscal year 2003. In addition, particular activities in which we continue to have a strong role are the test bed for nuclear detection technology in cooperation with the New York/New Jersey Port Authority and the establishment of the BioWatch initiative in 30 cities across the country. We are working closely with DHS personnel as they assume management of these programs, so that the high quality work of the national laboratories continues to serve the national need, without any loss of capability or momentum.

Question. Do you foresee any problems?

Answer. No, but I do feel that it will be important for NNSA and DHS to work together to complement each others' missions. That is, NNSA will continue to work on development of technology for national security missions, some of which will have application to homeland security problems. NNSA's Nonproliferation and Verification R&D program will continue to focus on strategic R&D in support of WMD nonproliferation missions, while DHS focuses on the more immediate-operational needs of homeland security agencies, including the U.S. Customs Service, the Coast Guard, and the Transportation Security Administration. NNSA can complement the near-term development and application of, for example, radiation detection technology by DHS, with the strategic, "leap-ahead" research necessary to sustain national security capabilities, drawing on the strengths of the national laboratories and the NNSA responsibility for nuclear weapons and materials.

Question. Do you believe counter-terrorism R&D will continue to be a growing part of the labs missions?

Answer. Yes, the labs' research in nuclear, chemical, and biological science and technology will continue to be important to national security programs and provides the core competency to address counter-terrorism concerns. NNSA will continue to maintain a strong R&D program in nuclear technologies, which is of paramount importance to both the weapons and nonproliferation missions, and the NNSA Nonproliferation and Verification R&D program will continue research on methods to detect activities associated with proliferation of all types of weapons of mass destruction. However, with the transfer to the DHS of the R&D for the chem-bio domestic preparedness mission that department must undertake the support of the science and technology base in those disciplines. NNSA will no longer be funded to sustain the required capabilities in those areas.

NASA'S NUCLEAR SYSTEMS INITIATIVE

Question. Admiral Bowman, NASA is proceeding with its "nuclear systems initiative," and I know they remain interested in you managing all or parts of that program. 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. Of course, much of the historic capability in nuclear space systems resides at other DOE labs outside of your program. What is your view of this effort and the role for Naval Reactors?

Answer. First, I should make clear that we are not lobbying for this work; our hands are already full with current and planned Naval Nuclear Propulsion Program work. We have no particular expertise in radioisotope power systems and have no interest in managing this aspect of the nuclear space initiative. However, NASA has indicated that they are interested in NR taking the lead for reactor development in the Nuclear Systems Initiative (NSI), including the Jupiter Icy Moons Orbiter (JIMO). My view of the overall effort is based on what I have learned from NASA, which has convinced me that fission reactor technology is a key that will unlock new capabilities in space science. If this effort is assigned to us by the Administration and funded by Congress, our role should be to manage this work consistent with our practices for naval reactor plants. If we are not in charge, I believe that our role should be limited to occasional peer review.

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. Yes, the NR program does not possess all the technical expertise and facilities needed to execute this task entirely within Naval Nuclear Propulsion program national laboratories. Consistent with our practice for other advanced development efforts, NR would seek to leverage existing expertise and facilities at NNSA labs, other DOE labs, and in Industry to accomplish this task most effectively and at the lowest cost to the taxpayer. However, this work would be managed and budgeted for through Naval Reactors Headquarters. We believe that strong centralized control is necessary for success in this area. Therefore, we would coordinate this effort through one or both of our existing single-customer laboratories, which would

have the overall responsibility for integrating the reactor system and identifying the appropriate subcontractors (including DOE laboratories).

Question. What terms and conditions would you want in order to manage the whole program?

Answer. To be clear, NR has no interest in managing the entire NSI or JIMO efforts, both of which contain significant non-reactor work, in which Naval Reactors possesses no relevant expertise. If Congress and the Administration decided to assign this work to Naval Reactors, we would continue to do business the "NR way." This means that NR should have complete financial, technical, and contractual control over the parts of the NSI for which we are responsible. To make that control effective, we would request a separate line in the DOE budget for space reactor work. This would also help ensure that our space and Navy responsibilities do not interfere with each other. We would use our successful practices in naval reactor design by assigning one of our single-customer laboratories the lead for integrating the reactor system. Finally, this work would be conducted so that no sensitive or classified naval nuclear propulsion information was disclosed. These terms are important for us to preserve our total ownership approach to doing business. I would request a letter from high levels in the Administration to assign this mandate to Naval Reactors, codifying these terms and conditions.

NAVAL REACTOR LABS

Question. You have two outstanding engineering labs, the Bettis Atomic Power Lab and the Knolls Atomic Power Lab. Both of those labs went through contract competitions within the last 5 years. Did competing the contracts at your labs produce significant or notable improvements in performance?

Answer. Competing Naval Reactors' labs resulted in lower combined cost to the government to run those facilities. In the Request for Proposal we asked that the successful bidder make any transition transparent to the laboratory workforce. Cost savings were principally through the ability to reduce contribution to corporate overhead. This workforce continues to deliver the same consistently high-quality engineering support for our nuclear fleet that it has for over 50 years.

Question. Can you elaborate on the Naval Reactors tradition as to how you manage your labs? I ask that with full knowledge that the weapons labs are much different animals from yours, but I ask just as a point of contrast.

Answer. Naval Reactors' two national labs, Bettis Atomic Power Laboratory (Bettis), and Knolls Atomic Power Laboratory (KAPL), have made vital contributions to the Naval Reactors Program for more than 50 years. It is difficult to isolate the factors that have led to this success, but several do stand out. First, our labs have a very focused mission: they only do work for this program and their general managers report directly to me. Second, my field offices use an effective audit and appraisal program that allows me to keep a close watch on the performance of our labs. Third, Naval Reactors benefits from a focused multi-year planning process, reviewed semiannually, as well as an annual technical work review. Experts in naval nuclear propulsion perform these reviews. Finally, Naval Reactors maintains a simple, technically talented, enduring, lean headquarters structure that allows us to oversee our responsibilities effectively. My headquarters staff retains clear, total responsibility for all aspects of naval nuclear propulsion, including management of the laboratories. Laboratory general managers report directly to me. By statute (Executive Order 12344 codified in Public Laws 106–65 and 98–525) the Director of Naval Reactors is a four-star admiral with an 8-year tenure, as well as a deputy administrator in the NNSA/DOE. This is important for two reasons: it gives the director the stature to handle the issues that arise while overseeing such unforgiving technology and it gives him enough time to learn all the aspects of the job while providing leadership consistency.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

NUCLEAR SECURITY

Question. Ambassador Brooks, since September 11th NNSA has sent up numerous reprogramming requests to cover the costs of enhanced security, particularly for periods when the Nation has gone to Code Orange. Generally, we have been happy to approve these reprogrammings. However, I am concerned that we have seen lot of supplemental appropriations requests come to the Hill during the last few years and they rarely, if ever, have any funding for the NNSA. Given that you are the guardians of both our Nation's nuclear stockpile and also a tremendous amount of fissile nuclear material around the country, this concerns me. Is your organization

not requesting additional funding for nuclear security? Is OMB simply denying your requests?

Answer. While we continually work hard to establish a base Safeguards and Security program request that will be sufficient to effectively meet our annual security program requirements, we, like the rest of the Nation, are doing this against a backdrop of rapidly evolving threats of terrorism. Against this backdrop, we also continue to actively assess our programs to assure performance and readiness. Accordingly, budget changes within a year may be necessary. The fiscal year 2004 budget request for Safeguards and Security is sufficient to meet our currently known needs for ongoing Safeguards and Security activities. This request was developed with information from an assessment of the complex's needs following the September 11, 2001, attacks, and was formulated using the NNSA Planning, Programming, Budgeting and Evaluation process to assure that funding requests are closely linked to established program plans and balanced across NNSA.

The requests for supplemental funding you mention have been related to emergent requirements that could not be accommodated within the base budget request—the "unknown-unknowns." A good example is the amount of time we will spend this year at the elevated "SECON 2" security level at our sites. Rather than budget for this type of contingency, it is our policy to work within the base budget and accommodate what we can before requesting additional funding authority. The Administration endorses this approach and, in fact, supported two such requests for our S&S programs last year.

Right now, we are looking at the increased costs we're incurring for site protection at the SECON 2 level. We are also expecting the DOE to issue in the near future, a revised, Design Basis Threat. Each of our sites will analyze their security postures and the range of activities that may need to be taken to best address the new threat guidance. The sites will also work throughout the coming year to identify areas of efficiencies and operational improvements that could reduce S&S costs while maintaining the level of protection we require.

Throughout our efforts, we will try to accommodate S&S program needs within available funding. If increased funding is required, we will promptly work with the Congress.

Question. What can we do to get the Administration to take the threat of loose nuclear material as seriously as they seem to take the threat of chemical or biological attack?

Answer. The Bush Administration takes all threats posed by WMD seriously and has undertaken several major initiatives to address security risks arising from nuclear and radiological materials. Presidents Bush and Putin agreed last year to cooperate on ways to accelerate the elimination of excess nuclear materials. To supplement our ongoing programs to convert highly enriched uranium to nuclear reactor fuel and dispose of excess weapons plutonium, we are currently negotiating with Russia on several new initiatives that will increase the rate at which nuclear materials are converted to non-weapons usable forms. This year's G–8 summit meeting included a reaffirmation of commitments by the United States and its allies to supply up to $20 billion of assistance to enable Russia to reduce proliferation risks, with the elimination of excess fissile materials identified as a priority area. Through the Materials Protection, Control, and Accounting program run by DOE's National Nuclear Security Administration, we have upgraded security at facilities and storage sites in Russia and other countries that contain hundreds of tons of weapons-usable nuclear material.

Secretary Abraham hosted an international conference in March to identify steps that need to be taken globally to reduce the danger that terrorists could use radiological dispersion devices. DOE is actively engaged in assisting a number of countries to recover and safely dispose of abandoned radiological sources that pose a security threat. Domestically, the NRC is working to put in place improved security for radiological sources used for commercial, medical, or scientific purposes in the United States. DOE continues to operate the Off-Site Source Recovery Program, which has already retrieved and securely stored thousands of radioactive sources no longer needed for their original purposes.

NEVADA TEST SITE

Question. The Nevada Test Site provided crucial capabilities to the Nation during the Cold War, and the Administration claims that this national asset must remain ready to undertake similar responsibilities if called upon. Yet, the levels of activity at the Test Site and the levels of employment have steadily diminished since the termination of nuclear testing. The only way I see to maintain the former capability is to establish new activities at the Test Site that require similar skills and facili-

ties. Without that approach, the entire capability will evaporate. Older workers will depart through death and retirement, and without a stable and demanding mission new workers will not develop. Please tell me how your Administration plans to reverse the decline in morale and mission content at the Nevada Test Site.

Answer. Since the moratorium on nuclear testing in 1992, the NTS has maintained the readiness to conduct testing if deemed necessary by the President. The skill mix needed for the readiness posture is complimentary to that needed to support Stockpile Stewardship program activities. By ensuring a continued robust subcritical experiment and other physics research program capabilities such as JASPER and Atlas at the NTS, historic skills and capabilities can be maintained.

To date, 19 subcritical experiments have been successfully conducted at the NTS. The national laboratories rely on the technical expertise and scientific skills of NTS workers to maintain underground testing expertise and capability and to capture essential data from the subcritical experiments. Although we expect the number of subcritical experiments to decline over the next several years, the complexity of the experiments and need for advanced diagnostics will increase.

NNSA is committed to continued use of the NTS and expansion of its missions as is evident in the relocation of the Atlas program to the NTS. Atlas is a high performance pulsed power machine and will be used to implode targets and measure the physical properties of weapons material. NNSA is committed to bringing this machine on line in Nevada and fielding experiments in support of the Stockpile Stewardship program.

As other DOE/NNSA facilities face encroachment by population centers, we look to move those missions with greater need for remote and secure operations to the NTS. It is recognized that the NTS has sufficient infrastructure and security features that make it ideal for nonproliferation and national security related projects. A clear example is the planned relocation of the critical assembly work from Los Alamos to the NTS. These assemblies will complement the existing missions of the NTS by providing an additional training tool for emergency response personnel and those who work in nuclear environments.

This administration continues to enhance and support nuclear-related emergency response activities and is working closely with the newly-formed Department of Homeland Security (DHS) to fight terrorism. An ambitious DHS-sponsored program to train first responders and local emergency managers from throughout the country at the NTS continues to grow. Known as the National Center for Exercise Excellence, this program will graduate 6,000 students this year alone. Within NNSA, the existing NTS infrastructure is being modernized under current National Center for Combating Terrorism (NCCT) funding to accommodate this increase in student volume, and will ultimately enhance other national security programs. The Remote Sensing Laboratory has provided the great majority of radiological emergency response for the United States over the last 30 years. These scientists and engineers, in close partnership with the National Laboratories, are also developing the next generation of counterterrorism technology for the Department of Homeland Security.

NUCLEAR WEAPONS STOCKPILE

Question. Maintaining the safety and reliability of our nuclear weapons stockpile is technically difficult, even if we were still testing. The absence of testing makes this job even more difficult. I know that the work of our weapons scientists and engineers is mostly classified and carried out in secure facilities, but I suspect that most of the scientific and technical tools are very similar to those used for nonclassified research and development. Please tell me how the Administration is assuring benefit to the classified program from the enormous Federal investments in scientific and technical advances made by DOE's Office of Science, the National Science Foundation, the Department of Defense labs, Commerce's National Institute of Science and Technology, and others like the Justice Department and our intelligence agencies.

Answer. NNSA firmly supports leveraging science and technology investments made by other Federal agencies. Let me provide just a few examples from our Accelerated Strategic Computing program:

—*Energy Sciences Network (ESNet)*.—The weapons program's SecureNet relies heavily upon the Office of Science's ESNet as the underlying infrastructure for wide area network communications.

—*High Performance Storage System (HPSS)*.—Developed through a consortium including the Oak Ridge National Laboratory (ORNL), the three weapons laboratories, and IBM Government Systems, HPSS provides a high speed, parallel,

network-centered system for high performance storage. ASCI continues to rely on ORNL to provide storage system management support.

—*Defense Threat Reduction Agency's PITHON*.—This experimental capability simulates hot x-rays by using a moderate energy source. Data from this facility will be used as part of the ASCI code verification and validation process.

—*National Security Agency Encryptors*.—Development and early production of UltraFastlanes through the National Security Agency enabled sufficient data transfer rates to support designer work at the labs.

—*National Science Foundation platforms*.—Compute cycles from the Blue Horizon platform at San Diego Supercomputing Center are used to provide Stockpile Stewardship Alliance University partners with access to unclassified supercomputing capability.

NONPROLIFERATION PROGRAMS

Question. The nonproliferation programs within your Administration are, for the most part, pursued by the same organizations that manage the weapons research anddevelopment. In fact, most of the nonproliferation scientists and engineers are either former or even present weapons specialists in the Stockpile Stewardship program. Yet, the management of these two activities within your administration is quite different. For example, definition of the stockpile stewardship program develops from a partnership between the Federal Government and the civilian specialists. Is the same approach used for nonproliferation activities?

Answer. As for the approach for development of U.S. nonproliferation programs, the programs have evolved considerably over the last 10 years. The phrase "partnership between the Federal Government and the civilian specialists" may be somewhat misleading. The National Security Council sets the agenda for U.S. nonproliferation programs for the Executive Branch. However, the NNSA's nonproliferation programs have received considerable input from Nongovernmental Organizations (NGOs), Congress, and the Interagency. Also, milestones and events such as the fall of the Soviet Union, the crash of the Russian economy, accords by former Soviet States to abrogate nuclear weapons, the September 11, 2002, terrorist attacks and others have had major influence on the evolution of these programs. With 10 years of experience implementing nonproliferation programs in the former Soviet Union and in other countries around the world, the NNSA has developed a broad range of experts upon which to draw for expertise, both inside and outside of the NNSA.

Question. Do you think that efficiencies and cost savings could be found by uniting these two programs into a single program, perhaps entitled Nuclear Security programs?

Answer. By act of Congress, the National Nuclear Security Administration has three line organizations: Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors. Each program has a distinct mission, a unique set of skills to accomplish the mission, different stakeholders, and a dissimilar venue for performing the work. Naval Reactors has specific legislative mandates. Defense Programs and Defense Nuclear Nonproliferation, however, work quite independently to perform their missions, although there are some areas of mutual concern. Defense Programs carries out the Stockpile Stewardship Program and other missions primarily in the United States; Defense Nuclear Nonproliferation conducts its programs internationally. Defense Programs' primary customer is the Department of Defense while Defense Nuclear Nonproliferation works with U.S. allies to reduce the threat of weapons of mass destruction, keeping threats away from the U.S. shores.

Congressional action to create the NNSA as a "separately organized" agency within the DOE provides for the management of nuclear weapons expertise and infrastructure under a single leader. Defense Programs and Defense Nuclear Nonproliferation organizations reflect the disparate missions of these organizations. A large part of the work for each program is accomplished at the three NNSA laboratories, Lawrence Livermore, Sandia, and Los Alamos. However, the NNSA national laboratories have organized in such a way that the expertise to support each program is provided by dedicated and specialized support because of the nature of the work for each program. Defense Nuclear Nonproliferation, moreover, uses resources of other laboratories and contractors outside of NNSA, including Pacific Northwest, Argonne, Brookhaven, and Oak Ridge National Laboratories in working in Russia and around the world.

In those areas where mutual concerns of Defense Programs and Defense Nuclear Nonproliferation converge, such as international access to the U.S. nuclear weapons complex for treaty compliance, the NNSA is particularly well organized to perform the necessary interfaces to determine the best approach to accomplish both mis-

sions. Combining these organizations would be disruptive and blur the distinct missions of each organization. The structure of the NNSA provides for cost effective management of resources through delivery of services to the line organizations by the Offices of Management and Administration and Infrastructure and Security.

CONCLUSION OF HEARINGS

Senator DOMENICI. Anything further?

We stand in recess. Thank you all very much.

[Whereupon, at 3:40 p.m., Thursday, April 10, 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 2004

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 2004 Energy and Water Development Appropriations Act.]

DEPARTMENT OF DEFENSE—CIVIL

DEPARTMENT OF THE ARMY—CIVIL

CORPS OF ENGINEERS

PREPARED STATEMENT OF ORANGE COUNTY, CALIFORNIA AND THE ORANGE COUNTY FLOOD CONTROL DISTRICT

Mr. Chairman and Members: On behalf of Orange County, California, and the Orange County Flood Control District, I respectfully request your support for fiscal year 2004 Federal appropriations to fund the following U.S. Army Corps of Engineers projects:

Santa Ana River Mainstem Project (including Prado Dam)—$67,864,000

We especially urge your support of the $67.8 million for the Santa Ana River Mainstem Project. This will allow the Corps to continue construction on Prado Dam, which began construction in fiscal year 2003. Since fiscal year 1990, the Subcommittee on Energy and Water Development has consistently provided the funds necessary to maintain the planned schedule of construction for the Santa Ana River Mainstem Project. As a result, the Seven Oaks Dam was completed in 1999, the Lower Santa Ana River is about 90 percent complete, the Oak Street Drain is complete, and work has commenced on the San Timoteo feature. The urgency to complete all features of the project has been highlighted by the flooding that has occurred throughout California during the past several years and, in particular, by the damage associated with the El Niño condition in 1997 and 1998. As the Corps of Engineers has reported on several occasions, destruction from a design storm on the Santa Ana River will cause damages exceeding $15 billion and the loss of thousands of lives. The Orange County Flood Control District requests continued support for the timely implementation of the Santa Ana River Mainstem Project, including Prado Dam, by including an appropriation of $67.8 million for fiscal year 2004.

Upper Newport Bay (Dredging)—$5,800,000

The construction dredging and restoration of Upper Newport Bay is another high priority project for Orange County. The restoration of Upper Newport Bay will ensure the preservation of one of California's most precious remaining estuaries along the coast. We urge your support for this very important and significant project.

Westminster/East Garden Grove, California—$300,000

Watershed restoration and flood control feasibility study on East Garden Grove Wintersburg Channel.

Coyote Creek, Carbon Canyon Watershed in Orange County—$600,000

Watershed feasibility study for tributaries in western Orange County that drain into Coyote Creek, Carbon Canyon, and the San Gabriel River.

Newport Bay/San Diego Creek Watershed—$186,000

Continuation of watershed ecosystem restoration study.

Orange County Beach Shoreline—$600,000

This is a feasibility study for shore protection, watershed, and water quality effort along the Orange County coast.

Special Area Management Plan (San Diego Creek SAMP)—$680,000

This is part of a cooperative effort between private property owners and government to identify and protect critical wetland habitat in south Orange County ahead of development.

San Juan Creek, South Orange County—$300,000

Continuation of watershed feasibility study for ecosystem restoration and flood control.

Aliso Creek Mainstem—$618,000

Continuation of watershed feasibility study for ecosystem restoration.

We thank you for the opportunity to address the Subcommittee and for your past record of support for projects that are so important to Orange County.

PREPARED STATEMENT OF DINAMO, 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 22 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 reliable and efficient 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 Kentucky Lock, Tennessee River, KY. The construction schedules for all of these projects have slipped from 3 to 6 years each, and we are requesting funding for these construction projects at an "efficient construction rate." This term means that these projects can be operational by 2010 or earlier, if funded at or near the full capability of the U.S. Army Corps of Engineers. Additional funding is also needed to complete pre-construction engineering and design (PED) for Greenup Locks and Dam, Ohio River, KY/OH and for John T. Myers Locks and Dam, Ohio River, KY/IN. The President's Fiscal Year 2004 Budget contains no monies for Pre-Construction, Engineering and Design for the John T. Myers Lock Extension project, although the project was authorized by the Water Resources Development Act of 2000 and has received regularly scheduled funding for planning and PED for many, many years. Additionally this Committee provided $800,000 last year for a planning start at Emsworth, Dashields and Montgomery Locks and Dams, Ohio River, PA. 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 planning, construction, engineering and design process:

Recommendations for Fiscal Year 2004

For the Robert C. Byrd Locks and Dam modification project, formerly the Gallipolis Locks and Dam on the Ohio River, OH/WV, about $2,700,000 to continue major rehabilitation of the dam. Fiscal Year 2004 Budget Request $2,500,000.

For the Winfield Lock Replacement on the Kanawha River, WV, $2,000,000 for continued construction and relocations related to environmental mitigation. Fiscal Year 2004 Budget Request $2,000,000.

For the Olmsted Locks and Dam, replacing Locks and Dams 52 and 53 on the Lower Ohio River, IL/KY, $73,000,000 to award the contract to initiate construction of the new gated dam. Fiscal Year 2004 Budget Request $73,000,000.

For the Monongahela River Locks and Dams 2, 3 & 4, PA, $61,00,000, to complete construction of the new Braddock Dam, continue any ongoing contracts at Charleroi which were able to be awarded in fiscal year 2003 and award a major contract for the construction of the new Charleroi Locks. In addition, critical Pool 2 relocations and Pool 3 dredging should resume in fiscal year 2004 in order to support timely completion of the project. Initiating construction work at Charleroi in fiscal year 2003 is critical to completing the project by 2010. Fiscal Year 2004 Budget Request $35,000,000.

For the McAlpine Lock Project on the Ohio River, IN/KY, $70,000,000 to construction of the new 110′ × 1,200′ lock addition. Fiscal Year 2004 Budget Request $26,100,000.

For the Marmet Lock Replacement on the Kanawha River, WV, $69,200,000 to continue construction of the new 110′ × 800′ project. Fiscal Year 2004 Budget Request $52,154,000.

For the Kentucky Lock Addition on the Tennessee River, KY, $53,400,000 to continue construction of the new highway and bridge work and to begin construction of the upstream cofferdam. Fiscal Year 2004 Budget Request $24,866,000.

For Pre-Construction Engineering and Design for the John T. Myers Locks and Dam, Ohio River, IN/KY, $2,500,000. 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 2004 Budget Request $0.00.

For Pre-Construction Engineering and Design for the Greenup Locks and Dam, Ohio River, OH/KY, $5,800,000. 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 2004 Budget Request $2,895,000.

For the Ohio River Mainstem Study, which will identify a comprehensive investment plan for the next 50 years and also assess system economic and environmental impacts associated with the plan, $1,500,000 in fiscal year 2003. This level of funding is needed to complete a preliminary draft report including a System Investment Plan and Cumulative Effects Assessment. Fiscal Year 2004 Budget Request $1,350,000.

For the Emsworth, Dashields and Montgomery Locks and Dams, Ohio River, PA, $1,500,000. Fiscal Year 2004 Budget Request $0.00.

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 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.

Additionally DINAMO opposes expansion of the authority of the Inland Waterways Trust Fund to finance a portion of Operation and Maintenance expenditures on America's inland navigation system. The Trust Fund's balance and all future revenues are already spoken for. The unspent balance in the Trust Fund and projected fuel tax revenues for the foreseeable future are already committed to the construction or major rehabilitation of Congressionally approved projects, many of which are under construction. All of the current Trust Fund balance and all of the 20-cents-per-gallon fuel taxes paid by transportation users for the next 8 years are needed to complete just six of the priority projects currently under construction. To spend these funds for O&M will ensure that the construction or major rehabilitation of these and other important ongoing and future projects will never be completed or built—unless there is a future tax increase to replenish a bankrupt Trust Fund! The proposal violates the agreements underlying the Water Resources Development Act of 1098, which affirmed continued responsibility for inland waterways Operations and Maintenance in return for waterway users assuming the obligation for financing 50 percent of future construction and major rehabilitation costs. Congress must ensure that the balance and all future Trust Fund revenues are spent on the purposes for which they were collected—to modernize the inland waterway system and ensure its future.

The construction schedules for Ohio River Navigation System projects have slipped from 3 to 6 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 February 2002 study by the Institute for Water Resources concluded that $1.97 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 $672 million of future benefits are at risk but will be foregone (based on fiscal year 2002 schedules) if funding is not provided to accelerate design and construction activities in accordance with "efficient" schedules. In February of this year (2003) the Institute for Water Resources updated this information: because of additional construction schedule slippage, projects have been further delayed and additional benefits have also been washed down the river. (This chart, "Inland Waterway New Construction Projects, Benefits Foregone Attributable to Stretched Project Schedules in Fiscal Year 2003 Budget Request," is attached to this testimony.)

Expenditures for lock and dam modernization are an investment in the physical infrastructure of this Nation. The President's $4.194 billion Corps of Engineers Civil Works Budget for fiscal year 2004 will fall at least $800 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 $4.63 billion for the Corps of Engineers program and more than $250 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

Ground was broken on Olmsted Locks and Dam in 1996. Locks and Dam 52 and 53 will be replaced with this single facility at mile 964.4 of the Ohio River. Olmsted will feature twin 110′ × 1,200′ lock chambers and a submersible dam. During high water conditions, which should occur about 60 percent of each year, tows will pass over the dam using the navigable pass portion. The total cost is approximately $1 billion, with a benefit/cost ratio of 3.5 to 1. The project is scheduled for completion in 2011. Congress appropriated $65 million for construction work in fiscal year 2003.

Olmsted has already slipped its completion date by 5 years, and more than $1.84 billion in transportation benefits have already been washed down the river (non-recoverable) because of construction schedule slippage. The President's Fiscal Year 2004 Civil Works Budget has funded the project on an Efficient Funding Schedule, and the new facility could be operational by 2011 if this level of funding is maintained. This improved construction scenario (when compared to fiscal year 2003 construction schedule projections) could prevent the loss of more than $2.63 billion in transportation benefits.

According to the Corps of Engineers Waterborne Commerce Statistics for 2001, more than 82 million tons of commodities were shipped past the point where Olmsted is being built. These shipments had a combined value of $18.3 billion. The leading commodity shipped past the Olmsted Lock site was coal, which made up 24 percent of the total tonnage. Limestone, iron ore and grains such as corn and soybeans were other significant commodities making up this traffic.

Lower Monongahela River Locks and Dams 2, 3 & 4

Locks and Dams 2, 3 and 4 are the first three navigation projects on the Monongahela River upstream of Pittsburgh. Lock and Dam 2 is located at Monongahela River mile 11.2, Lock and Dam 3 is located at mile 23.8, and Lock and Dam 4 is at mile 41.5. Lock and Dam 2 has a main lock chamber measuring 110′ × 720′ feet and an auxiliary lock that is 56′ × 360′. The other two projects have main lock chambers that are 56′ × 720′ and auxiliary lock chambers that are 56′ × 360′. Lock and Dam 2 was originally built in 1905, with new locks completed in

the early 1950's. Lock and Dam 3 was built in 1907, and Lock and Dam 4 was completed in 1932.

The dam at L/D 2 is being replaced by a gated dam being built using an innovative in-the-wet method of fabricating segments off-site and floating them in place, and the project will be renamed Braddock Locks and Dam. L/D 3 will be removed. Twin 84′ × 720′ locks will be built at L/D 4 (to be renamed Charleroi Locks and Dam). Construction on this two-for-three replacement project began in 1994 and is scheduled for completion in 2010, at a total cost of $750 million. The benefit/cost ratio is 2.1 to 1. In fiscal year 2003, $42 million was appropriated for this work. Continued funding at a rate of $35 million (Fiscal Year 2004 Budget) annually could delay completion an additional 9 years, possibly by 2016 and the loss of more than $267.3 million in transportation benefits.

According to the Corps of Engineers Waterborne Commerce Statistics for 2001, almost 22.2 million tons of commodities moved through any or all of the three locks. Of the 19.1 million tons of coal transiting these locks, over 7.2 million tons were destined for 23 power plants in 7 States. The value of the 22.2 million tons was nearly $1.6 billion. Nearly 10 million tons moved through all three locks.

McAlpine Locks and Dam

McAlpine Locks and Dam is located in downtown Louisville, Kentucky. The dam is at mile 604.4 of the Ohio River and the locks are in the Louisville and Portland Canal on the Kentucky side of the river. The 56′ × 600′ auxiliary lock was completed in 1921 and the 110′ × 1,200′ main chamber was opened in 1961. There is also an inactive 56′ × 360′ lock chamber. In 1960, the project was renamed from Lock and Dam 41 in honor of a former Louisville District Engineer.

Construction began at McAlpine in 1999 on a new 110′ × 1,200′ lock, which will replace the active 110′ × 600′ auxiliary and an inactive auxiliary lock. The project is scheduled for completion in 2008 at a total cost of $278 million, with a benefit/cost ratio of 1.8 to 1. Congress appropriated $21 million for work in fiscal year 2003. McAlpine has already slipped its completion date by 6 years, and over $245 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 2004 (at $70 million) and each future year could delay completion by as much as an additional three years, possibly to 2011. That scenario would wash approximately another $124.86 million in benefits down the river.

According to the Corps of Engineers Waterborne Commerce Statistics for 2001, more than 55 million tons of commodities were shipped through McAlpine Locks. These shipments had a combined value of nearly $11.7 billion. Of the 20 million tons of coal moving through McAlpine in 2001, over 13 million tons went to more than 30 power plants in 8 States. McAlpine Locks was important to the steel industry, as it passed 5.5 million tons of iron ore, pig iron and other raw iron and 2.5 million tons of iron and steel products.

Marmet Lock and Dam

Marmet Locks and Dam is located at mile 67.7 of the Kanawha River. The locks were opened in 1933 and the dam was completed in 1934. The two lock chambers measure 360′ × 56′. Located about 9 miles upstream of Charleston West Virginia, the project is approximately 27 miles from the head of navigation.

An improvement to Marmet Locks was authorized in 1996. The proposed project is a new 800′ × 110′ lock chamber to go with the existing pair of 360′ × 54′ chambers. Property acquisition and design work continue and construction is underway. The total cost of the project is $313 million, and Congress appropriated $50 million for work in fiscal year 2003. The benefit/cost ratio is 2.9 to 1. Average annual benefits of this new project are about $55.9 million a year. Marmet has already slipped completion date by 3 years, and over $117 million in transportation benefits have been washed down the river (non-recoverable) because of construction schedule slippage.

According to the Corps of Engineers Waterborne Commerce Statistics for 2001, just over 17 million tons of commodities were shipped through Marmet Locks. These shipments had a combined value of $802 million. Of the 16.1 million tons of coal moving through Marmet, 11.5 million tons were destined for 30 power plants in 7 States, and another 1.5 million tons went to steel plants.

Kentucky Locks and Dam

Kentucky and Barkley Locks work as a system for passing barge traffic even though they are located on different rivers. Kentucky Lock and Dam is located on the Tennessee River 22.4 miles upstream of the junction with the Ohio River. Barkley Lock and Dam is located on the Cumberland River 30.6 miles upstream of the

Ohio. The two rivers are connected by the Barkley Canal, which intersects the Tennessee River at mile 25.3 and the Cumberland River at mile 32.8. Kentucky's lock chamber is 110′ × 600′ and has been in operation since 1944. Barkley was completed in 1966 and has a 110′ × 800′ lock chamber.

Ground was broken in October of 1999 on a new 110′ × 1,200′ lock at Kentucky Lock. Completion is scheduled for 2010; the total cost will be approximately $533 million, with a benefit/cost ratio of 2.4 to 1. The existing 110′ × 600′ lock will continue to be used as an auxiliary. Kentucky Lock and Dam's current single lock chamber is insufficient to handle increasing tonnage. The lack of an auxiliary chamber forces tows to use Barkley Lock during periods of extended delays and closures. When Kentucky Lock is at 90 percent capacity, tows face average delays of 5 to 6 hours. $30 million was appropriated for work on Kentucky Lock's new chamber in fiscal year 2003. Kentucky Lock has already slipped completion date by 2 years, and over $74 million in transportation benefits have been washed down the river (nonrecoverable) because of construction schedule slippage. The President's fiscal year 2004 Civil Works Budget ($25 million) will delay completion of the project by as much as 10 years and approximately $551 million in transportation benefits will be washed down the river.

In conclusion, Mr. Chairman, we thank you for your interest and support of lock and dam modernization on the Ohio River Navigation System. It was that the rivers played a tremendous role in the defense of our Nation. Today our Nation's security is more and more determined by our economic muscle, our ability to compete for more and news customers in different parts of the world. These locks and dams are at the core of our basic infrastructure that enables Americans to compete globally for its basic manufacturing products—iron and steel, chemicals, petroleum products, aluminum, etc. We urge your support of efficient funding of these vitally needed projects that last fifty or more years and provide many dollars in return for the investment sunk.

We thank you for the opportunity to present this request and our thoughts on these matters.

TABLE 1.—INLAND WATERWAY NEW CONSTRUCTION PROJECTS—BENEFITS FOREGONE ATTRIBUTABLE TO STRETCHED PROJECT SCHEDULES IN FISCAL YEAR 2003 BUDGET REQUEST

Project	Initial Optimum Schedule		Current Optimum Schedule		Fiscal Year 2003 Budget Schedule		Average Annual Benefits [1]	Schedule Change in Years vs PDR	Est. Benefits Foregone vs Initial Opt [2]	Schedule Change in Years vs Current Opt	Est. Benefits Foregone vs Current Opt	Est. Benefits Foregone Not Recoverable	Est. Inflation @ 2.7%
	($ million)	Compl	($ million)	Compl	($ million)	Compl	($ million)		($ million)		($ million)	($ million)	($ million)
Lower Mon 2–4	$645.0	2004	$750.0	2009	$750.0	2010	$29.17	6	$134.62	1	$19.24	$115.38	$1.27
London Rehab	18.7	2003	22.2	2003	22.2	2004	1.34	1	1.26	1	1.26	.....	0.32
Marmet	268.0	2007	313.0	2009	313.0	2010	55.90	3	117.53	1	36.87	80.66	0.04
Olmsted	1,020.0	2006	1,060.0	2010	1,052.0	2011	526.25	5	1,848.55	1	327.11	1,521.44	0.31
McAlpine	255.0	2002	278.0	2007	278.0	2008	41.62	6	245.36	1	29.12	216.24	1.06
Winfield [3]	221.6	2002	227.5	2002	235.5	2003	56.11	1	.....	1	.....	.....	0.13
R.C. Byrd [3]	373.0	1999	373.0	2002	379.0	2003	161.20	4	.....	1	.....	.....	0.08
Kentucky Lock	481.5	2008	533.0	2009	533.0	2010	55.10	2	74.91	1	36.34	38.57	0.03
Inner Harbor [4]	575.0	2009	576.4	2012	576.4	2014	109.70	5	322.37	2	117.58	204.78	3.75
Greenup [5]	245.0	2008	240.7	2009	245.0	2020	26.50	12	163.92	11	163.92	.....	81.96
Myers [5]	182.1	2008	225.0	2010	182.1	2020	8.60	12	53.20	10	53.20	.....	68.69
Chickamauga [6]	239.4	2010	239.4	2010	239.4	2015	1.96	5	5.43	.....	5.43	.....	34.11
TOTAL	.....	.....	.....	.....	.....	.....	.....	57	2,967.14	31	790.07	2,177.07	157.66
Fiscal Year 2002 Analysis	.....	.....	.....	.....	.....	.....	.....	29	2,621.82	35	1,149.35	1,472.48	172.95
Change from 2002	.....	.....	.....	.....	.....	.....	.....	.....	345.32	.....	(359.28)	704.59	(15.29)

[1] Average Annual Benefits based on Fiscal Year 2002 Budget Justification of Expense, February 2002.
[2] Benefits foregone estimated from net present value of benefits in each year of delay, based on 50–year project life, and adjusted to fiscal year 2002 base year. Discount rate adjusted to 6.125 percent.
[3] Locks are completed, dam construction remains.
[4] Inner Harbor "Initial Optimum" reflects Fiscal Year 2000 Optimum Schedule.
[5] Greenup and Myers "Initial Optimum" reflects Fiscal Year 2002 Optimum Schedule.
[6] Chickamauga not included in previous fiscal year 2002 analysis.

PREPARED STATEMENT OF THE ASSOCIATION OF STATE DAM SAFETY OFFICIALS

Dear Chairman Domenici and Members of the Subcommittee: The Association of State Dam Safety Officials is pleased to offer this testimony on the President's proposed budget for the U.S. Army Corps of Engineers (USACOE) Fiscal Year 2004. The Association's testimony includes issues related to the safety and security of the dams owned or operated by the USACOE and in support of the National Inventory of Dams (NID) authorized by the Dam Safety and Security Act of 2002.

The Association of State Dam Safety Officials is a national non-profit organization of more than 2,000 State, Federal and local dam safety professionals and private sector individuals dedicated to improving dam safety through research, education and communications. Our goal simply is to save lives, prevent damage to property and to maintain the benefits of dams by preventing dam failures. Several dramatic dam failures in the United States called attention to the catastrophic consequences of failures. The failure of the federally-owned Teton Dam in 1976 caused 14 deaths and over $1 billion in damages, and is a constant reminder of the potential consequences associated with dams and the obligations to assure that dams are properly constructed, operated and maintained.

NATIONAL INVENTORY OF DAMS

The National Inventory of Dams is a computer database, maintained by the USACOE, that houses vital information of Federal and non-Federal dams across the United States. The database tracks information about the dam's location, size, use, type, proximity to nearest town, hazard classification, age, height and many other technical data fields. The database can be used for States or Federal agencies to access comprehensive information for planning, security alerts or to use within a Graphic Information System (GIS) vital in tracking lifeline systems and responding to emergency events through using the geographic and mapping abilities along with the engineering information within the NID database.

The NID can be used by policy makers as a tool when evaluating national or local dam safety issues. For example, it is extremely useful in establishing the average age of the dams in the United States, or identifying the number and location of a particular type of dam construction (i.e. the number and location of "thin arch" dams greater than 100 feet in height). In addition, the Federal Emergency Agency uses the State dam data to establish the amount of State grant assistance funds, in accordance with the National Dam Safety Program. It is essential that this inventory be accurate and current.

There are over 78,000 dams on the National Inventory of Dams in the country. To have access to this critical data when needed and to be able to track trends in assessing dam safety improvements, it is essential that this data be current and accurate. The NID can meet this need, but it is only as accurate as the last update. The database must be continually updated, the dam information is constantly changing (i.e. new ownership, major repairs, removal of dams, increasing the height and storage, additional downstream development or changes to the dam's hazard classification). This data is now even more important as the intelligence community and Federal law enforcement have identified dams as a specific target of potential terrorists attacks. The data can also be of tremendous benefit to Federal agencies such as FEMA, NWS, USGS and the new Department of Homeland Security for locating large dams, for watershed planning, flood control planning or emergency response to failures or extreme storm events.

The USACOE has done an excellent job in developing and maintaining the NID. Continuing updates and improvements to this database resource should be a high priority. Federal agencies that own dams as well as State dam safety programs provide updated information and corrections to the data fields, which provides for accurate and current data.

The Association respectfully requests that the subcommittee recognize the importance of this national dam database and increase the appropriation amount from the proposed funding level in the President's budget of $300,000 to the full authorized funding amount of $500,000.

DAM SAFETY, SECURITY, AND OPERATION AND MAINTENANCE

The USACOE is recognized as a national leader in dam construction and dam safety. The USACOE currently owns or operates 609 dams in the United States, and these dams, like other critical components of the national infrastructure are aging and the require vigilant inspection as well as routine maintenance. In addition, the security of our Nation's infrastructure is a major concern. Dams, especially the large Federally-owned dams are a potential target for terrorists attacks.

The USACOE dams are typically very large, provide flood protection, water supply, hydropower, recreation and many are critical to the waterway navigation on the Nation's major rivers. The consequences of a failure or misoperation of one of these dams can cause enormous loss of life and property damage, as well as the loss of the benefits provided by the dam. Therefore, the Association strongly supports appropriations necessary to make needed repairs, to conduct security assessments and improvements wherever necessary. The Association believes that operation and maintenance are critical to the continued safe performance of the dams. Too often deferred maintenance causes a small problem to become larger and more costly; and if left unattended, may cause the dam to become more susceptible to failure.

The Association respectfully asks that the subcommittee recognize that inspections, safety repairs, security and routine maintenance are all essential to assure the safety and the continuing benefits of USACOE dams.

The Association specifically requests:

—Increase in appropriations for the USACOE Dam Safety Program non-project management funds to $250,000 from the proposed $45,000;

—Increase in appropriations for the USACOE Dam Security Program non-project management funds to $250,000 from the proposed $30,000 to include assistance to the State dam safety programs in conducting security vulnerability assessments and for training in the dam security assessment tools such as RAM–D;

—Increase in the USACOE "Planning Assistance to States Program" Line A.1e.(1) from $6,000,000 to $10,000,000 to provide much needed assistance to the States to cost-share dambreak modeling, developing emergency evacuation plans and to jointly conduct security vulnerability assessments;

—Appropriations of $40,000,000 for needed dam safety repairs to the Canton Dam in Oklahoma, the Tuttle Creek Dam in Kansas, the Clearwater Dam in Missouri and to complete the safety repairs to the Waterbury Dam in Vermont.

Finally, while the security of the USACOE dams is currently a major priority, the continued safety, repair and maintenance of the USCOE dams should not be diminished. Improved security on an unsafe dam may deter an attack, but it still leaves the lives and property downstream at an unnecessary risk. The Association also respectfully requests that the fiscal year 2004 funding for Line B.6 Dam Safety and Seepage/Stability Correction Program be increased to $15,000,000 from the proposed $8,000,000; and that the Operation and Maintenance budget be increased from the proposed $1,939,000,000 to $2,000,000,000 for fiscal year 2004 with the additional funds dedicated to dam safety efforts not currently funded in the budget.

Mr. Chairman and members of the Subcommittee, thank you for this opportunity to provide this testimony in support of safe dams. We look forward to working with the Subcommittee and staff on this important national issue.

PREPARED STATEMENT OF VOLUSIA COUNTY, FLORIDA

On behalf of our citizens and fishermen, Volusia County, Florida requests that the Energy & Water Subcommittee appropriate:

—$3,000,000 in fiscal year 2004 to the U.S. Army Corps of Engineers' (Corps) Construction account to fund a 1,000 foot seaward extension of the South Jetty of the Ponce DeLeon Inlet. The Committee provided $1 million for construction of this project in fiscal year 2003. The South Jetty seaward extension is essential for safe inlet navigation and protection of the Inlet channel and the North Jetty landward extension funded in fiscal years 1999, 2000, and 2002.

—$3,000,000 in fiscal year 2004 to the Corps' Operations and Maintenance account to fund the removal of 300,000 cubic yards of sand from the North Cut of the Ponce DeLeon Inlet to provide for safe navigation until the South Jetty construction is complete.

A more detailed case history and description of the situation and projects follow below.

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 Indian Rivers and the Atlantic Intra-coastal Waterway (AICW). Ponce DeLeon Inlet provides the sole ocean access to all of Volusia County and is the only stabilized inlet on the east coast of Florida between St. Augustine and Cape Canaveral, a distance of 112 miles. 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, U.S. Coast Guard Lifeboat

Station Ponce is located immediately inside Ponce de Leon Inlet and provides navigation safety and security for boaters, fisherman, divers and sailors from the entire east central Florida region.

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. One hundred forty-seven 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 schoaling 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 Corps 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 Corps' last maintenance was dredging, completed on the entrance channel in January 1990.

In fiscal year 1998, the Corps 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 Corps 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 was completed in July 2002 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 Corps 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 Corps received $46,000 in their Operations and Maintenance account for standard maintenance of the Ponce DeLeon Inlet.

In fiscal year 2002, Congress appropriated $2.032 million to the Corps' Operations and Maintenance account for completion of the North Jetty construction. The Corps completed construction of this project in July 2002.

In fiscal year 2003, Congress provided $1 million in the Corps' Construction account for commencement of the South Jetty oceanward extension, as authorized by WRDA 1999.

For fiscal year 2004, Volusia County requests that the Corps receive $3 million for the balance of the Federal share of construction funds for the South Jetty oceanward extension. The Corps 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. Full funding of the 1,000 foot oceanward extension of the South Jetty is the next critical step toward providing safe passage for the commercial and recreational boaters in Volusia County.

State agencies, including the Florida Inland Navigation District and the Florida Department of Environmental Protection agree and therefore 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 construction funding for the jetty projects to protect the Ponce DeLeon Inlet, the County also requests $3,000,000 be appropriated in the Corps' Operations and Maintenance account, for the Corps to remove 300,000 cubic yards of sand from the North Cut of the Ponce DeLeon Inlet. As discussed above, the North Jetty construction was completed in July 2002 and the South Jetty construction will begin this year. Maintenance dredging is needed until both jetties are constructed.

Until both the North and South Jetty projects are operational, sand continues to shoal in the navigation channels of the Ponce DeLeon Inlet. The shoaling creates unsafe navigation conditions, thereby impeding commercial and recreational traffic. Removing 300,000 cubic feet of sand from the North Cut of the Inlet will greatly improve safe navigation. Finally, this effort is supported locally, as evidenced by the County's grant of $395,000 to the Corps for emergency dredging of the North Cut in fiscal year 2003.

Thank you for your consideration of this request.

PREPARED STATEMENT OF THE SEMINOLE TRIBE OF FLORIDA

The Seminole Tribe of Florida is pleased to submit this statement regarding the fiscal year 2004 budget for the Army Corps of Engineers (Corps). The Tribe asks that Congress provide $14,835,000 in the Corps' 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 Corps 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 nearly complete.

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. 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, the 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, Seminoles learned how to use the natural system for support without harm to the environment that sustained them. For example, the 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, Tribal elders provided guidance. Tribal elders directed the Tribe's leadership to look to the land, for when the land was ill, the Tribe would soon be ill as well. When looking at the land, the leadership saw the Everglades in decline and recognized that the Tribe had to help mitigate the impacts of man on this natural system. At the same time, tribal members ac-

knowledged that this land must sustain the Tribe and its culture. The clear message from the Tribal elders and the land called for a way of life to preserve the land and the Tribe. Tribal members must be able to work and sustain themselves. Tribal leadership needs to protect the land and the animals, while also protecting Tribal farmers and ranchers.

Recognizing the needs of the land and the people, the Tribe, along with its 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 effecting 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 that reflects the need to live off of the land while minimizing impacts on the Everglades. The Seminole Tribe is committed to improving the water quality and flows on the Big Cypress Reservation. The Tribe already has committed significant resources to the design and construction of this project and to its water quality data collection and monitoring system. The Tribe is willing to continue its efforts and to commit more resources, for its cultural survival is at stake.

SEMINOLE TRIBE'S BIG CYPRESS CRITICAL PROJECT

The Tribe has developed a water conservation plan that will improve water quality essential to the cleanup of the Everglades ecosystem and to plan for the storage and conveyance of Tribal 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 targets for low phosphorus concentrations, 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 Preserve, 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 6 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.

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 a 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 the entire 7-mile long project, to complete all necessary geotechnical work, and to begin the preparation of construction drawings for the initial phases of construction.

The Murrieta Creek Flood Control Project is being designed and will be constructed in four distinct phases. Phases 1 and 2 include channel improvements through the city of Temecula. Phase 3 involves the construction of a 240-acre detention basin, including the 160-acre restoration site and over 50 acres of recreational facilities. Phase 4 of the project will include channel improvements through the city of Murrieta. 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 Omnibus Appropriations Bill for fiscal year 2003 provides $1 million for a new construction start for this critical public safety project. Construction activities on Phase 1 of the project will commence in the Fall of 2003. The appropriation also allows the Corps to complete its engineering design work for Phase 2 of the project. Phase 2 traverses the area of Temecula hardest hit with damages from the severe flooding of 1993. The Corps anticipates having a Phase 2 construction contract ready to award in the Summer of 2004. The District therefore respectfully requests the Committee's support of a $4 million appropriation in fiscal year 2004 so that the Corps may complete construction on Phase 1, and initiate construction on Phase 2 of the long 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. Seven Oaks Dam was turned over to the Local Sponsors for operation and maintenance on October 1, 2002.

For fiscal year 2004, an appropriation of $5.7 million is necessary to initiate construction activities on several features within "Reach 9" of the Santa Ana River immediately 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 $500,000 of the total $5.7 million appropriation requested for Reach 9 would fund environmental mitigation measures necessitated by the Corps' construction activities.

The completion of landscaping activities on Reaches 5, 6 and 8 of the Santa Ana River Channel in Orange County would require a $5 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 an fiscal year 2004 appropriation of $5 million. This dredging work is necessary before project turnover to the Local Sponsors for operation and maintenance.

Construction activities on the last remaining phase of San Timoteo Creek Channel, a Mainstem feature located within San Bernardino County, would be completed given a final $15 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. All of the engineering work necessary to redesign the dam is now complete. In fiscal year 2003, the Corps was able to award a construction contract to begin modifications to the dam embankment and outlet works.

An fiscal year 2004 appropriation of $37.164 million would allow the Corps to continue with the construction of improvements to 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 $67,864,000 appropriation of Federal funding for fiscal year 2004 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 3 year, $5.5 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. The $1 million appropriation received for fiscal year 2003 allowed the Corps to complete their wetlands delineation effort.

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 2004 for the Corps to continue its work on the Special Area Management Plans for the San Jacinto and Santa Margarita River Watersheds.

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 2004 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 $32,000,000 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.

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 systems. Approximately 93.4 miles of tunnels, constructed at a total cost of $2.0 billion, are operational. Another 8.1 miles of tunnels, costing $141 million, are substantially complete and the final 7.9 miles of tunnels, costing $168 million, are under construction. The tunnels capture the majority of the pollution load by capturing all of the small storms and the first flush of the large storms. The completed O'Hare CUP Reservoir provides 350 million gallons of storage. This Reservoir has a service area of 11.2 square miles and provides flood relief to 21,535 homes in Arlington Heights, Des Plaines and Mount Prospect. In its first 5 years of operation, O'Hare CUP Reservoir has yielded $57.4 million in flood damage reduction benefits, which exceeds its $44.5 million construction costs. The Thornton and McCook Reservoirs are currently under construction, but until they are completed significant areas will 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, 734 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 18 billion gallons and will provide annual benefits of $115 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 $14,000,000 in construction funds for the McCook and Thornton Reservoirs included in the Omnibus Appropriations bill for fiscal year 2003. However, it is important that we receive a total of $32,000,000 in construction funds in fiscal year 2004 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 grout curtain, distribution tunnels, and pumps and motors and 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 4 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 6 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 1,443,000 structures 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 $32,000,000 in construction funds be made available in the fiscal year 2004 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.

PREPARED STATEMENT OF THE CALAVERAS COUNTY WATER DISTRICT

SACRAMENTO AND SAN JOAQUIN COMPREHENSIVE BASIN STUDY

CALAVERAS COUNTY CONJUNCTIVE USE AND GROUNDWATER FEASIBILITY STUDY

Calaveras County Water District

Calaveras County (County) is located in the central Sierra Nevada foothills about 25 miles east of the Sacramento-San Joaquin Delta (Delta). Ground elevations within the County increase from 200 feet above mean sea level near the northwest part of the County to 8,170 feet near Alpine County. It is a predominately rural county with a relatively sparse population and agricultural and industrial development. Calaveras County is located within the watersheds of the Mokelumne, Calaveras, and Stanislaus Rivers. All these rivers flow west, through San Joaquin County into the Delta. Most of the County is underlain by the igneous and metamorphic rocks of the Sierra Nevada. Alluvial deposits of the Central Valley, which overlie the westward plunging Sierra Nevada, are present along an 80 square-mile area located along the western edge of the county and are part of the Eastern San Joaquin County Groundwater Basin (ESJCGB). This requested conjunctive use and groundwater feasibility study under the authority of the Corps of Engineers' Sacramento and San Joaquin Comprehensive Basin Study will be focused on the western part of Calaveras County.

In the fall of 1946, the Calaveras County Water District (CCWD) was organized under the laws of the State of California as a public agency for the purpose of developing and administering the water resources in Calaveras County. Therefore, CCWD is a political subdivision of the State of California and is governed by the California Constitution and the California Government and Water Codes. CCWD is not a part of or under the control of the County of Calaveras. CCWD was formed to preserve and develop water resources and to provide water and sewer service to the citizens of Calaveras County.

Under State law, CCWD, through its Board of Directors, has general powers over the use of water within its boundaries. These powers include but are not limited to: the right of eminent domain, authority to acquire, control, distribute, store, spread, sink, treat, purify, reclaim, process and salvage any water for beneficial use, to provide sewer service, to sell treated or untreated water, to acquire or construct hydroelectric facilities and sell the power and energy produced to public agencies or public utilities engaged in the distribution of power, to contract with the United

States, other political subdivisions, public utilities, or other persons, and subject to the California State Constitution, levy taxes and improvements.

Project Need

The Calaveras County Conjunctive Use and Groundwater Feasibility Study is needed to address future increasing water demands, provide water supply reliability in extended droughts, and help mitigate groundwater overdraft conditions in the ESJCGB.

The Calaveras County 1990 population totaled 32,000 people. By 2040, the County population is estimated to be between 100,000 and 150,000 (Source: Calaveras River Conjunctive Use Feasibility Study and Pilot Program Report prepared by Bookman-Edmonston, June 2001). The historic sparse population base has not required use of all the District's water supplies. The rate base also could not support construction of facilities needed to fully develop all the water resources available to the District. The county is now experiencing rapid growth, requiring the District to develop its remaining water supplies to meet the increasing demand.

Multi-year droughts can threaten the District's ability to meet water demands in the County. For example, the District's Jenny Lind Water Treatment Plant is located on the Calaveras River a few miles downstream of New Hogan Reservoir and during extended droughts, reduced inflows into New Hogan increase the chance that there may not be enough water to meet the current water demands. With increasing water demands projected in the future, the water shortages will continue in dry years and may become prevalent in normal and wet years.

The study area comprises the northeast portion of the ESJCGB as defined by the California Department of Water Resources (DWR). The ESJCGB is considered in an overdraft condition, and the western edge of the basin is subject to saline intrusion from the Delta. The California Department of Water Resources water level data for wells near the Calaveras-San Joaquin County line, have recorded water level declines ranging from 0.6 to 1.5 feet per year over the last 40 years. Without programs to mitigate the groundwater overdraft, groundwater levels will continue to decline in the groundwater basin.

Project Benefit

The Calaveras County Conjunctive Use and Groundwater Feasibility Study would be developed to identify and maximize the use of the District's surface water resources on the Mokelumne, Calaveras and Stanislaus Rivers in conjunction with the groundwater supply to improve supply reliability. The District currently does not use all of its available surface water from the rivers flowing through the County. The study would allow the District to investigate the use of more of its entitlement in wet years by recharging the groundwater basin with water the District is currently not using. The storage and transmission capacity of the groundwater basin would be used to store the banked surface water until it is needed. This water could then be used during an extended drought to supplement reduced surface water supplies to provide drinking water supplies to the area.

Maintaining supplies in District reservoirs, especially during dry years, provides benefit to the District and other river water users like the Stockton East Water District located in San Joaquin County. Developing local/Federal studies and programs like the Calaveras County Conjunctive Use and Groundwater Feasibility Study provides local and regional benefits. It also provides additional statewide benefits by contributing to the CALFED solution of meeting local water needs. By meeting their own water needs, local areas are not dependent upon the State to develop water supplies for them. This is consistent with the goals of the CALFED Integrated Storage Investigation (ISI).

Because of the overdraft of the ESJCGB, coupled with extended drought periods, reduced inflows increase the chance that there may not be enough water to meet current demands. Developing local/Federal studies like the Calaveras County Conjunctive Use and Groundwater Feasibility Study provides critical local and regional benefits allowing these areas to meet their own needs better.

The District, therefore, respectfully requests the Committee's support of $1,000,000 in appropriations in fiscal year 2004 within the Corps of Engineers' Program under the authority of the Sacramento and San Joaquin Comprehensive Basin Study, so that the Corps may initiate a feasibility study with regard to Calaveras County Conjunctive Use and Groundwater.

MOKELUMNE RIVER, CALAVERAS RIVER, AND STANISLAUS RIVER WATERSHEDS STUDY

Project Need

The Watershed Management Study Calaveras County Water District (CCWD) is seeking under the Corps of Engineers' program, within the Sacramento and San

Joaquin Comprehensive Basin Study authority, includes the Mokelumne River, Calaveras River and Stanislaus River Watersheds. It proceeds from the basic assumption that water resources management is most efficiently and effectively conducted on a watershed level.

Calaveras County is located in the central Sierra Nevada foothills. CCWD is responsible for developing and administering the water resources of Calaveras County. Historically, a significant portion of the water needs of Calaveras County have been met mostly with surface water from the Mokelumne, Calaveras or Stanislaus Rivers.

Groundwater was only used to meet demands in local areas. This proposed study area, which is part of the Eastern San Joaquin County Groundwater Basin (ESJCGB), has been identified by the State of California as being in a state of overdraft.

In an effort to gain a better understanding of the condition of the water sources and the surrounding environment, this watershed management approach is being requested. Some of the objectives of such a study may include:

—To restore, protect, and enhance water quality and associated aquatic resources and water supplies;

—To conserve, protect, and restore the natural resources of the Mokelumne, Calaveras and Stanislaus Rivers Watersheds (land, water, forest, and wildlife);

—To minimize the threat to life and the destruction of property and natural resources from flooding and to preserve (or re-establish) natural hydrologic functions;

—To restore, protect, develop, and enhance the ecological, historic, cultural, recreational, and visual amenities of rural and urban areas within the watersheds and particularly along stream corridors.

The terrain of the watershed varies from mild elevations and meadows in the western rolling foothills to more rugged mountains and wilderness in the eastern high Sierra region. Tourism and recreation, forest products, mineral resources, and agricultural products are significant elements of the area's economic base. As a result, a variety of land uses are found within the watersheds, including residential, forested, industrial, agricultural, and recreational. Residential land uses in Calaveras County are primarily rural residential, with the unincorporated community of San Andreas being the largest urban area within the watershed area. The California State Department of Finance (CSDF) estimates the 2000 population of Calaveras County to be about 38,500 persons.

While CCWD has been pursuing watershed management study efforts since 2000 in partnership with adjoining counties for more focused watershed management efforts, specifically in the Calaveras River Watershed, a comprehensive management study coupling all of the three watersheds (Mokelumne, Calaveras and Stanislaus Rivers), which fall within the jurisdiction of CCWD is critical to better plan for both water quantity and quality issues, and the environmental and natural resources issues facing the watershed.

The CCWD has not only been a principle partner in watershed management throughout the development of the more focused local watershed planning studies, but has been concerned about watershed issues since its very beginning as a water supply provider. CCWD believes that a healthy watershed, including healthy ecosystems and wildlife populations, makes the provision of clean drinking water easier for water districts.

Because of the need for a comprehensive watershed management program given the diversity of water supply, quality, environmental, natural resources and the region's economic base, which is dependent on its natural resources, we believe such an effort is warranted.

The District, therefore, respectfully requests the Committee's support of $500,000 in appropriations in fiscal year 2004 under the Corps of Engineer's program, within the authority of the Sacramento and San Joaquin Comprehensive Study, so that the Corps may initiate a feasibility study of the Mokelumne, Calaveras and the Stanislaus Rivers Watersheds within the service area of the CCWD.

PREPARED STATEMENT OF THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

NAPA RIVER FLOOD CONTROL PROJECT—BACKGROUND

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. In December of 2002, flooding occurred from the Napa Creek at the transition to the Napa River, resulting in damage to numerous residents and several businesses.

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. 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. 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. 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.

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). Construction of the project began 2 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. 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 dollars 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 4 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 2003 Funding

The 2003 appropriations bill included $9,000,000 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 Valley Wine Train rail line for an approximate 3 mile distance, as well as relocation of the facilities serving this public utility, removal of 190,000 cubic yards of soil which was contaminated by petroleum products,, construction of marsh and flood plain terraces for an approximate 1.5 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. The local sponsor has expended $90 million plus as compared to Federal sponsor expenditures to date of approximately $20 million.

Necessary Fiscal Year 2004 Funding

Funding for the Napa River Project during 2004 in the amount of $24,000,000 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 for additional 2 miles involving removal of an additional 200,000 cubic yards of contaminated soil;
—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, 2003 the non-Federal sponsor will have expended $150 million.

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 200 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.

In order to address issues such as encroachment of the river and loss of wetlands and to develop local tools for improving natural resource management, the U.S. Army Corps of Engineers, San Francisco District (Corps) and the Napa County Flood Control and Water Conservation District (NCFCWCD) is currently developing a Napa Valley Watershed Management Plan (WMP) which identifies 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 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 goal is 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. 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.

The Corps and the NCFCWCD 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.

In an effort to identify problems and opportunities for implementing beneficial restoration in the Napa Valley Watershed, the Napa County Flood Control District is requesting 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 to examine 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 unincorporated areas of Napa County.

PROJECT SYNOPSIS

Fiscal Year 2003 Budget Funding

The fiscal year 2003 appropriations bill included $150,000 to continue the Napa Valley Watershed Management Study. Funds are being used for data evaluation and outreach and to create a data monitoring framework for the watershed. This framework, known as the Watershed Information Center (WIC), will serve as a coordinating body and data-monitoring framework for the watershed. The WIC will serve as a library for existing biological and physical data on the watershed. It can serve as a forum for the multiple agencies, academic researcher and non-profit organizations engaged in monitoring in the watershed.

Necessary Fiscal Year 2004 Funding

Funding for the Napa Valley Watershed Management Study during fiscal year 2004 in the amount of $350,000 is needed to complete an aerial photography/mapping project of the watershed area and complete the Watershed Information Center. The mapping project was started in fiscal year 2002 and in the current fiscal year has been supplemented with LIDAR topography measurements provided by the State Regional Water Quality Control Board. This mapping provides a Geographical Information System (GIS) base for the management information of the watershed. The WIC also was started in fiscal year 2002 and the current request will complete creation of this data system. Both of these activities are cornerstone components of the Napa Valley Watershed Management Study.

PREPARED STATEMENT OF THE CITY OF ST. HELENA, CALIFORNIA

The City of St. Helena is located in the center of the wine growing Napa Valley, 65 miles north of San Francisco. The area was settled in 1834 as part of General Vallejo's land grant. The City of St. Helena was incorporated as a City on March 24, 1876 and reincorporated on May 14, 1889.

The City from its inception has served as a rural agricultural center. Over the years, with the growth and development of the wine industry, the City has become an important business and banking center for the wine industry. The City also receives many tourists as a result of the wine industry. While, the main goal of the City is to maintain a small-town atmosphere and to provide quality services to its citizens, this is becoming increasingly difficult. Regulatory, administrative and resource requirements placed on the City through the listing of threatened and endangered species under the Endangered Species Act on the Napa River, as well as significant Clean Water Act requirements require the City with a small population base to face significant financial costs.

The City of St. Helena is a General Law City and operates under the Council-City Manager form of government. The City Council is the governing body and has the power to make and enforce all laws and set policy related to municipal affairs. The official population of the City of St. Helena as of January 1, 2002 is 6,019. St. Helena is a full service City and encompasses an area of 4 square miles. Because of its size and its rural nature, St. Helena has serious infrastructure, as well as, flood protection and environmental needs that far exceed its financial capabilities.

The Napa River flows along the north boundary of the City of St. Helena in northern Napa County. The overall Napa River Watershed historically supported a dense riparian forest and significant wetland habitat. Over the last 200 years, approximately 6,500 acres of valley floor wetlands have been filled in and 45,700 acres of overall watershed have been converted to urban and agricultural uses. This degradation of natural habitats has had a significant effect on water quality, vegetation and wildlife, and aquatic resources within the Napa River Watershed.

Surface water quality of the Napa River is dependent upon the time of year, runoff from York and Sulphur Creeks, and urban area discharges. During the winter months when streamflow is high, pollutants are diluted; however, sedimentation and turbidity is high as well. During the summer months when streamflow is low, pollutants are concentrated and oxygen levels are low, thereby decreasing water quality. Agricultural runoff adds pesticides, fertilizer residue, and sometimes sediment. Discharges from urban areas can include contaminated stormwater runoff and treated city wastewater. The Napa River has been placed on the Clean Water Act 303(d) List and TMDL Priority Schedule due to unacceptable levels of bacteria, sedimentation, and nutrients. It is against this backdrop that the City of St. Helena faces its biggest challenges.

ST. HELENA NAPA RIVER RESTORATION PROJECT

The Napa River and its riparian corridor are considered Critical Habitat for Steelhead and Salmon Recovery. The Steelhead is one of 6 Federally listed threatened and endangered species within the Napa River and its adjoining corridor which requires attention. Current conditions are such that natural habitats and geomorphic processes of the Napa River are highly confined with sediment transport and geomorphic work occurring in a limited area of the streambed and channel banks. Napa River's habitat for the steelhead is limited in its ability to provide prime spawning habitat. Limitations include: (1) urbanization removing significant amounts of shading and cover vegetation within and adjacent to the river; and (2) a detrimental lack of pool habitat. Encroachment and channelization of Napa River have degraded riparian habitat for rearing, resident, and migratory fish and wildlife. The lack of riparian cover, increasing water temperature and sedimentation in the river, has resulted in poor water quality. These changes have reduced the project area's ability to support the re-establishment of listed species.

In an effort to address these Federal environmental issues, the St. Helena Napa River Restoration Project, a Section 206 Aquatic Ecosystem Restoration Project, was identified in the Napa Valley Watershed Management Feasibility Study in April of 2001 as a specific opportunity for restoration. The project would restore approximately 3 miles (20 acres) of riparian habitat and improve the migratory capacity of Federally listed threatened and endangered species, providing greater access to rearing, resident and migratory habitats in the 80 square mile watershed above the project area.

The project will interface with and complement the City of St. Helena's multiple objective flood project, the St. Helena Flood Protection and Flood Corridor Restoration Project, which will provide flood damage reduction through restoration and re-establishment of the natural floodplain along the project reach, setting back levees and the re-creation and restoration of a natural floodway providing high value riparian forest.

This Section 206 project is necessary to ensure and improve the viability of Federal and State listed species by providing rearing, resident and migratory habitat in the project 3 mile stream corridor. The project will also work to improve area habitat to benefit the migration of steelhead to high value fisheries habitat in upper watershed channel reaches. In an effort to build on recent geomorphic and riparian studies on the Napa River, the Corps will use these efforts from Swanson Hydrology and Geomorphology and Stillwater Science to secure baseline information for this project.

The City of St. Helena respectfully requests the Committee's support for $360,000 for completing the Detailed Project Report and initiating plans and specifications for the St. Helena Napa River Restoration Project under the Corps' Section 206 Aquatic Ecosystem Restoration Program.

YORK CREEK DAM REMOVAL AND RESTORATION PROJECT

York Creek originates from the Coast Range on the western side of the Napa Valley Watershed at an elevation of approximately 1,800 feet and flows through a narrow canyon before joining the Napa River northeast of St. Helena. York Creek Dam on York Creek has been identified as a significant obstacle to passage for Federally listed Steelhead in the Central California Coast. In fact, it has been determined that York Creek Dam is a complete barrier to upstream fish migration. In addition, since the City of St. Helena has owned York Creek Dam, there has been a number of silt discharges from the dam into York Creek that have caused fish kills.

Under the Corps of Engineers' Section 206 Authority, a study is underway to remove the dam structure and to restore the creek in an effort to improve fish passage and ecological stream function for this Napa River tributary. Alternatives to be investigated and pursued include complete removal of York Creek Dam, appurtenances and accumulated sediment, re-grading and restoring the creek through the reservoir area. Rather than merely removing the dam and accumulated sediments, this alternative would use a portion of the material to re-grade the reservoir area to simulate the configuration of the undisturbed creek channel upstream. Material could also be used to fill in and bury the spillway and to fill in the scour hole immediately downstream of the spillway. Use of material on site will greatly reduce hauling and disposal costs, as well as recreating a more natural creek channel through the project area.

The revegetation plan for the site following removal of the earthen dam will restore a self-sustaining native plant community that is sufficiently established to exclude nonnative invasive plants. Revegetation will replace vegetation that is removed due to construction and stabilize sediments in the stream channel riparian corridor and upper bank slopes. The species composition of the revegetated site will be designed to match that of (relatively) undisturbed sites both above and below the project site. In terms of expected outcomes for the project, the removal of York Creek Dam will open an additional 2 miles of steelhead habitat upstream of the dam, and the channel restoration will reestablish natural channel geomorphic processes and restore riparian vegetation.

The City of St. Helena respectfully requests the Committee's support for $800,000 in appropriations under the Corps of Engineers' Section 206 Aquatic Ecosystem Restoration Program, so that the efforts can proceed on completing the plans and specification and initiating construction of the York Creek Dam Removal and Restoration Project.

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 $576 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 effects, and project monitoring and 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 modified the project to resolve major mitigation issues and allowed the project to proceed. Energy and Water Development Appropriations Act of 2002 was signed into law on November 12, 2001. This authorized the Modified Guadalupe River Project at a total cost of $226,800,000. Construction of the last phase of flood protection is scheduled for completion by December 2004 and is dependent on timely Federal funding and continuing successful mitigation issue resolution. The overall construction of the project including the river park and the recreation elements is scheduled for completion in 2006.

Fiscal Year 2003 Funding.—$8 million was authorized in fiscal year 2003 to continue Guadalupe River Project construction.

Fiscal Year 2004 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 $12 million, in addition to the $13 million in the Administration's fiscal year 2004 budget, for a total of $25 million to continue construction of the final phase of the Guadalupe River Flood Protection Project.

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 2003 Funding.—$200,000 was authorized in fiscal year 2003 for the Upper Guadalupe River Project to continue preconstruction engineering and design.

Fiscal Year 2004 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 $3.3 million in fiscal year 2004 for the Upper Guadalupe River Flood Protection Project.

UPPER PENITENCIA CREEK FLOOD PROTECTION 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 (formerly the Soil 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 currently scheduled for completion in 2005.

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 2,600-foot long section of bypass channel between Coyote Creek and King Road. The District was planning to begin construction on this portion of the project in 2002. However, due to funding constraints, the current plan is for the District to complete the design and to turn it over to the Corps to construct when the upstream reaches are ready for construction.

Fiscal Year 2003 Funding.—$559,000 was appropriated in fiscal year 2003 for the Upper Penitencia Creek Flood Protection Project for project investigation.

Fiscal Year 2004 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 $460,000 in the Administration's fiscal year 2004 budget for the Upper Penitencia Creek 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, 1998, and 2002 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 83–566), 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 requirement. 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. Project economics are currently being updated as directed by Corps Headquarters to determine continued project economic viability.

Until 1996, the Llagas Creek Project was funded through the traditional Public Law 83–566 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 83–566 construction program since 1990, the Llagas Creek Project has not received adequate funding from U.S. Department of Agriculture to complete the Public Law 83–566 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 2003 Funding.—$325,000 was appropriated in fiscal year 2003 for the Llagas Creek Flood Protection Project for planning and design.

Fiscal Year 2004 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 $900,000 in fiscal year 2004 for planning and environmental updates for the Llagas Creek 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 22 square miles in the City of Milpitas and a portion of San Jose.

On average, Berryessa Creek floods once every 4 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 upstream of 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 3 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/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. This was not acceptable to the local community. The Corps and the District are currently 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 summer of 2005.

Fiscal Year 2003 Funding.—$750,000 was appropriated in fiscal year 2003 for the Coyote/Berryessa Creek Flood Protection Project to continue the General Reevaluation Report and environmental documents update.

Fiscal Year 2004 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 $750,000 for the Berryessa Creek Flood Protection Project element of the Coyote/Berryessa 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, protected 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.—In May 2002, the House of Representatives Committee on Transportation and Infrastructure passed a resolution directing the Corps to ". . . review the report of the Chief of Engineers on Coyote and Berryessa Creeks . . . and other pertinent reports, to determine whether modifications of the recommendations contained therein are advisable in the interest of flood damage reduction, environmental restoration and protection, water conservation and supply, recreation, and other allied purposes . . ."

Fiscal Year 2003 Funding.—No Federal funding was received in fiscal year 2003.

Fiscal Year 2004 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.

THOMPSON CREEK RESTORATION PROJECT

Background.—Thompson Creek, a tributary of Coyote Creek, flows through the city limits of San Jose, California, approximately 50 miles south of San Francisco. Historically, the creek was a naturally-meandering stream and a component of the Coyote Creek watershed. The watershed had extensive riparian and oak woodland habitat along numerous tributary stream corridors and upland savanna. Currently, these habitat types are restricted to thin sparse pockets in the Thompson Creek restoration project area.

Significant urban development over the last 20 years has modified the runoff characteristics of the stream resulting in significant degradation of the riparian habitat and stream channel. The existing habitats along Thompson Creek, riparian forest stands, are threatened by a bank destabilization and lowering of the water table. Recent large storm events (1995, 1997, and 1998) and the subsequent wet years in conjunction with rapid development in the upper watershed have resulted in a succession of high runoff events leading to rapid erosion. Today, down cutting and head cutting persist and the channel continues to incise and material is steadily eroded, leaving a deeply gullied and eroded channel. Further downstream sedimentation causes problems with flooding.

The upstream project limits start at the convergence of Yerba Buena and Thompson Creeks next to Evergreen Park. The downstream project limit is Quimby Road where Thompson creek has been modified as a flood control project. The project distance is approximately 3 miles.

Status.—In February 2000, the Santa Clara Valley Water District (District) initiated discussions with U.S. Army Corps of Engineers (Corps) for a study under the Corps' Section 206 Aquatic Ecosystem Restoration Program. Based on the project merits, the Corps began preparation of a Preliminary Restoration Plan (PRP) and

subsequent Project Management Plan (PMP). Approval of the PRP will lead to the development of a Detailed Project Report (DPR). The DPR will provide the information necessary to develop plans and specifications for the construction of the restoration project.

PROJECT TIMELINE

—Request Federal assistance under Sec. 206 Aquatic Ecosystem Restoration Program—Feb 2002
—Initiate Study—Mar 2003
—Public Scoping Meeting and Local Involvement—Apr 2003
—Final Detailed Project Report to South Pacific Division of Corps—May 2004
—Initiate Plans and Specifications—July 2004
—Complete Plans and Specifications—Oct 2004
—Project Cooperation Agreement signed—Dec 2004
—Certification of Real Estate—Mar 2005
—Advertise Construction Contract—May 2005
—Award Construction Contract—July 2005
—Construction Start—Sept 2005
—Complete Physical Construction—Dec 2006

Fiscal Year 2003 Funding.—$10,000 was received in the fiscal year 2003 Section 206 appropriation to complete the PRP.

Fiscal Year 2004 Funding Recommendation.—Based upon the need to continue the feasibility study to provide critical ecosystem restoration for Thompson Creek, it is requested that the Congressional Committee support an earmark of $200,000 within the Section 206 Aquatic Ecosystem Restoration Program.

SAN FRANCISQUITO CREEK WATERSHED PROJECT

Background.—The San Francisquito Creek watershed comprises 45 square miles and 70 miles of creek system. The creek mainstem flows through five cities and two counties, from Searsville Lake, belonging to Stanford University, to the San Francisco Bay at the boundary of East Palo Alto and Palo Alto. Here it 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. The upper watershed tributaries are within the boundaries of Portola Valley and Woodside townships. The creek flows through residential and commercial properties, a biological preserve, and Stanford University campus. It interfaces with regional and State transportation systems in the mainstem area, by flowing under two freeways and the regional commuter rail system. The local communities have formed a Joint Powers Authority in 1999 to cooperatively manage flood and restoration efforts. San Francisquito Creek is one of the last natural continuous riparian corridors on the San Francisco Peninsula and home to one of the last remaining viable steelhead trout runs. It is a highly valued resource by all communities. Bank overflow has occurred eleven times since 1907 with record flooding in February 1998. The riparian habitat and urban setting offer unique opportunities for a multi objective project addressing flood protection, habitat, water quality, and recreation.

Flooding History.—The creeks mainstem has a flooding frequency of approximately once in 11 years. It is estimated that over $155 million in damages could occur in Santa Clara and San Mateo counties from a 1 percent flood, affecting 4,850 home and businesses. (1998 Reconnaissance Investigation Report, San Francisquito Creek Coordinated Resource Management and Planning Organization, a local stakeholder group). Significant areas of Palo Alto flooded 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 4 feet deep. Overflow in 1982 caused extensive damage to private and public property. The flood of record occurred on February 3, 1998, when overflow from numerous locations caused 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. This report recommended that the Corps proceed to a Section 905(b), expedited reconnaissance phase, with study costs to be federally funded and not to exceed $100,000.

Status.—Active citizenry are anxious to avoid a repeat of February 1998 flood. Numerous watershed based studies have been conducted by the Corps, the Santa Clara Valley Water District, Stanford University, and the San Mateo County Flood Control District. Grassroots, consensus-based Coordinated Resource Management and Planning Organization, now called the San Francisquito Watershed Council,

has united stakeholders including local and State agencies, citizens, flood victims, developers, and environmental activists for over 10 years. The San Francisquito Creek Joint Powers Authority was formed in 1999 to coordinate creek activities with five member agencies and two associate members. The Joint Powers Authority Board has agreed to be the local sponsor for a Corps project and received Congressional authorization for a Corps reconnaissance study in May 2002. The JPA is also in the process of initiating a Section 205 Continuing Authorities Program project with the San Francisco District of the Corps for fiscal year 2003.

Fiscal Year 2003 Funding.—No Federal funding was received in fiscal year 2003.

Fiscal Year 2004 Funding Recommendation.—It is requested the Congressional Committee support the $100,000 in the Administration's fiscal year 2004 budget for the San Francisquito Creek Watershed.

SOUTH SAN FRANCISCO BAY SHORELINE STUDY

Background.—Congressional passage of Public Law 94–587, the Water Resources Development Act of 1976, originally authorized the South San Francisco Bay Shoreline Project. The Santa Clara Valley Water District (District) is one of the project sponsors. The Corps' 1984 reconnaissance study included Santa Clara County, and proposed $15 million to $20 million of improvements to protect portions of the Santa Clara County cities of Palo Alto, Sunnyvale, and San Jose. In 1990, the U.S. Army Corps of Engineers (Corps) concluded that levee failure potential was low and suspended the project until adequate economic benefits could be demonstrated.

The District is concerned because considerable development has occurred in the project area since the project's suspension in 1990. Many major corporations have since located within Silicon Valley's Golden Triangle, lying within and adjacent to the tidal flood zone. Now, damages from a 1 percent high tide would far exceed the $34.5 million estimated in 1981, disrupting business operations, infrastructure, and residences. Also, land subsidence of up to 6 feet near Alviso, as well as the structural uncertainty of existing salt pond levees, increases the potential for tidal flooding in Santa Clara County. When high tides coincide with wind generated waves, levee overtopping occurs.

Project Synopsis.—The Corps' 1984 study assumed no change in levee maintenance activities and hydrology, and identified overtopping, not erosion or levee failure, as the most likely mode of tidal flooding. The Corps attributed low potential benefits to levee improvements because existing non-Federal, non-engineered levees have historically withstood overtopping without failure.

The District believes that the low incidence of levee failure is due to luck and diligent private and public maintenance programs—programs that may not continue under the present regulatory environment, restricted funding, and new property ownership. The trend toward tougher regulatory controls restricts levee maintenance, reducing the economic feasibility of continuing historic levels of maintenance activities. Lower maintenance levels would leave these levees and surrounding communities vulnerable to significant damages.

Public acquisition of approximately 13,000 acres of south bay salt ponds was completed in early March 2003. The proposed restoration of these ponds to tidal marsh will significantly alter the hydrologic regime, which was assumed to be constant in the Corps' study. Adequate tidal flood protection is critical to the success of the restoration project, providing an opportunity for multi-objective watershed planning in partnership with the California Coastal Conservancy, the lead agency on the restoration project.

Since 1990, Corps staff in Washington, DC, has attempted unsuccessfully to resolve the differences in their standards for freeboard and levee stability with the Federal Emergency Management Agency. The 1997 levee failures and floods in California's Central Valley elevated concern about the integrity of Bay Area levees. The Corps recognized the potential Federal interest and requested funding to reopen the reconnaissance study in fiscal years 1998 and 1999. No funds were included in the final congressional authorizations. The U.S. House of Representatives Committee on Transportation and Infrastructure passed a resolution in July 2002 directing the Corps to review the results of this study.

Fiscal Year 2003 Funding.—No Federal appropriation was authorized in fiscal year 2003.

Fiscal Year 2004 Funding Request.—It is requested that the Congressional Committee support an appropriation add-on of $100,000 for the South San Francisco Bay Shoreline Study to conduct a Reconnaissance Investigation.

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 2003 Funding.—$100,000 was authorized in fiscal year 2003 for the Pajaro Watershed Reconnaissance Study.

Fiscal Year 2004 Funding Recommendation.—It is requested that the Congressional Committee support the $100,000 in the Administration's fiscal year 2004 budget for the Pajaro River Watershed Study.

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 the summer of 2002 with average deliveries of 10 million gallons per day of recycled water. The system now serves over 400 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 $26 million of the $35 million authorization.

Fiscal Year 2003 Funding.—$3 million was appropriated in fiscal year 2003 for project construction.

Fiscal Year 2004 Funding Recommendation.—It is requested that the Congressional Committee support an appropriation add-on of $9 million, in addition to the $1 million in the Administration's fiscal year 2004 budget, for a total of $10 million to fund the work.

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 more than 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 has developed 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 trillion dollar 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 2003 Funding.—$23 million was appropriated for CALFED activities under the Bureau of Reclamation's budget in fiscal year 2003.

Fiscal Year 2004 Funding Recommendation.—It is requested that the Committee support an appropriation add-on of $35 million, in addition to the $15 million in the Administration's fiscal year 2004 budget, for a total of $50 million for the CALFED Program.

PREPARED STATEMENT OF THE 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 78 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 78th Annual Meeting in Shreveport, Louisiana on February 20, 2003, 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 constraints 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 $4.194 billion for civil works programs this is $406 million (8.8 percent) less than appropriated in fiscal year 2003. 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 $5.5 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.

It has come to our attention that there are some in the Administration who are proposing to dismantle the civil works functions and put them into other Federal agencies. Environmental and regulatory functions might go to EPA or Department of the Interior and Waterways may go to the Department of Transportation. This is not a good idea for our Nation. Placing the regulatory and environmental missions in one of those agencies puts it into a "one agenda", single focused agency. The Corps of Engineers is the best agency to administer the regulatory program, because they have all disciplines within their organization, to include biologists, engineers, economists, etc. When the Corps of Engineers reviews environmental issues we are best assured of a balanced outcome that would best serve the people and our ecosystems.

Our concern with placing the inland waterways under Department of Transportation is that they will not receive the same attention as the more popular highways and airports. 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, per ton of cargo moved. This is why we should not dilute the importance of our waterways. We

should increase the importance of waterborne transportation due to its efficiency, safety and being environmentally friendly. The RRVA does not support any efforts to dissolve the Corps of Engineer Civil Works functions into any other Federal agency.

We do not support any efforts to increase the benefit to cost ratio for projects above 1.0 and we do not support increasing the local sponsor's cost sharing requirements. This is not "Corps reform" it is an initiative to eliminate the civil works program. We do support true reform that would make civil works projects less expensive and faster to complete. Corps reform should make the Corps of Engineers more efficient, cheaper and faster in the execution of civil works studies and completion of projects not eliminate the program.

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 regions.

Navigation.—The J. Bennett Johnston Waterway is living up to the expectations of the benefits projected. We are extremely proud of our public ports, municipalities and State agencies that have created this success. New opportunities were announced in calendar year 2002 at each of the ports that will increase the annual tonnage. You are reminded that the Waterway is not complete, 12 percent remains to be constructed, $242 million. We appreciate Congress's appropriation level in fiscal year 2003; 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 of Engineers and Coast Guard to partner in making our Waterway a success. In calendar year 2002 we succeeded in getting electronic charts completed and they are now in use. Permanent channel markers are being put in place and will be completed in calendar year 2003. Both of these initiatives will provide all the aids to navigation necessary to insure safe and efficient navigation, especially during high water events, when commercial operations have ceased in past years.

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 Inter-coastal Canal, which all accommodate 12 foot draft barges. The Atchafalaya River and GIC are both authorized 12 foot channels. This would allow additional cargo capacity, per barge, which will greatly increase the efficiency of our Waterway and reduce transportation rates. We request that the Corps conduct a reconnaissance study, to evaluate this proposal, at a cost of $100,000.

The feasibility study to continue navigation from Shreveport-Bossier City, Louisiana into the State of Arkansas is on going. We appreciate that Congress appropriated adequate funding to complete this study in fiscal year 2003. There is great optimism that the study will recommend a favorable project. 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. We request funding to initiate planning, engineering and design, PED.

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 2003 and request you fund this project at a level of $10 million.

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. Five of eleven levee sections have been completed and brought to Federal standards. Appropriations of $4.750 million will construct two more levee sections in Lafayette County, AR.

The levees in Louisiana have been incorporated into the Federal system; however, they 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 flood-

ing. 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 this 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. Funding has been appropriated in fiscal year 2002 and fiscal year 2003. Approximately 50 miles of levees in the Natchitoches Levee District will be completed this year. We request $2 million to 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. The re-evaluation report will be completed in fiscal year 2003. Completion of this project will reclaim Lake Kemp as a usable water source for the City of Wichita Falls and the region. This project will provide improved water quality throughout the four States of the Red River providing the opportunity to use surface water and reduce dependency on ground water. We request appropriations of $2,000,000 to continue this important environmental monitoring and to initiate construction of the Wichita River control features.

Water Supply.—Northwest Texas has been overrun with non-native species of brush and mesquite. It now dominates millions of acres of rangelands and has negatively impacted water runoff. Studies have indicated that brush management could increase runoff by as much as 30 percent to 40 percent. This would be of great value in opportunities for more surface water use and less dependency on ground water. Other benefits include an ecological diversity of plant and animal species, range fire control and cattle production. A $100,000 reconnaissance study would determine if there is a Federal interest and what magnitude these benefits would be.

Lake Kemp, just west of Wichita Falls, TX, is a water supply for the needs of this region. Invasion of non-native brush and siltation have threatened the capacity of the lake to serve its intended functions. A $100,000 reconnaissance study would investigate these issues and determine if there are any potential solutions.

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 is very disturbing to see the Administration suggest that 50 percent of O&M costs be funded from the Inland Waterway Trust Fund (IWTF). The law establishing this trust fund does not provide for it to be used for O&M activities and the trust fund would be depleted in less than 5 years. What is more troubling is that once this is allowed the situation exists to increase the existing $.20 per gallon fuel tax on waterway industries to $1.00 per gallon to cover 100 percent of the O&M costs. This additional $.80 would drastically increase shipping rates devastating a young waterway system such as ours. We do not believe there can be a "temporary" use of this fund. Once the trust fund is used for O&M purposes it will be very difficult to change.

It is our understanding that the criterion used to determine "low use" waterways was set at 5 billion "average ton-miles". This is the wrong criteria and methodology to use. Navigation projects are justified using "system ton-miles". "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.

A more important issue is that ton-miles is only one factor in determining success. Our Nation's waterways were built to reduce transportation cost and they do that without moving one ton of cargo. "Water Compelled Rates" is the term used for "competition". Rail rates have dropped to match waterborne rates throughout the Red River Valley. Many industries have experienced great transportation savings without having to use the waterway. If our waterway were closed the rail rates would immediately increase. This is one example on why ton-miles cannot be the sole determining factor of success.

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. The "Summary of Fiscal Year 2004 Requests", following this testimony, lists our major O&M projects and the level needed to address this issue.

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 2004 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 $2,955,000 has been appropriated for this study and matched by the State of Arkansas. These funds will complete the study in fiscal year 2003. The initial study results indicate the probability that a project will be recommended. Funds are requested in fiscal year 2004 to initiate pre-construction, engineering and design (PED). Total fiscal year 2004 request—$400,000.

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 2003 $100,000 was received for this study. This is a complex 11-year study of ecosystem restoration issues and the Oklahoma Water Resource Board has signed on as the local sponsor. Total fiscal year 2004 request—$50,000.

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. Funding of $100,000 was received in fiscal year 2003 to initiate the study. Total fiscal year 2004 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. Funding of $100,000 was re-

ceived in fiscal year 2003 to initiate the study. Total fiscal year 2004 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. Funding of $100,000 was received in fiscal year 2003 to initiate the study. Total fiscal year 2004 request—$100,000.

J. Bennett Johnston Waterway, LA, 12 Foot Channel Reconnaissance Study.—The waterway flows directly into the Atchafalaya River and then to the Gulf Inter-coastal Waterway, both have authorized 12 foot channels. Except under extreme low water conditions the Mississippi River accommodates barges of 12 foot draft. It is inefficient on industry to have to "special load" barges destined for the Red River to 9 feet when all other barges are loaded to 12 feet. More important the added cargo per barge (one-third more) will have a dramatic impact on reducing the water-borne rates for the Waterway, making it more competitive. Total fiscal year 2004 request—$100,000.

Red River Brush Management Above Denison Dam, OK & TX, Reconnaissance Study.—Over the past 200 years invasive and non-native brush species have taken over this region. These species, especially mesquite and salt cedar, absorbs enormous amount of water. Brush control could yield as much as 30 percent to 40 percent increase in rangeland runoff. Other benefits include an ecological diversity of plant and animal species, range fire control and cattle production. This is an ecosystem restoration study. Total fiscal year 2004 request—$100,000.

Wichita River Basin above Lake Kemp Dam, TX, Reconnaissance Report.—The scope of this study is to investigate creating riparian eco-system features utilizing sediment depositions in the upper reaches of Lake Kemp, while reducing deposits into Lake Kemp. The current sediment deposits are impacting environmental functions of the Lake as well as reducing storage capacity. Opportunities exist to construct wetlands to improve ecological functions. Total fiscal year 2004 request—$100,000.

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. This study is waiting for a local sponsor to be identified. Total fiscal year 2004 request—$0.

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. This study is waiting on funding from the local sponsor, Fannin County, TX. Total fiscal year 2004 request—$0.

Construction General (CG)

Red River Waterway Project—a. J. Bennett Johnston Waterway, LA.—Seven projects will be completed or awarded in fiscal year 2003 as well as recreation facilities, the regional visitor center and continued mitigation. These ongoing projects will be completed using the $13.7 million budgeted for fiscal year 2004. Additional funds could be used for new projects, which include; Westdale Realignment ($2,500,000), Pump Bayou Revetment ($500,000), Fausse/Natchitoches/Clarence Reinforcement ($1,000,000), Scott Realignment ($2,500,000), Lumbra Dikes ($2,000,000), Lindy C. Boggs Barrier Upgrade ($2,000,000), continued mitigation ($1,300,000), Shell Point Drainage Structure ($1,000,000), Hammel/Carroll Revetments ($2,000,000) and Teague Parkway Revetment ($500,000). Total fiscal year 2004 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. $765,000 has been appropriated to date and additional funds are required to develop

the PCA and reevaluate the design. A local sponsor is still being secured. Total fiscal year 2004 request—$250,000.

Red River Chloride Control Project (Wichita River Basin), TX.—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 2003. The re-evaluation report will be completed in fiscal year 2003. Funds are needed for design, plans and specifications and to continue environmental monitoring activities. Total fiscal year 2004 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 Levee Item #9 and initiate design for follow on Levee Item #6. Total fiscal year 2004 request—$4,750,000.

b. Bowie County Levee, TX.—The local sponsor requested the "locally preferred option", which was authorized for construction. In fiscal year 2003 $4,000,000 was appropriated to initiate this project. The local sponsor is willing to execute a PCA and initiate real estate activities in fiscal year 2003. Total fiscal year 2004 request—$500,000.

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 standards. 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 4 years. $1,000,000 was appropriated in fiscal year 2003 and approximately 50 miles of levee have been upgraded in the Natchitoches Levee District, LA. Total fiscal year 2004 request—$2,250,000.

d. Upgrade Levees, LA.—Many structures, through the Levee system in Louisiana, have deteriorated to a condition that threatens the integrity of the levees themselves. A project must be undertaken to systematically upgrade these structures. Total fiscal year 2004 request—$600,000.

Red River Emergency Bank Protection, Arkansas.—Funds are required to complete construction of Bois D'Arc Revetment ($4,200,000) initiated in fiscal year 2002; and Dickson Revetment ($5,800,000) initiated in fiscal year 2003. These funds would also 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 2004 request—$10,000,000.

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 2004 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 2004 request—$0.

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. No funds can be expended until completion of the Master Plan and acquisition of land by the local sponsor. Total fiscal year 2004 request—$0.

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 2004 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 2004 request—$6,000,000.

Operation & Maintenance (O&M)

Red River Waterway.—The President's budget is usually sufficient to only operate the waterway and perform preventive maintenance. There are major, unfunded backlog maintenance items that must be accomplished. These items include inspec-

tion and repair of lock & dam stop logs, repairs to tainter gate diagonal bracing at Lock #3 and revetment repairs. The President's budget included no funding for backlog maintenance. Total fiscal year 2004 request—$19,900,000.

Flood Control Lakes.—There are nine major flood control lakes in the Red River Valley, plus the Truscott Brine Reservoir. These lakes have served to prevent hundreds of millions of dollars of damage over the past 50 years. However, they are getting to the age where maintenance cannot be differed any longer. Backlog maintenance items include repair to flood gates, powerhouse maintenance, dam structures and recreation facilities. If upgrades are not made at recreation facilities they may have to be closed due to safety concerns to the public. Following is a list of the lakes and our fiscal year 2004 requests for each.

Flood Control Lake	Fiscal Year 2004 Request
Denison Dam, Lake Texoma, TX	$8,643,000
Hugo Lake, OK	3,138,000
Broken Bow Lake, OK	1,894,000
Pat Mayse Lake, TX	994,000
Warrika Lake, OK	1,691,000
Millwood Lake, AR	2,345,800
Direks Lake, AR	2,864,800
Gillham Lake, AR	2,743,000
DeQueen Lake, AR	2,768,800
Truscott Brine Dam, TX	1,717,000

Support of MR&T Operations and Maintenance (O&M).—Old River Lock is the access tows have from the Mississippi River to the Red River Waterway. When this structure is not in service tows must go down the Atchafalaya River to the gulf and back to the Mississippi past New Orleans, LA, adding days to the trip. It is critical to the success of the Red River Waterway that the Old River structure be maintained. Currently, there is a backlog of important maintenance items that must be funded. Total fiscal year 2004 request—$21,000,000.

Prepared Statement of the State of Louisiana Red River Waterway Commission

On behalf of the citizens of the Red River Waterway District of Louisiana, the Red River Waterway Commission urges the Congress of the United States to allocate the funds necessary for fiscal year 2004 for J. Bennett Johnston Waterway. Adequate funding will allow continued construction progress toward actual project completion, stimulate continued growth in tonnage movement, encourage the continuation of private and public development as well as facilitate total reliability in project function for industrial and recreational development. While this project is still in its infancy stage; the infrastructure investment has been justified by commercial and recreational development along the Red River and intermodal transportation cost savings because of water induced rates resulting from the project.

Tonnage volumes continue to steadily increase and cargo classifications diversify providing numerous business opportunities for this region. Further development will continue to take place with the knowledge that users can rely on an efficient, functional and environmentally sound river system.

Construction on Red River is over 90 percent complete, however, it is vitally important that we understand the importance of steady progress toward project completion with full knowledge of the financial constraints on this country.

Areas of Need for the Red River Waterway Project

Operations & Maintenance Program.—Channel Maintenance (Dredging) is critical to the viability of the waterway system. The President's Budget should reflect funding for maintenance dredging or give the Corps flexibility to operate and maintain projects as per our agreements. By the way, dredging is maintenance and reliability of channel should be of the highest priority. The Corps of Engineers needs sufficient resources to adequately maintain the navigation channel to provide dependable and reliable depths so that barges moving on the system can be loaded to the maximum nine foot draft. Maintenance of existing navigation structures at strategic locations is vital for continued development. The backlog of maintenance items at the lock & dam structures could be devastating to the Nation's investment in the navigation system.

Navigation Structures (Revetments and Dikes).—The completion of these river training works is necessary to maintain the channel alignment so as to provide reliable navigation to the commercial users. In addition, the structures help insure that barges can be loaded to the maximum depths allowable for profitable operation and continued industrial growth.

Construction/Maintenance Program.—The Corps of Engineers needs resources available to react quickly to landowner bank caving complaints that are a result of the project and are fully justified.

Mitigation and Bendway Dredging.—Continue with land acquisition and developmental cost analysis associated with the mitigation portion of the project to enhance the bottomland hardwood acreage within the Red River Valley area of Louisiana. Continue the bendway dredging operations to maintain the backwater connection to the channel of Red River for ingress and egress of nutrient rich river water and numerous species of freshwater fish.

Aids to Navigation.—As commercial use continues to increase, the Coast Guard presence and resources must reflect a similar growth to adequately maintain the buoy system on the Red River and stimulate confidence in the river system. Necessary funding to upgrade assets that lend reliability and credibility to our efforts is paramount.

Recreation Development.—Design and Construction in all Pools should continue as practicable. Important developments such as the Shreveport Riverview project, Teague Parkway Trails in Bossier City, Colfax Recreation Area and Natchitoches Recreation Area have established an excellent recreation foundation in Pools 3, 4, and 5.

PREPARED STATEMENT OF THE CADDO/BOSSIER PORT COMMISSION

On behalf of the citizens of Northwest Louisiana, the Caddo-Bossier Parishes Port Commission respectfully urges the Congress of the United States to allocate in the fiscal year 2004 Budget the necessary funding to keep America's water navigation and transportation infrastructure functioning in a safe, cost-effective and reliable manner. The Port and Maritime Industries are a major contributor to our Nation's economy. As an example, one out of every eight jobs in Louisiana is attributable to these industries.

Moreover, our water highways are national assets, linking every community in this Nation to the world. Unfortunately, the proposed budget does not include funding for Red River maintenance dredging in the Corps of Engineers' Civil Works Program. Dredging is absolutely essential to maintaining a safe and reliable waterways system. In addition, the $13.7 million budget allocated to the Corps of Engineers for construction does not come close to meeting expressed Corps capability of $29 million. Likewise, the Operating and Maintenance budget appropriation for the Corps at $12 million does not meet expressed Corps capability of $19.9 million.

The effect of these proposed cuts could also be exponentially deepened by proposed changes that would finance 25 percent to 50 percent of the cost of operation and maintenance from the Inland Waterways Trust Fund and the Harbor Maintenance Trust Fund. Since 1986, these funds have been used to pay one-half of the cost of construction and major rehabilitation on specified, fuel-taxed inland waterways segments. This action violates the agreement reached prior to passage of the Water Resources Development Act of 1986 affirming continued Federal responsibility for inland waterways operation and maintenance outlays in return for inland waterway users assuming the obligation for financing 50 percent of future construction and major rehabilitation expenditures. Of even greater concern is the potential this would create for future increases in the fuel tax, negatively impacting cargo rates and discouraging water transportation at a time when the industry is experiencing strong gains.

The Port of Shreveport-Bossier, located at the head of Red River navigation and in operation since 1997, stands today as a longtime dream with a solid track record of success and over $95 million of local public investment. In 2002, the Port reached the Two Millionth Ton of Cargo milestone, at an earlier point in its development than most ports of comparable size, and it added Southern Composite Yachts to a growing tenant list at the 2,000-acre complex. These results should provide a sense of pride to all members of Congress who believed in the Red River Navigation Project and recognized its potential. We urge you to continue to fund the waterways at a responsible level in support of the continued growth of Port and Maritime Industries that so directly impact our national economy.

PREPARED STATEMENT OF THE BOARD OF MISSISSIPPI LEVEE COMMISSIONERS

This statement is prepared by James E. Wanamaker, Chief Engineer for the Board of Mississippi Levee Commissioners, Greenville, Mississippi, and submitted on behalf of the Board and the citizens of the Mississippi 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 Mississippi Levee District.

It is apparent that the Administration loses sight of the fact that the Mississippi River & Tributaries Project provides protection to the Lower Mississippi Valley from flood waters generated across 41 percent of the Continental United States. These flood waters flow from 31 States and 2 providences of Canada and must pass through the Lower Mississippi Valley on its way to the Gulf of Mexico. We will remind you that the Mississippi River & Tributaries Project is one of, if not the most cost effective project ever undertaken by the United States. The foresight used by the Congress and their authorization of the many features of this project is exemplary.

The many projects that are part of the Mississippi River & Tributaries Project not only provides protection from flooding in the area, but the award of construction contracts throughout the Valley provides assistance to the overall economy to this area that is also encompassed by the Delta Regional Authority. The employment of the local workforce and purchases from local venders by the contractors help stabilize the economy in one of the most impoverished areas of our country. The Mississippi Valley Flood Control Association will be submitting a general statement in support of an appropriation of $435 million for fiscal year 2004 for the Mississippi River & Tributaries Project. This is the minimum amount that we consider necessary to allow for an orderly completion for the remaining work in the Valley and to provide for the operation and maintenance as required to prevent further deterioration of the completed flood control and navigation work.

The Delta area of Mississippi remains exposed to severe flooding from the Project Design Flood on the Mississippi River. The administrative budget for Mainline Mississippi River Levees will further delay protection from the River beyond the already projected completion date of 2031. We are asking that the Congress appropriate $55.609 million which will allow for the continuation of ongoing contracts along our levee system and for the award of one additional construction item in fiscal year 2004. The Board of Mississippi Levee Commissioners has committed the necessary financial resources and staff to allow for the orderly acquisition of rights-of-way which is required by the local sponsor and we ask that the Congress continue to provide adequate Federal funding to allow construction of these projects to move forward in an orderly manner.

Although there is opposition to the recommended plan for the Yazoo Backwater Project within the environmental community, the local support for the recommended plan is strong. All six of the county Boards of Supervisors in the project area officially support the recommended plan provided in the Draft Reformulation Report released by the Corps of Engineers in September 2000. The Corps of Engineers and Environmental Protection Agency are currently working to gain consensus on the science used in evaluating impacts. The Mississippi Levee Board remains concerned about the apparent desire of the U.S. Fish & Wildlife Service to avoid the science involved and their continued effort to achieve their goal for change in national policy utilizing this single project as the vehicle. The Fish & Wildlife Service continues to advocate alternatives that constitute no more than land use planning for the area. The Vicksburg District Corps of Engineers has scheduled the release of the Final Report this summer which would call for initiating the acquisition of reforestation easements; the pump supply contract; and relocations during fiscal year 2004. At this time, we would ask that the Congress provide an appropriation of $12 million which will allow for the Corps of Engineers to proceed on schedule in providing protection to an area from flood waters that it has had to endure for over 60 years after the Eudora Floodway feature was removed from the Mississippi River & Tributaries Project.

The completion of channel work leading into the City of Greenville being constructed as part of the Upper Steele Bayou Project portion of the Big Sunflower River & Tributaries Project has proved itself on more than one occasion. As we have had several rainfall events that previously would have caused tremendous localized

flooding and flooding of many homes in the City of Greenville, rainfall from these storms was conveyed by the project without damage to any homes. We are requesting $1.29 million for construction to continue on the remaining features of this project in the Yazoo National Wildlife Refuge and for the acquisition of remaining mitigation lands required as this project nears completion.

As with the work that provides the drainage of flood waters from the City of Greenville, the Upper Yazoo Project, having been completed to the City of Greenwood, has also proved itself during these heavy rainfall events. Areas that were flooded in the City of Greenwood during heavy rains in 1973 have remained flood free over the last 2 years. This work needs to extend upstream toward the towns of Lambert and Marks so that they might receive the same level of protection as Greenville and Greenwood. We are requesting $15 million for the Upper Yazoo Project which will allow the Vicksburg District Corps of Engineers to continue with planning, design, and the award of construction contracts in an orderly manner. These channels also provide the outlet for the four flood control reservoirs which store excess waters from heavy rainfall events that occur in the upper reaches of the basin.

Demonstration Erosion Control work in the Bluff Hills above the Mississippi Delta has time and again proven the effectiveness of stabilized stream banks and reduction of head cutting, both of which reduces sediment from entering our channels. An appropriation of $20 million is being requested for the Demonstration Erosion Control Project to ensure that construction continues on schedule reducing maintenance requirements along the Yazoo, Tallahatchie, and Coldwater River Systems in years to come.

We read day after day comments regarding the need for maintenance of our Nations infrastructure. Completed portions of the Mississippi River & Tributaries Project are no different than other infrastructure across the country. The Big Sunflower River & Tributaries Project provides the drainage outlet for over 4,000 square miles of the Mississippi Delta (an area almost 4 times the size of the State of Rhode Island). Construction on this project was initiated in 1947 and completed in the mid 1960's. For over 50 years, the Mississippi Delta's two Levee Boards, which serve as the local sponsors of this project, have carried out their commitment to the Corps of Engineers for the maintenance of this project. The Vicksburg District Corps of Engineers determined in the early 1990's that major maintenance of these channels was required to restore the project to the capacity achieved when the work was completed in the 1960's. Opposition to the Big Sunflower River Maintenance Project has led the Vicksburg District Corps of Engineers to prepare a Supplemental Environmental Impact Statement. The State of Mississippi is also re-evaluating the Water Quality Certificate. Both of these activities are scheduled to be completed in fiscal year 2004, at which time a construction contract for the first dredging item can be awarded. All of the required right-of-way is in place for this item and we are requesting $4.17 million to allow the award for this contract.

Maintenance of our Mainline Mississippi River Levee System is provided on a day-to-day basis by the many Levee Boards along the Mississippi River. The Flood Control Act of 1928 clearly delineates activities to be performed by the local sponsor and by the Federal Government. We are requesting $8.69 million for the maintenance of the Mississippi River Levees to allow the Corps of Engineers to adequately carry out their responsibilities for major maintenance on this project.

A key feature in providing flood protection to the East part of the Mississippi Delta are the four flood control reservoirs that hold back flood waters from the Bluff Hills that would otherwise inundate the Delta. All of these reservoirs are well over 50 years old and are requiring major work to comply with the provisions of the Dam Safety Act. We are asking for appropriation for maintenance of Arkabutla Lake of $10.205 million, Enid Lake $7.47 million, Grenada Lake $8.358 million, and Sardis Lake $13.86 million. The increase in funds requested will be utilized for much needed maintenance to features of these projects. We are also asking for an appropriation of $1.135 million for the tributaries' features of the Yazoo Basin to allow continued bank stabilization and shore line protection work.

There are other issues in the Administrations' Budget for the Corps of Engineers that greatly concern everyone in the Valley. Inland navigation along the Mississippi River is a vital feature in keeping the economy of the Lower Mississippi Valley stable. This navigation system passes through the heart of an area focused on by the Delta Regional Authority and provides a nucleus on which other economic development in the area can rely. The Administration's proposal to utilize funds from the Inland Waterways Trust Fund for daily operation of maintenance of the waterway is unacceptable. It is a proven fact that construction rehabilitation funds needed to keep the navigation system operational are insufficient and the depletion of the Trust Fund for operation and maintenance will further hinder the rehabilitation of

the navigation system so vital to the economy of our Nation. Our inland waterways navigation system provides benefits to the Nation of approximately $900 million each year.

We have also been informed that the Secretary of the Army desires to "out source" up to 90 percent of the civil work functions being carried out by the Corps of Engineers. The Board of Mississippi Levee Commissioners has long been concerned about the reduction of personnel employed by the Corps of Engineers and its impact to the design and construction of our projects, along with the lack of experienced individuals available to assist during a major flood event along the Mississippi River. The Board of Mississippi Levee Commissioners is opposed to any further "out sourcing" of activities currently being performed in-house by the Corps of Engineers. We have found ourselves in a position that local sponsor personnel are required to perform activities during the design phase of our projects, or suffer from delays to the contract award. This is caused by the time required by procedures to have the work "out sourced". We are also opposed to any function currently administered by the Corps of Engineers being transferred to any other department of the Federal Government. The experience of personnel throughout the Corps of Engineers in carrying out their Congressionally authorized civil work functions cannot be replaced if moved to other departments of the Federal Government.

We are grateful to the committee for providing us the opportunity each year to present our testimony for the record.

LETTER FROM THE LITTLE RIVER DRAINAGE DISTRICT

Cape Girardeau, Missouri, March 19, 2003.

Senator PETER V. DOMENICI,
127 Dirksen, Washington, DC 20510.

DEAR SENATOR DOMENICI: 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 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 obligatory 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 2003 was approximately $12,000,000. This is a funding level that will permit adequate funding to maintain the features within that project on which the Corps of Engineers has made improvements and which it is the responsibility of the Federal Government to maintain. As a matter of information the Memphis District U.S. Army Corps of Engineers was able to execute 99 percent of the available funds for maintenance within that project for fiscal year 2003.

The President's budget for fiscal year 2004 contains $2.91 million for construction whereas the Corps of Engineers has the capability of $7.6 million. The President's budget has only $7.505 million for maintenance within the St. Francis Basin Project whereas the Corps of Engineers has a stated capability of $10.305 million for maintenance.

We believe the Corps could adequately use between $13 and $15 million each year for maintenance within this basin. We realize the budgetary restraints this year and respectively request Congress to approve funding for maintenance in the St. Francis Basin Project for fiscal year 2004 in the amount of $10.505 million. This is approximately $2 million less than what was actually spent in fiscal year 2003 but it will provide funds for adequate maintenance of the features within this basin which need annual attention.

Regarding the construction request we respectively request the Congress to fund the amounts for construction for this project equal to the Corps capability of $7.6 million.

Many positive changes have occurred to and within our sector of our Nation because of this project. We who live there welcome these changes. We, local interests, in Southeast Missouri and Northeast Arkansas want this project brought to completion and adequately maintained. We have waited over 70 years and we believe it is now time to complete this wise investment for our Nation.

Secondly, the Corps of Engineers has a stated capability of more than $435,000,000 for fiscal year 2004 in the MR&T Project. We ask you to give consideration to provide funding levels at $435,000,000 for this project. This will provide some very needed new construction and some maintenance. The President's budget contains only $162,440,000 for maintenance which is not adequate. The Corps has a stated capability of $208,443,000. We respectively request full capability amounts. The President's budget is for only $280,000,000 for construction which to put it simply is not enough to keep this vital project maintained and moving to a modernization and a reasonable completion date. Authorized since 1928 and not completed does not bode well for such a wise investment.

The Mississippi River and Tributaries Project was authorized following a record flood in 1927 that inundated more than 26,000 square miles of the Mississippi River Valley. Over 700,000 people were left homeless, many lives were lost, most if not all East-West commerce was stopped and it adversely effected the economy and the environment of our Nation. After that devastating event Congress in its infinite wisdom passed a bill and established the Mississippi River and Tributaries Project (MR&T) and authorized the U.S. Army Corps of Engineers to develop a plan to prevent such a disaster in the future.

To date the MR&T Project has prevented over $180 billion in flood damages for an investment of less than $10 billion. Additionally our Nation receives more than $900 million of navigational benefits each year due to this project. It is readily seen that this project had merit from the beginning and continues to reward the citizens not only of the valley itself but of the citizens of the entire Nation. It is a wise investment for this country, it is good for our economy, and it will be a vital link to the defense of our Nation in the event of an attack by our enemies.

This project is not completed and needs to be completed immediately. Our locks are aged and have exceeded by 20 percent in some instances of their expected life expectancy. The entire lock and dam system on the Mississippi River and Tributaries Project needs to be modernized in order for our shipping interests to compete with foreign markets. While we sit idly by and watch our infrastructure deteriorate our competitors in South America and Central America are building better and more efficient features throughout their countries. Ultimately this will lead to competition which our Nation will not be able to fairly compete with.

Further, we are very concerned and strongly opposed to the administration's recommendation in its fiscal year 2004 budget submission to use funds from the Inland Waterways Trust Fund to pay for part of the operation and maintenance cost of the inland waterways as well as some construction. The trust fund was established in 1978 and was to be made available for construction and rehabilitation for navigation on the inland and coastal waterways not for operations and maintenance. This is not what our Nation agreed to in 1978 and is not what was renewed under WRDA in 1986. We petition this Congress to stand up and have our Nation live up to the promises made to the contributors of that trust fund and abide by past agreements.

Should Congress allow this recommendation to come to fruition the trust fund would be drained of all its funds in a short period of time and the 50 percent cost share to pay for the construction for navigation would not be available unless the tax on fuel used by our shipping interests was raised considerably. In most cases these taxes would have to be doubled. This industry and its operators would suffer dreadfully and many would have to cease operations. Even today at least one has filed for bankruptcy and at least one or two others is contemplating the same. Should this continue to happen the best and most desirable mode of transportation to get our farm commodities and products to market would require overland transportation which would place a giant burden on our highway system. Further, it would add to the expense to our farmers for getting their products to market as well as increasing the cost of fuel oil, gasoline, coal, chemicals, and the other many items shipped by our barge industry.

It has been proven year after year our waterway transportation system is the safest, the most environmentally acceptable, and the most fuel efficient in moving mass amounts of commodities and materials throughout our Nation. It would be totally unacceptable and extremely unwise to diminish the role of 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. They would become very unsafe, and would require much more fuel consumption which we currently do not have but must import. Hopefully, common sense will prevail and Congress will make the choice to invest into one 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 50–60 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 look to the future with progressive and wise vision and 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. We must continue that role by setting the pattern for our neighbor, allies, and other foes.

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 50 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. Imagine our Highway system being as it was 50 years ago and having to accommodate the massive number of cars we have today. That is precisely what we are doing on our waterways. We need to have greater vision and mettle and become aggressive and progressive in meeting today's needs. There is currently $10 billion needed for waterway improvements in addition to a backlog of approximately $300,000,000 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 in the 1960's.

The latest report by the American Society of Civil Engineers provides us 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 5 years. We can and should heed their recommendation. This is not an "in house" review but an independent assessment.

What a great way for our country to stimulate its economy and at the same time be building and making investments into a system for the future which will return back more dollars than expended. We petition you to give this vital industry of our Nation a strong endorsement and do all you can to ensure our waterways systems stay competitive with our foreign competitors.

At a time when we need to stimulate our economy and at a time that safety from terrorist activities needs to be enhanced and at a time that many in our Nation are concerned about cleaner air, cleaner water, etc., we have a great opportunity to meet the needs of all. We can be making sound investments into our infrastructure which will turn back more monies to the taxpayers of this country than was invested. We will be increasing our defense capabilities should our Nation be attacked from an outside force.

We are strongly opposed to any action that would transfer any part or all of the U.S. Army Corps of Engineers Civil Works mission to any other agency or department of the Federal Government. This agency has completed and overseen the Civil Works mission since its inception and has done quite well. Very few of our other governmental bodies can report and show a return of the taxpayers investment as the Corps of Engineers can and has been doing for many years. It has been reported this administration desires to transfer the Corps Civil Works program to the Department of Transportation, the Flood Control and Environmental Restoration to the Department of Interior and the Regulatory Program to the Environmental Pro-

tection Agency. The U.S. Army Corps of Engineers has rendered extremely valuable services to this Nation for many years. The Corps has created an inland waterways system that is the envy of the rest of the world. Our Nation's commercial transportation system is critical to the Nation's economy and the environmental well being and part of this system is used to transport military equipment in support of the war on terrorism. The Corps has also been in the forefront to provide flood control and environmental restoration projects and have supported our troops at every armed conflict this Nation has been engaged in. In our opinion, it will be a serious mistake and have a negative nationwide impact to spread the functions of the Corps into several parts and across a Federal bureaucracy. This Nation would lose a wonderful asset and one we have enjoyed for many years.

Further, we are opposed to the continued trend to "out-source" or to contract-out many of the present positions in the Army Corps of Engineers, Civil Works Division. The current Secretary of Army has proposed 90 percent of all Corps of Engineers positions be contracted out which would eliminate approximately 22,000 current employees and would make it almost impossible for much of their work to continue. The Corps of Engineers needs to have a good core group of employees "in house" in order to continue to function in an orderly manner and in a fashion their mission was set out by Congress. It is our hope that our good Congressional friends will recognize this as a problem and do all they can to insure that such efforts are not successful.

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 once more and act accordingly.

DR. SAM M. HUNTER,
President.

PREPARED STATEMENT OF THE MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

My name is M.V. Williams and I am the President of the West Tennessee Tributaries Association. It is also my privilege to serve as the Chairman of the Executive Committee of the Mississippi Valley Flood Control Association.

I hope that every one here has knowledge of the Mississippi Valley Flood Control Association and a general idea of our objectives. For the sake of time let me sum it up by saying we are an agency that gives all the people of the Mississippi River Valley the opportunity to speak and act jointly on all matters pertaining to flood control, navigation, bank stabilization and major drainage problems. We have been coming to Washington since 1922 and continuously since re-organization in 1935, that's 68 years. Our members for the most part are elected officials that give of their time and resources because they know full well that their well-being and that of their family, friends and neighbors depends on the whims of the majestic and mighty Mississippi River and its Tributaries.

Today our great Nation is engaged in a global war on terrorism and our first priority is to win this war and to give back to our citizens that feeling of safety that was so rudely taken from us on the 11th day of September, 2001 by a bunch of self-destructive fanatical murderers. We know that each of you shares our concerns on this matter.

I am here today to talk about the fiscal year 2004 Appropriations for the Mississippi River and Tributaries Project. But before I do, I wish to thank all the Members of the United States Congress for adding funds to the President's fiscal year 2003 Budget for the U.S. Army, Corps of Engineers' Civil Works program. These additional funds are needed to insure the continuation of the improvement of our water resources, the restoration and protection of our natural environment and the operations and maintenance of our inland waterways system and our vitally needed flood control structures.

Today we are again faced with the Administration's Budget that is totally inadequate to accomplish those things that I have just mentioned. In addition to a lack of funding this 2004 Budget contains requirements that are totally unacceptable to us. I would at this time desire to address these concerns before talking briefly about the Appropriations.

First, the Administration is proposing to reach into the Inland Waterways Trust Fund to pay a large share of the cost of operations and maintenance of the inland

waterways of this country which by the way are the envy of the rest of those that inhabit this planet.

The Inland Waterways Trust Fund was established by the Congress in 1978 to make available funds for future construction and rehabilitation for navigation on the inland and coastal waterways, not for use for the operations and maintenance of those waterways. The funds came from a tax levied on the diesel fuel used by the commercial tow boats that used the waterways. These funds were not used until the passage of the Water Resources Development Act of 1986 at which time an agreement was reached between the waterways operators and the Federal Government that would call for an increase in the amount of fuel taxes coupled with the understanding that the trust fund would not be used for operation and maintenance costs.

If the Congress allows the use of trust funds for operations and maintenance, the trust fund will be exhausted in a short period of time and the 50 percent share to pay for construction for navigation facilities will not be available unless the tax on fuel used by the tow boats is raised once again. This action would make it extremely difficult for barge operators to continue their operations thereby making it more expensive for farmers to get their products to market and for the public to realize savings in transportation cost for bulk commodities such as fuel oil, gasoline and other crucial items shipped by barge. We urge you not to accept this proposal made by the Administration.

We again wish to express our strong opposition to any action that would transfer any part of the Corps of Engineers' Civil Works mission to other agencies or departments of the government and also our strong opposition to any "out-sourcing" of the present positions in the Corps' civil works functions.

We were very pleased to see that section 109 of the Fiscal Year 2003 Appropriations Bill reflected that the Congress shares our opposition to these matters and did in fact see that no funds appropriated would be used to study or implement any plans privatizing, divesting or transferring of civil works missions, functions, or responsibilities for the United States Army Corps of Engineers. Thank you very much for that.

Now if I may let me speak very briefly on the amount of funds we consider to be required for the Fiscal Year 2004 Mississippi River and Tributaries Appropriations.

The management and direction of the Mississippi Valley Flood Control Association is vested in a ten member Executive Committee who are elected by the members of the Association from their respective states, two each from the states of Louisiana, Mississippi and Arkansas and one each from the states of Tennessee, Kentucky, Missouri and Illinois. The Executive Committee has spent time reviewing and examining the Fiscal Year 2004 Proposed Budget for the Mississippi River and Tributaries Project and after careful consideration we arrived at the amount of $435,000,000 that we consider the amount required to complete the MR&T Project in the most economically and engineeringly feasible time frame that will also benefit, preserve and restore the natural environment. I have attached a sheet to my statement that reflects our request in more detail.

In closing let me state once again that our priorities are to win the war on terrorism, to protect the homeland and to revitalize the Nation's economy.

We must not forget the importance of funding the critical water resources infrastructure needs in order to protect the lives and property of our citizens and to protect the investment that has already been made.

Thank you for giving me the opportunity to speak to you today. The speakers to follow me will be more specific in their statements.

I shall close with the sincere hope that god will continue to bless this country and bring about a quick and kind end to all the discord in the world.

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

Project and State	MVCFA Request
Surveys, Continuation of Planning and Engineering & Advance Engineering & Design:	
Memphis Harbor, TN	$700,000
Germantown, TN	171,000
Millington, TN	127,000
Fletcher Creek, TN	150,000
Southeast Arkansas	1,000,000
Coldwater Basin Below Arkansas	500,000
Quiver River, MS	100,000

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS—Continued

Project and State	MVCFA Request
Alexandria, LA to the Gulf of Mexico	700,000
Morganza, LA to the Gulf of Mexico	7,992,000
Donaldsonville, LA to Gulf of Mexico	1,400,000
Spring Bayou, LA	832,000
Tensas River, LA	500,000
Donaldsonville Port Development, LA	100,000
Collection & Study of Basic Data	695,000
Subtotal—Surveys, Continuation of Planning & Engineering & Advance Engineering & Design	14,967,000
Construction:	
St. John's Bayou-New Madrid Floodway, MO	7,600,000
Eight Mile Creek, AR	2,050,000
Helena & Vicinity, AR	3,407,000
Grand Prairie Region, AR	24,700,000
Bayou Meto, AR	16,000,000
West Tennessee Tributaries, TN	620,000
Nonconnah Creek, TN	3,068,000
Wolf River, Memphis, TN	2,500,000
Reelfoot Lake, TN	1,240,000
St. Francis Basin, MO & AR	6,300,000
Yazoo Basin, MS	53,555,000
Atchafalaya Basin, LA	21,235,000
Atchafalaya Basin Floodway	14,200,000
MS Delta Region, LA	3,400,000
Horn Lake Creek, MS	395,000
MS & LA Estaurine Area, MS & LA	30,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA	44,017,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA	50,645,000
Subtotal—Construction	254,962,000
Subtotal—Maintenance	208,433,000
Subtotal—Mississippi River & Tributaries	478,362,000
Less Reduction for Savings & Slippage	−43,362,000
Grand Total—Mississippi River & Tributaries	435,000,000

PREPARED STATEMENT OF THE BOARD OF LEVEE COMMISSIONERS FOR THE YAZOO-MISSISSIPPI DELTA

YAZOO BASIN, MISSISSIPPI RIVERS AND TRIBUTARIES PROJECT

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 requests contained herein, but also for the general funding testimony offered for Fiscal 2004 by the Mississippi Flood Control Association. The association is requesting funding in the amount of $435 million for the Mississippi Rivers 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.

I would ask that these remarks 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 event's ever happening again in the Lower Mississippi Valley. As we look back, the MR&T has returned $180 billion in benefits for the $10 billion invested—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 livelihood, 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 line-item chart reflecting existing and needed funding levels for MR&T projects in the Lower Mississippi Valley follows, with special emphasis given to those projects most critical to our levee district:

MISSISSIPPI RIVER LEVEES

Overall, the construction needs for levees and channels in the Lower Mississippi Valley is $55.609 million, with an additional $8.59 million required for maintenance. Work to continue the ongoing process of strengthening deficient levees to the south of our district is underway and needs to continue on schedule. Of particular interest to our levee board is a series of projects designed to address the problem of levee under seepage. We are asking that $2.93 million be allocated to the Memphis District for three projects designed to address this problem.

UPPER YAZOO PROJECTS (UYP)

The number one priority for the Yazoo-Mississippi Delta Levee Board, the Upper Yazoo Project was conceived in 1936. The 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 advancing smoothly, it is critical to the people of the North Delta that it continue to do so. While the President's budget contains only $6.62 million for this project, we are asking that Congress increase its appropriation to $15 million to insure that this important project continues without interruption. These additional funds will be used to complete Items 5A and 5B; to initiate construction on Item 6A; and to acquire right of ways and mitigation lands for Item 6 and Item 7.

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. All four are aging and require both routine maintenance and upgrading. We are requesting that Congress allocate the needed $39.89 million so that they can continue to function effectively.

BIG SUNFLOWER RIVER MAINTENANCE PROJECT

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 had a 40 percent reduction in its flow capacity.

The Levee Boards have been working closely with the Vicksburg District as they complete the SEIS for the remaining work and with MDEQ on obtaining the Water Quality Certificate for the work. Both of these efforts are scheduled to be completed in 2004. Right-of-way is in place for the next construction item. We are requesting $4.17 million so that the SEIS can be completed and construction can be reinitiated as soon as the Water Quality Certificate is issued.

DEMONSTRATION EROSION CONTROL PROJECT

We feel strongly that 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 ColdwaterTallahatchie/Yazoo river system. We urge Congress to allocate $20 million to this effort.

BIG SUNFLOWER RIVER

We are requesting that Congress allocate $1.29 million so that the Corps might purchase mitigation lands.

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 dis-

trict. We urge Congress to both increase the limits for these projects and to make the eligibility process more competitive.

YAZOO BACKWATER PROJECT

We continue to support the Mississippi Levee Board's and Corps' recommended project to address the problems of backwater flooding in the South Delta. We support their funding request of $12 million to advance design, initiate real estate activity and initiate a pump supply contract.

Those of us at the Yazoo-Mississippi Delta Levee Board are deeply appreciative of the enormous amount of 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 you support us again in meeting our challenge of keeping the floodwaters 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 ST. FRANCIS LEVEE DISTRICT OF ARKANSAS

EXECUTIVE SUMMARY

The Mississippi Valley Flood Control Association fiscal year 2004 Civil Works Budget, Mississippi River and Tributaries Appropriations-Requesting Appropriations of $6,300,000 for Construction and $14,733,000 for Maintenance and Operation in the St. Francis Basin Project and a Total of $435,000,000 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, 7 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. Total project length of 38 miles 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 seen December 17, 2001. West Memphis and Vicinity would experience immediate flood relief when the first item of construction is completed.

U.S. ARMY CORPS OF ENGINEERS

We are strongly opposed to any action that would transfer any part or the entire U.S. Army Corps of Engineers Civil Works mission to any other agency or department of the Federal Government. This agency has completed and overseen the Civil Works mission since its inception and has done quite well. Very few of our other governmental bodies can report and show a return of the taxpayer's investment as the Corps of Engineers can and has been doing for many years. It has been reported this administration desires to transfer the Corps Civil Works program to the Department of Transportation, the Flood Control and Environmental Restoration to the Department of Interior and the Regulatory Program to the Environmental Protection Agency. The U.S. Army Corps of Engineers has rendered extremely valuable services for this Nation for many years. The Corps has created an inland waterways system that is the envy of the rest of the world. Our Nation's commercial transportation system is critical to the Nation's economy and the environmental well being and part of this system is used to transport military equipment in support of the war on terrorism. The Corps has also been in the forefront to provide flood control and environmental restoration projects and have supported our troops at every armed conflict this Nation has engaged in. In our opinion, it will be a serious mistake and have a negative nationwide impact to spread the functions of the Corps into several parts across a Federal bureaucracy. This Nation would lose a wonderful asset and one we have enjoyed for over 200 years.

PROPOSED FUNDING

We support the amount of $435,000,000 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 6,300,000 for the St. Francis Basin Project construction funds and $14,733,000 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 2004 Appropriations for the Mississippi River and Tributaries Project, please consider the significance of this project to the Mississippi Valley and the Nation's, economy and infrastructure. As always, I feel the Subcommittee will give due regard to the needs of the 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.

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2004 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 Harbor, TN		$700,000
Germantown, TN	$51,000	171,000
Millington, TN	84,000	127,000
Fletcher Creek, TN	120,000	150,000
Southeast Arkansas		1,000,000
Coldwater Basin Below Arkansas	185,000	500,000

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION—FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS—Continued

Project and State	President's Budget	Recommended Program
Quiver River, MS		100,000
Alexandria, LA to the Gulf of Mexico	435,000	700,000
Morganza, LA to the Gulf of Mexico	3,487,000	7,992,000
Donaldsonville, LA to Gulf of Mexico	800,000	1,400,000
Spring Bayou, LA	500,000	832,000
Tensas River, LA		500,000
Donaldsonville Port Development, LA		100,000
Collection & Study of Basic Data	695,000	695,000
Subtotal—Surveys, Continuation of Planning & Engineering & Advance Engineering & Design	6,357,000	14,967,000
Construction:		
St. John's Bayou-New Madrid Floodway, MO		7, 600,000
Eight Mile Creek, AR	2,050,000	2,050,000
Helena & Vicinity, AR	2,180,000	3,407,000
Grand Prairie Region, AR		24,700,000
Bayou Meto, AR		16,000,000
West Tennessee Tributaries, TN		620,000
Nonconnah Creek, TN	2,618,000	3,068,000
Wolf River, Memphis, TN		2,500,000
Reelfoot Lake, TN		1,240,000
St. Francis Basin, MO & AR	2,365,000	6,300,000
Yazoo Basin, MS	7,740,000	53,555,000
Atchafalaya Basin, LA	14,075,000	21,235,000
Atchafalaya Basin Floodway	7,768,000	14,200,000
MS Delta Region, LA	3,200,000	3,400,000
Horn Lake Creek, MS		395,000
MS & LA Estaurine Area, MS & LA		30,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA	39,562,000	44,017,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA	42,919,000	50,645,000
Subtotal—Construction	124,477,000	254,962,000
Subtotal—Maintenance	162,440,000	208,433,000
Subtotal—Mississippi River & Tributaries	293,274,000	478,362,000
Less Reduction for Savings & Slippage	−13,274,000	−43,362,000
Grand Total—Mississippi River & Tributaries	280,000,000	435,000,000

PREPARED STATEMENT OF THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

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. This statement, submitted on behalf of the State of Louisiana and its twenty levee boards, presents the recommendations for fiscal year 2004 appropriations for all U.S. Army Corps of Engineers Civil Works Projects in Louisiana.

Louisiana contains the terminus of the Mississippi River, third largest drainage basin in the world, draining 41 percent, or 1¼ million square miles, of the contiguous United States and parts of two Canadian provinces. In addition, Louisiana contends with flows from the Sabine River, the Red River, the Ouachita River, the Amite River and the Pearl River. All of these river systems combined drain almost 50 percent of the contiguous land mass of this Nation through Louisiana.

Louisiana also plays a strategic part in providing the middle of this Nation with access to the global marketplace through the Federally constructed Inland Waterway System. Approximately 75 percent of all soybeans, animal feed and corn, and almost 50 percent of all rice and cereals grown in mid-America are shipped to world markets through Louisiana. The 230 mile deepwater channel portion of the Mis-

sissippi River from Baton Rouge to the Gulf is the largest port complex in the world allowing Louisiana to rank first in the Nation in volume of waterborne traffic. Louisiana's maritime industry accounts for 22.5 percent of the total Louisiana gross state product and supports directly and indirectly almost 244,000 jobs. The ready availability of this low cost waterborne transportation system allowed Louisiana to develop the second largest refining capacity in the Nation, producing 15 billion gallons of gasoline annually at 19 refineries. Louisiana ranks second in produced natural gas and third for oil production. The pipeline system which supplies much of this Nation with natural gas and refined petroleum products originates in Louisiana. But none of this would have been possible without a comprehensive and extensive flood control system to protect the landside facilities. Louisiana is protected from riverine and tidal flooding by almost 3,000 miles of levees (1,500 in the MR&T system) constructed jointly by Federal, State and local entities. Louisiana's 20 levee boards are responsible for the maintenance and upkeep of these levees which allow one-third of Louisiana to be habitable year-round. Concentrated behind these levees are the vast majority of Louisiana's urban centers and petro-chemical complexes. Nearly 75 percent of the population lives and works in these protected areas and produces more than 90 percent of the State's disposable personal income. Approximately 60 percent of the State's agricultural products are produced in these protected areas. The lives and livelihoods of most of Louisiana's citizens depends on the effectiveness of this comprehensive flood control system. But Louisiana is not the only beneficiary of this investment. The petrochemical, oil and gas industries in Louisiana that contribute to the economic well being of the Nation are almost totally dependent on the Federally constructed flood control system to protect their facilities. These industries, and most of the agricultural industries in mid-America, are heavily dependent on the Federally maintained navigable waterway system to move their products. It is appropriate that the Federal Government has committed to providing combined flood control and navigation measures that benefit both Louisiana and the rest of the Nation.

But the levees and channel improvements that benefit the entire Nation have been blamed for the rapidly deterioration of our coastal wetlands that annually produce a commercial fish and shellfish harvest worth $600 million and 40 percent of the Nation's wild fur and hides harvest worth $15 million. Additionally these coastal marshes produce a tidal surge dampening effect that was incorporated into the design of our hurricane protection levees. The loss of these wetlands is adversely impacting both the area's natural resources and the effectiveness of the protection system. These wetlands are not Louisiana's alone; they constitute 40 percent of the Nation's wetlands and their restoration needs to be a national priority.

The Mississippi River and Tributaries Project (MR&T) 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. The Administration's budget proposals for the MR&T Project for the past several years appear to indicate a declining interest on the part of the Federal Government in seeing this project through to a successful completion. The Administration's proposed budget of $298 Million for fiscal year 2004 is totally unacceptable. We strongly support the Mississippi Valley Flood Control Association's request for $435 Million for the MR&T Project. This is the minimum amount necessary to continue the on-going construction work and perform the bare minimum of maintenance required to prevent further deterioration of the Federal investment. We urge you to support this requested level of funding.

We strongly oppose the Administration's proposal to use funds from the Inland Waterways Trust Fund to pay for part of the waterway system's routine operations and maintenance costs. The Inland Waterways Trust Fund, established in 1978 and funded by user fee revenues generated by a tax on towboat fuel, was intended to be used to pay one-half the cost of construction and major rehabilitation of navigation infrastructure. The Administration proposal will rapidly deplete the fund and set the stage for significantly increasing—some say more than doubling—the user fee. This will adversely impact the Nation's economy in the agricultural, energy and transportation sectors and will undermine America's international competitiveness. We urge you to reject this ill-advised raid on the Inland Waterways Trust Fund, as well as the tax increase it promises, and to insure that the balance and all future Trust Fund revenues are spent for their original purpose of modernizing the system to keep it functioning efficiently well into the future.

We are also opposed to the Administration's budget proposal to classify segments of the Inland Waterway System for funding purposes as either high or low use dependent on the tonnage moved over a particular segment. The Inland Waterway System—the whole system—allowed industrial facilities scattered throughout the central portion of the United States to obtain raw materials and fuel from distant

locations and to reach worldwide markets. The economies of thousands of inland cities and towns are dependent on low cost waterborne transportation to link America's far-flung mining, manufacturing, forestry and agricultural industries with deepwater ports. To give preferential status to the maintenance of only the mainstem portion of the waterway system will wreak havoc on the economies of all the communities located on the so-called low-use waterways, especially now when the Nation's economy is still struggling to recover.

In making the following funding recommendations regarding specific 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.

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 2004.

MISSISSIPPI RIVER AND TRIBUTARIES—SUMMARY OF RECOMMENDED APPROPRIATIONS FOR FISCAL YEAR 2004—STATE OF LOUISIANA

Louisiana	Administrative Budget	Louisiana Request
FC MR&T General Investigations:		
Alexandria to the Gulf	$435,000	$435,000
Donaldsonville to the Gulf	800,000	1,200,000
Morganza to the Gulf, PED	3,487,000	10,000,000
Collection & Study Data	190,000	190,000
Donaldsonville Port Development, LA	.....	100,000
Point Coupee St Mary Watershed	.....	100,000
Collect & Study of Basic Data (AR, LA, MS)	280,000	280,000
Spring Bayou Area, LA	500,000	600,000
Tensas River Basin, LA	.....	500,000
FC MR&T Construction:		
Atchafalaya Basin	14,075,000	24,075,000
Atchafalaya Basin Floodwater System	7,768,000	11,668,000
Channel Improvement	8,900,000	8,900,000
Mississippi Delta Region (FED)	3,200,000	3,200,000
Mississippi River Levees, LA	4,110,000	4,110,000
Mississippi River Levees (AR, LA, MS)	23,615,000	25,115,000
Channel Improvement (AR, LA, MS)	15,235,000	17,735,000
FC MR&T Maintenance:		
Atchafalaya Basin	13,335,000	18,296,000
Atchafalaya Basin Floodway System	2,450,000	3,850,000
Baton Rouge Harbor (Devil's Swamp)	15,000	281,000
Bayou Cocodrie and Tributaries	85,000	85,000
Bonnet Carre Spillway	1,975,000	3,009,000
Channel Improvement	15,300,000	15,300,000
Dredging	700,000	700,000
Inspection of Completed Works	425,000	425,000
Mapping	440,000	440,000
MS Delta Region	910,000	910,000
Mississippi River Levees, LA	785,000	1,285,000
Old River	9,915,000	21,102,000
Mississippi River Levees (AR, LA, MS)	2,050,000	2,650,000
Revetments & Dikes (AR, LA, MS)	14,000,000	14,000,000
Dredging (AR, LA, MS)	5,600,000	5,600,000
Mapping (AR, LA, MS)	365,000	365,000
Inspection of Completed Works (AR, LA, MS)	375,000	375,000
Boeuf & Tensas Rivers	2,400,000	2,400,000

MISSISSIPPI RIVER AND TRIBUTARIES—SUMMARY OF RECOMMENDED APPROPRIATIONS FOR FISCAL YEAR 2004—STATE OF LOUISIANA—Continued

Louisiana	Administrative Budget	Louisiana Request
Red River Backwater	3,425,000	3,982,000
Lower Red River	2,207,000	2,207,000

NOTE: The projects listed above are only those in Louisiana (except when 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.

The following is a list of budgetary items that the State of Louisiana requests funding that differs from what is recommended in the Fiscal Year 2004 Administrative Budget or is an item of particular importance for the State. Those items that the State of Louisiana believes have been appropriately funded have not been included.

FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION AND WATER RESOURCES PROJECTS IN LOUISIANA—SUMMARY OF RECOMMENDED APPROPRIATIONS FISCAL YEAR 2004

Louisiana	Administrative Budget	Louisiana Request
General Investigations:		
Studies:		
Amite River & Tributaries, LA—Bayou Manchac	$100,000	$800,000
Atchafalaya River, Bayous Chene, Boeuf & Black, LA	150,000	1,000,000
Calcasieu Lock, LA	100,000	800,000
Calcasieu River Pass Ship Channel Enlargement, LA		200,000
GIWW—Ecosystem Restoration, LA	100,000	600,000
Hurricane Protection, LA	100,000	1,000,000
LCA—Ecosystem Restoration, LA	848,000	3,000,000
Plaquemines Parish, LA	100,000	500,000
Port of Iberia, LA	150,000	2,000,000
St. Bernard Parish Urban Flood Control, LA	100,000	500,000
St. Charles Parish Urban Flood Control, LA	100,000	450,000
St. John the Baptist Parish, LA	100,000	400,000
Southwest, AR (AR, LA)		400,000
Pearl River, Bogalusa (MS)		350,000
PED:		
West Shore-Lake Pontchartrain, LA		600,000
West Baton Rouge Parish, LA		1,500,000
New Studies:		
Bayou Nezpique Watershed, LA		100,000
Millennium Port, LA		100,000
Tangipahoa River Ecosystem Restoration, LA		100,000
Construction General:		
Comite River, LA	2,000,000	6,565,000
East Baton Rouge Parish, LA		4,600,000
Grand Isle, LA		200,000
Inner Harbor Navigation Canal Lock, LA (IWWTF & CG)	7,000,000	20,000,000
Lake Pontchartrain, LA	3,000,000	16,000,000
Larose to Golden Meadow, LA	461,000	1,200,000
MR–GO (Reevaluation Study)		250,000
New Orleans to Venice, LA	2,000,000	6,000,000
Southeast, LA	16,500,000	65,000,000
West Bank and Vicinity, New Orleans, LA	35,000,000	35,000,000
Red River Below Den Dam (AR, LA)		7,000,000
Red River Emergency (AR, LA)		10,000,000
J. Bennett Johnston Waterway, MS River to Shreveport	13,700,000	29,000,000
Ouachita River Levees		3,000,000
Operations & Maintenance General:		
Atchafalaya River, Bayous Chene, Boeuf & Black	19,367,000	24,367,000
Barataria Bay Waterway	286,000	4,909,000
Bayou Lacombe		315,000
Bayou Lafourche	133,000	1,221,000
Bayou Segnette	165,000	1,535,000
Bayou Teche	48,000	354,000

FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION AND WATER RESOURCES PROJECTS IN LOUISIANA—SUMMARY OF RECOMMENDED APPROPRIATIONS FISCAL YEAR 2004—Continued

Louisiana	Administrative Budget	Louisiana Request
Calcasieu River & Pass	12,064,000	20,559,000
Freshwater Bayou	1,558,000	3,558,000
Grand Isle, LA & Vicinity	.....	455,000
Gulf Intracoastal Waterway	19,418,000	29,028,000
Houma Navigation Canal	1,242,000	1,422,000
Mermentau River	2,651,000	4,651,000
Mississippi River, Baton Rouge to the Gulf	56,206,000	64,566,000
Mississippi River—Gulf Outlet	13,485,000	34,325,000
Mississippi River, Outlets at Venice	1,841,000	5,116,000
Waterway Empire to the Gulf	7,000	247,000
Waterway Intracoastal Waterway to Bayou Dulace	37,000	237,000
Ouachita & Black Rivers (AR, LA)	10,221,000	16,145,000
J. Bennett Johnston Waterway	12,013,000	19,900,000
Lake Providence Harbor	32,000	421,000
Madison Parish Port	13,000	80,000

NOTE: The projects listed above are only those in Louisiana (except where noted) and directly affect the State.

PREPARED STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

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:

INLAND WATERWAY TRUST FUND

The UMRBA opposes expanding the uses of the Inland Waterway Trust Fund to include operation and maintenance of the inland navigation system. The Inland Waterway Trust Fund was established in 1986 to help meet the Nation's navigation infrastructure investment needs for new construction and major rehabilitation on inland rivers. That dedicated revenue source, generated by taxes on commercial users of the inland waterway system, should not be diverted to uses other than those for which it was established. Moreover, the Corps has estimated that partially funding inland waterway O&M from the Inland Waterway Trust Fund would deplete the Fund entirely by the end of fiscal year 2006. Given the pressing navigation infrastructure needs in coming years, such a course would be imprudent.

ENVIRONMENTAL MANAGEMENT PROGRAM

For the past 16 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 $33.52 million. The UMRBA is pleased that the Administration's budget request, for the first time since the 1999 reauthorization of the program, includes nearly full funding for the EMP. The fact that the Administration has identified the EMP as one of eight Corps projects "that are the highest priorities in the Nation," is tribute to the EMP's success.

EMP habitat restoration projects include activities such as building and stabilizing islands, controlling water levels and side channel flows, constructing dikes, and dredging backwaters and side channels. At the recommended EMP funding level of $33.32 million, approximately $18.8 million would be allocated to the planning, design, and construction of such habitat projects. In particular, this level of investment will support planning work on 15 projects, design of 14 projects, and construction of 12 projects. Approximately $8.6 million would be devoted to the EMP

Long Term Resource Monitoring program (LTRMP) under a fully funded EMP budget of $33 million. At this funding level, data collection activities would be revived, including monitoring of water quality, sediment, fish, invertebrates, and vegetation. This monitoring, along 300 of the river system's 1,300 miles, had to be suspended in fiscal year 2003 due to lack of funding. If funding is not restored in fiscal year 2004, 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.

Meeting the ecological restoration and monitoring needs on the Upper Mississippi River with renewed commitment and enhanced investment is critical, given the setback that the EMP suffered in fiscal year 2003, when funding was cut by nearly 40 percent. Within the next year, the Corps is expected to release its Navigation Study on the Upper Mississippi River and Illinois Waterway System, including a recommended plan 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, it is unlikely that the plan can be successfully implemented. The UMRBA thus strongly urges that the EMP be funded at $33.32 million in fiscal year 2004, as recommended by the President.

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 17 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 2004 budget request for major rehabilitation work at 3 locks and dams on the Upper Mississippi River, including Lock and Dam 24, Lock and Dam 11, and Lock and Dam 3. Half of these amounts are to be provided by the Inland Waterways Trust Fund. Lock and Dam 24, located near Clarksville, Missouri, is nearing completion of the first phase of its $87 million rehabilitation. Lock wall concrete repairs are underway and expected to continue in fiscal year 2004. However, the fiscal year 2004 budget request of $13 million is a constrained funding level, which may require suspension of the contract, thus ultimately increasing project cost. UMRBA thus supports $17 million for rehabilitation of Lock and Dam 24, which is the fiscal year 2004 capability level.

Rehabilitation of Lock and Dam 11, located near Dubuque, Iowa, began in fiscal year 2002. The work includes repair and replacement of various miter and tainter gate components, culvert valve rehabilitation, and additional scour protection above and below the dam. The fiscal year 2004 budget request is $1.313 million, but the UMRBA supports the full capability funding of $6.52 million.

Lock and Dam 3, near Red Wing, Minnesota is located on a bend in the river, which causes an outdraft current that tends to sweep down-bound tows toward the gated dam. A related problem is maintaining the structural integrity of a set of 3 earthen embankments connecting the gated dam to high ground on the Wisconsin side. A reevaluation study is now underway to assess alternatives for addressing these related navigation safety problems and potentially combining the projects. The UMRBA supports fiscal year 2004 funding of $600,000, as requested by the President, to complete the study and begin work on plans and specifications.

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 2004 budget totals approximately $144 million for O&M of this river system, which includes $97.859 million for the Mississippi River between Minneapolis and the Missouri River, $18.099 million for the Mississippi River between the Missouri River and Ohio River, and $27.615 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 and proposed in Pools 6 and 9, is a promising new approach for enhancing aquatic plant growth and overwintering conditions for fish, without adversely affecting navigation.

Although the President's fiscal year 2004 funding request for O&M is slightly higher than fiscal year 2003 funding levels for most segments of the river system, unfortunately it is substantially less for the St. Paul District (MVP) and well below capability levels in the other two Districts.

[Millions of dollars]

Upper Mississippi River System O&M Accounts	Fiscal Year 2003 Omnibus	Fiscal Year 2004 Request	Fiscal Year 2004 Full Capability
Mississippi River Between MO River and Minneapolis:			
St. Paul District (MVP)	41.820	36.056	56.306
Rock Island District (MVR)	41.820	44.429	54.779
St. Louis District (MVS)	15.443	17.374	26.434
Mississippi River Between Ohio and MO Rivers	17.000	18.099	29.399
Illinois Waterway:			
Rock Island District (MVR)	25.154	25.726	35.026
St. Louis District (MVS)	1.683	1.889	1.889

The 23 percent reduction in Mississippi River O&M funding for the St. Paul District is of particular concern. This dramatic cut will eliminate the Mississippi River Endangered Species Recovery program and all maintenance construction contracts, with the exception of dredging and the continuing contract for the Lock and Dam 9 control systems and building replacement. Anticipated contract suspensions or cancellations include those for tow haulage unit replacements, Lock and Dam 4 dam gate painting, Lock and Dam 1 Ambursen Dam rehabilitation, Lock and Dam 6 fixed crest spillway repairs, Lock and Dam 10 control systems and building replacement, West Newton dredged material site unloading, and Upper St. Anthony Falls lock dewatering. In addition, the St. Paul District will be unable to address the recently-identified lock bulkhead problems at several facilities. It is projected that $31 million will be required over the next 5 years to construct bulkhead slots needed to safely dewater Locks 2–10 for repair.

The UMRBA supports increased funding for O&M of the Upper Mississippi and Illinois River System, particularly in the St. Paul District. Full capability funding in fiscal year 2004 for all three Upper Mississippi River districts totals $204 million.

NAVIGATION STUDY

The Upper Mississippi River and Illinois Waterway Navigation Study, which began in 1993, was restructured in 2001, in response to recommendations from the National Research Council and a new Task Force of senior leaders from 5 Federal agencies. Now that the study is on a new course, designed to address both navigation and environmental needs in an integrated fashion, the UMRBA is anxious to see the study brought to a successful and timely conclusion. On-going analyses are expected to yield results that will be used to develop tentative integrated plans by October 2003, incorporating both navigation improvements and ecosystem restoration. Fiscal year 2004 activities will thus focus on agency, stakeholder, and public review and input. This will be an extremely critical step in the collaborative process, which is expected to yield a Chief's Report by November 2004. In order to keep this process on track, it is essential to fully fund the Navigation Study, as requested by the President.

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 the "Upper Mississippi River Comprehensive Plan," the primary focus of which is systemic flood damage reduction and flood protection. In fiscal year 2003, a Project Management Plan (PMP) was developed and data gathering efforts are now underway. Funding is needed in fiscal year 2004 to continue the inventory and digital data coverages of floodplain land use, infrastructure, natural resources, and socioeconomic data and to begin the development and analysis of alternatives. Development of the Comprehensive Plan has been awaiting completion of the Flow Frequency Study, which will provide updated flood elevation pro-

files and models. That work is scheduled for completion this fiscal year, thus paving the way for the Comprehensive Plan to be undertaken in earnest.

The total study costs for the Upper Mississippi River Comprehensive Plan are estimated to be $5.13 million. In fiscal year 2002, the first year that funding was provided, $692,000 was allocated. In fiscal year 2003, an additional $1.814 million was provided. However, only $492,000 has been requested for fiscal year 2004. Unless additional funds are made available in fiscal year 2004, the study will not be completed in the 3-year time frame Congress directed when the study was first authorized in WRDA 1999, and later reaffirmed in WRDA 2000. Thus, the UMRBA supports full funding of $2.624 million in fiscal year 2004.

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 2003, the Corps' share of the cost of these gages is $1.888 million. Most of these stream gages are funded through the Corps' O&M account for the specific projects to which the gages 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 5 States of the Upper Mississippi River Basin. In fiscal year 2003, approximately $127,000 was provided by these "General Coverage Funds" for gages in the St. Paul and Rock Island Districts.

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 2004 appropriations. We understand and appreciate that the subcommittee's ability to fund programs within its jurisdiction is limited by current national emergency but appreciate your consideration of these important programs.

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 28 foreign countries. We have protected more than 14.0 million acres in the United States and more than 80 million acres with local partner organizations 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 2004 Energy and Water Development Appropriation bill:

CONSTRUCTION GENERAL PRIORITIES

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 several projects including the McKarran Ranch on the Truckee River, NV and Spunky Bottoms on the Illinois River, IL. The Nature Conservancy supports full funding of $25.0 million for the Section 1135 program in fiscal 2004, an increase over the administration's $14.0 million request.

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 Nature Conservancy has several projects that put Section 206 to work restoring important habitat, including a $5 million project at Kankakee Sands in Indiana, and the Mad Island Aquatic Ecosystem Restoration Project in Texas. The Nature Conservancy supports full funding of $25.0 million for this valuable program in fiscal 2004, an increase over the administration's $10.0 million request.

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 5 States (Illinois, Iowa, Minnesota, Missouri,

and Wisconsin). The EMP was reauthorized in WRDA 1999 with an increased authorization in the amount of $33.3 million. The Nature Conservancy supports the President's request for full funding of $33.3 million for fiscal 2004.

Estuary Habitat Restoration Program.—The Estuary Habitat Restoration Program was established with the intent to restore 1 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 2004.

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 heath of the system and for protecting water supplies for human use. The Nature Conservancy supports $45.0 million in fiscal 2004, an increase over the administration's $14.8 million request.

Florida Keys Water Quality Program.—The Florida Keys Water Quality Program is a unique restoration program designed to protect the fragile marine and coral ecosystem off the Florida Keys. This marine ecosystem is being impacted by excessive nutrients due to storm and waste water pollution. This program is cost shared with State and local interests to repair and improve the storm and wastewater treatment facilities on the Florida Keys to reduce the harmful levels of nutrient pollution. The Nature Conservancy, and its partners the State of Florida, Florida Keys Aqueduct Authority, Monroe County, City of Islamorada, City of Layton, City of Key Colony Beach, City of Marathon, and City of Key West, support $30.0 million for fiscal 2004.

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 Nature Conservancy supports the President's request of $22.0 million for fiscal 2004.

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 $5.0 million as an initial appropriation in fiscal 2004.

GENERAL INVESTIGATION PRIORITIES

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 $1.0 million in fiscal 2004 for the Army Corps of Engineers (Corps) to continue the Comprehensive Study in the White River basin, an increase over the administration's $300,000 request.

Savannah River Basin Comprehensive Water Resources Study.—The Savannah Basin Comprehensive Water Resources Study will enable the Corps and other partners to gain a better understanding of the influence of hydrologic processes such as timing, duration, frequency, magnitude, and rate of change of river flows on the river's ecology. The Nature Conservancy, under a cooperative agreement funded by the USACE and its cost share partners Georgia and South Carolina, is working to develop a set of ecosystem flow recommendations for the Savannah River Basin. Draft flow recommendations will be finalized by May 2003. The Nature Conservancy supports the President's request of $200,000 in fiscal 2004.

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 watershed's diverse ecosystem. The Nature Conservancy supports the President's request of $1.0 million in fiscal 2004.

Connecticut River Ecosystem Restoration Study.—The Connecticut River Ecosystem Restoration Study identified several ecosystem restoration opportunities along the mainstem of the Connecticut River. These funds will support studies of the ecological flow needs and initiate needed modeling on the Ashuelot River, NH and the West River, VT, part of the Sustainable Rivers Project, a unique collabora-

tion with the Army Corps of Engineers and The Nature Conservancy. The Sustainable Rivers Project seeks to reoperate 16 dams on 12 rivers to better meet the needs of the freshwater ecosystem while still abiding by the required purposes of the dams. The Nature Conservancy supports $315,000 for fiscal 2004, an increase over the administration's $115,000 request.

Southeast Oklahoma Feasibility Study.—The reconnaissance phase of the Southeast Oklahoma Feasibility Study determined there is Federal interest to preserve and/or restore the riverine ecosystem of the Kiamichi River Basin between the confluence of Jackfork Creek and the Kiamichi River and the upper reaches of Hugo Lake over the 50-year period of analysis. These funds will support studies of the ecological flow needs and initiate needed modeling on the Kiamichi River which is part of the Sustainable Rivers Project, a unique collaboration with the Army Corps of Engineers and The Nature Conservancy. The Sustainable Rivers Project seeks to reoperate 16 dams on 12 rivers to better meet the needs of the freshwater ecosystem while still abiding by the required purposes of the dams. The Nature Conservancy supports $100,000 for fiscal 2004, an increase over the administration's $50,000 request.

REGULATORY PROGRAM PRIORITIES

Southern California Special Area Management Plan (SAMP).—For the past 3 years, the Army Corps has been working with three Southern California counties to develop region-wide Special Area Management Plans that identify, delineate and plan for the conservation of wetlands within their jurisdictions. These SAMPs are a critical part of the regional effort to protect critical natural and resources to plan for continued economic growth in Southern California. They are emerging as an important planning tool that addresses streamlining of Federal wetlands regulations while promoting more effective wetlands conservation and providing long-term certainty for economic interests in the region. The Southern California SAMP process is being evaluated as a model for wetlands planning in other areas. The Nature Conservancy supports $1.9 million for fiscal 2004.

BUREAU OF RECLAMATION PRIORITIES

Recovery Implementation Program for Colorado Endangered Fish Species.—The Recovery Program is in its thirteenth 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 Nature Conservancy supports $5.9 million in fiscal 2004 for the Bureau of Reclamation.

Thank you for the opportunity to present The Nature Conservancy's comments on the Energy and Water Development 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. If you have any further questions, please do not hesitate to contact us.

PREPARED STATEMENT OF SOUTHEASTERN FEDERAL POWER CUSTOMERS, INC.

Mr. Chairman and Members of the Subcommittee: On behalf of the Southeastern Federal Power Customers' ("SeFPC"), I am pleased to provide testimony in reference to the Administration's fiscal year 2004 budget request for the U.S. Army Corps of Engineers ("Corps"). My testimony will focus primarily on the budget request for the Corps' South Atlantic Division ("SAD") and the Great Lakes and Ohio River Division ("LRD").

The SeFPC has enjoyed a long and successful relationship with the Corps' SAD and LRD offices that has greatly benefited the approximately 5.8 million customers that are SeFPC members. As the Subcommittee is aware, the Corps is responsible for operating and maintaining Federal hydropower generating facilities. The Southeastern Power Administration ("SEPA") then markets the energy and capacity that is generated from the Federal projects in the Southeast. The SeFPC represents some 238 rural cooperatives and municipally owned electric systems in the States of Alabama, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Florida, Virginia, and West Virginia, which purchase power from SEPA. In some cases, SEPA supplies as much as 25 percent of the power and 10 percent of the energy needs of SeFPC customers. The SeFPC therefore greatly relies on the power generated at Corps' projects in the SAD and LRD.

DRASTIC CUTS IN THE CORPS' BUDGET

The members of the SeFPC are dedicated to providing reliable and economic power for their consumers. We therefore are concerned that the President has proposed a 30 percent reduction in the Corps' Operations & Maintenance ("O&M") account and 25 percent reduction in the Construction General Account for the upcoming fiscal year. With these reductions in funding, the Corps will not be able to undertake the O&M and Renewals & Replacements ("R&R") work necessary to ensure the long-term reliability of the Southeastern Federal hydropower facilities. We are particularly concerned about the effects of the proposed budget cuts on ongoing O&M work on hydropower infrastructure within the SEPA system of projects.

The proposed reductions will impede the Corps' work in the following SEPA projects: Walter F. George, J. Strom Thurmond, John H. Kerr, Allatoona, and Carters.

We also are concerned the President's budget request has zeroed out funds for construction at many of the projects operated by the Corps of Engineers. If enacted, the prohibition on "new starts" would delay the badly needed rehabilitation of generating facilities in the Cumberland River System and throughout the Southeast. Many of the hydroelectric generating facilities in SEPA's service area are nearing the 50-year mark, when major rehabilitations are critical if the project is to continue. Regrettably, the fiscal year 2004 budget request does not place a high priority on critical needs, such as: (1) $4 million for replacement of generating units at Wolf Creek project; and (2) $2.8 million to initiate replacement of generating units at Center Hill.

When a generating unit becomes inoperable, SEPA may be forced to purchase expensive replacement power which could result in a reduction of energy and capacity, possibly forcing the customer to purchase expensive capacity elsewhere. This has occurred so frequently in the last several years that the new SEPA rate design now includes a monthly payment provision by customers to cover any replacement power. Such a result is inappropriate because preference customers already have contributed to the Corps' O&M and R&R expenses, and in essence are double-charged. Even though excess payments pay down the debt associated with the projects, when generating units deteriorate, the O&M expenses greatly increase.

We are working on a long-term customer funding proposal that would facilitate this badly needed replacement and rehabilitation work at hydroelectric facilities in the LRD and SAD. We anticipate, however, that this long-term initiative will not be finalized for several years. In the meantime, some of these facilities will not be able to continue running without Federal funds.

ADMINISTRATION'S PROPOSAL FOR DIRECT FUNDING OF O&M

It is important to note that the relationship of the Corps, SEPA, and the SeFPC, forged pursuant to the Federal Power Marketing Program, is separate and distinct from other Corps activities. The Federal Power Marketing Program is designed to pay for itself—consumers are responsible for repaying the Federal taxpayer investment in the Corps' multi-purpose hydroelectric facilities. In the rates charged by SEPA to preference customers, a portion of each rate is devoted to future O&M and R&R activities at these facilities. In turn, these revenues are deposited in the Treasury and used to reimburse Congressionally appropriated funds for O&M and R&R expenses at the Corps' hydropower facilities. Funds collected from consumers may also be used for the joint costs of dam activities such as recreation, navigation and flood control. To date, preference customers have paid in SEPA rates over $108 million in excess of amounts spent by the Corps on O&M and R&R.

The Administration's fiscal year 2004 budget request proposes to alter this funding arrangement. This year's request includes a provision from the President's fiscal year 2003 request calling for direct funding of routine hydropower O&M for SEPA and the other Federal Power Marketing Administrations. While we support the concept of direct funding for O&M expenses, we have concerns with the Administration's proposal. We believe the proposal could limit customer oversight and involvement in how O&M funds are spent. Moreover, as we have discussed in greater detail above, some of the most pressing needs at the Nation's Federal hydropower facilities would require major rehabilitation and other new construction expenses not covered by the O&M proposal.

Thank you in advance for your consideration of our comments on the Administration's fiscal year 2004 budget request for the Corps. We look forward to working with you to ensure these critical needs are met.

PREPARED STATEMENT OF THE CITY OF LOS ANGELES BOARD OF HARBOR COMMISSIONERS, PORT OF LOS ANGELES

Chairman Domenici, 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 the United States' decisive role in global trade.

We thank your Subcommittee for its unwavering support of the now completed Pier 400 Deep-Draft Navigation and Landfill Project that was the first phase of the 2020 Infrastructure Development Plan at the Port. In fiscal year 2002, your Subcommittees appropriated $5.8 million, thereby enabling the Port and the Corps of Engineers to complete the Preconstruction and Engineering Design Phase resulting in the successful commencement of construction of the Channel Deepening Project, the second phase of strategic navigation improvements under the 2020 Plan. The construction contract was awarded in August 2002 and dredging began the following month. The project is scheduled for completion in fiscal year 2005.

Again, in fiscal year 2003, your Subcommittee demonstrated its decisive role in promulgating support for critical national water resources policy through the appropriation of scarce Federal funds to continue development of our Nations' navigation infrastructure program. The Subcommittee's fiscal year 2003 earmark of $12 million has kept the Channel Deepening Project on schedule.

Today, we respectfully submit testimony requesting full Federal funding in fiscal year 2004 for continued construction dredging of the Channel Deepening Project and for particular operations and maintenance requirements. Consistent with the goals and priorities of the Administration and the Congress, the Channel Deepening Project will provide significant economic return to the Nation, fulfill the commitment to environmental stewardship, and maintain essential readiness for our national security while fostering positive international relations. Therefore, we respectfully ask the Subcommittee to fully fund our fiscal year 2004 appropriations requests.

THE IMPORTANCE OF THE 2020 INFRASTRUCTURE DEVELOPMENT PLAN TO THE UNITED STATES ECONOMY

Dramatic increases in Pacific Rim and Latin American trade volumes have far exceeded our expectations! Consequently, infrastructure development at the Port of Los Angeles is now more critical than ever. More than 35 percent of containerized trade entering the United States through the San Pedro Bay port complex that comprises both the Port of Los Angeles and the Port of Long Beach. More than 20 percent represents container throughputs at the Port of Los Angeles, alone. In fact, the Port of Los Angeles handled more than 5.1 million TEUs in 2002. Those figures have escalated to more than 6 million TEUs of container cargo through the end of January of this year. These container throughputs represent $300 billion in goods coming into the United States, and are keen evidence of the unprecedented and continued growth for any American seaport—and the importance of the Port of Los Angeles in the national economy.

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 robust Asian economy, we can best describe the potential for increased two-way trade with the Pacific Rim region, alone, as colossal! These goods went on to stores and manufacturing plants across the United States, supporting jobs and local economies. As was evidenced by the recent West Coast labor lock out, the indirect impacts to our national economy are significant, and are a result of the leading position the Port of Los Angeles enjoys in the national and world economies.

In the late 1970s, the Port of Los Angeles quite accurately forecast the current surge in the international trade needs of both the Southern California region and the Nation. In the early 1980s, the Port entered a long-term cooperative planning effort with the Corps of Engineers, known as The 2020 Infrastructure Development Plan. Designed to meet the extraordinary infrastructure demands placed on it in the face of the continued explosion in global trade, the 2020 Plan acknowledges the phenomenal growth of trade through the Port of Los Angeles. Further, the 2020 Plan has become a blueprint for the infrastructure development of other ports and adaptation to changes in maritime technology and to the projected growth in trade volumes experienced by most ports nationally. The Channel Deepening Project marks

the second phase of the 2020 Plan begun with the Pier 400 Deep-Draft Navigation and Landfill Project. The Port of Los Angeles is moving forward with the 2020 Plan.

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 improvement 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 of Engineers approved the Feasibility Study on December 29, 2000, thereby enabling the Channel Deepening Project to proceed.

In fiscal year 2004, the Port of Los Angeles requests that your Subcommittee include an appropriation of $35,000,000 for the Federal share of continued construction dredging of the Channel Deepening Project. The Corps of Engineers' has estimated the total project cost of approximately $194,000,000[1] with a Federal share of $57,400,000, and a local share of $136,600,000.

We cannot over emphasize the critical importance of continuing construction of the Channel Deepening Project in fiscal year 2004. At −45 Mean Lower Low Water (MLLW), the Main Channel is too shallow to accommodate the new state-of-the-art container vessels designed to draft as much as −48 feet and hold containers than 6,000 TEUs. The Chief of Engineers' Report, issued in December 2000, 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 8.4 million cubic yards of sediment from the Turning Basin, the West and East Basins, and the East Basin Channel. Of the major container shipping lines that currently call at the Port of Los Angeles, five have vessels that draft −46 feet when fully laden. 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 or other non-U.S. West Coast ports.

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 in the Pacific Rim trade 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 continue, with full funding that will keep the project on schedule for completion in fiscal year 2005.

CONTINUED FUNDING OF THE LOS ANGELES HARBOR MODELS

Furthermore, the Port of Los Angeles also requests a total appropriation of $3,170,000 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 to maintain the Los Angeles Harbor Model studies and the Wave Gauge Program. Our request includes $170,000 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 technologically outdated and beyond their physical service life.

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 2020 Plan of the Port. 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.

THE ECONOMIC IMPACT OF THE 2020 INFRASTRUCTURE DEVELOPMENT PLAN

As we have testified before, cargo throughput for the Port of Los Angeles has a tremendous impact on our national economy. This fact cannot be over emphasized.

[1] Escalated through end of construction in fiscal year 2005, per OMB.

The ability of the Port to meet the spiraling demands of the phenomenal growth in global trade through its facilities is directly dependent upon the construction of sufficiently deep navigation 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 remain abreast of these industry trends, we must immediately make the necessary infrastructure improvements that will enable the Port 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—and the Southern California region—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 into 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.

IN SUMMARY

Mr. Chairman, the Port of Los Angeles respectfully urges your Subcommittee to include the following appropriations earmarks in the fiscal year 2004 Budget to support the U.S. Army Corps of Engineers navigation construction projects on behalf of the Port of Los Angeles:

—$35,000,000 to continue construction dredging of the Channel Deepening Project;
—$170,000 for ongoing maintenance of the Los Angeles Harbor Model at WES; and,
—$3,000,000 to upgrade wave gauge and generators of the Los Angeles Harbor Model at WES.

Thank you, Chairman Domenici, 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 significant role the port industry plays in maintaining 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 and national security.

PREPARED STATEMENT OF THE LOUISIANA GOVERNOR'S TASK FORCE ON MARITIME INDUSTRY

As Chairman of the Louisiana Governors Task Force on Maritime Industry, I hereby submit testimony to the Senate Subcommittee on Energy and Water Development 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 2004.

The U.S. Army Corps of Engineers reports that in 2001 a total of 420.3 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 20.8 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 Nation's continued 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 water-

borne commerce on the lower Mississippi River. The high level of barge traffic on the river is indicated by the passage of more than 222,500 barges through the Port of New Orleans annually. In 2001, 2,020 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 (40.3 percent); Asia (25.3 percent); Europe (23.6 percent); Africa (9.4 percent) and North America (1.5 percent). During the same year, 5,621 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 2001, the region's ports and port facilities handled 232.5 million tons of foreign waterborne commerce. Valued at $38.4 billion, this cargo accounted for 18.1 percent of the Nation's international waterborne trade and 26.7 percent of all U.S. exports. Bulk cargo, primarily consisting of tremendous grain and animal feed exports and petroleum imports, made up 91.2 percent of this volume. Approximately 49 million tons of grain from 17 States, representing 58.5 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 94 million short tons of petroleum and petroleum products, 15.9 percent of U.S. waterborne imports of petroleum products.

In 2001, 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 85.6 million tons of international and domestic cargo. International general cargo totaled 8.9 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 2004 to complete construction of improvements 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 saltwater 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 212.6 million tons of foreign and domestic cargo in 2001, and the Port of Baton Rouge, the Nation's tenth largest port with 61.4 million tons of foreign and domestic cargo in 2001, 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 2004 Budget is $56,206,000 under O&M General. We, however, strongly recommend that the Corps be funded $64,566,000 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 2001, 418 general cargo vessels calling on the Port's MRGO terminals accounted for 31.2 percent of the general

cargo tonnage handled over public facilities at the Port and 68.7 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. The President's fiscal year 2004 Budget is $13,485,000 under O&M General. We, however, strongly recommend that the Corps be funded $34,325,000 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. Unfortunately, the President's fiscal year 2004 Budget does not include funding for such a study. We, however, strongly recommend that the Corps be funded $813,000 to complete the MRGO Reevaluation Study. It is important to note that although the Port of New Orleans plans to relocate much of its container terminal capacity to the Mississippi River, a determination to discontinue maintenance of the MRGO's deep draft channel must be preceded by completion of the IHNC Lock replacement project to assure continued deep draft access to the many businesses serviced by the MRGO.

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. To minimize adverse impacts to adjacent neighborhoods, the project includes a $37 million Community Impact Mitigation Program. The President's fiscal year 2004 Budget of $7,000,000 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 $20,000,000 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 2001, these channels accommodated cargo movements exceeding 3 million tons. In addition to routine traffic, shallow draft vessels use Baptiste Collette Bayou as an alternate route between the MRGO, GIWW and the Mississippi River. The President's fiscal year 2004 Budget is $1,841,000 under O&M General. We, however, strongly recommend that the Corps be funded $5,116,000 to perform critical maintenance dredging.

More than 74.9 million tons of cargo transverse the GIWW in the New Orleans District annually. The President's fiscal year 2004 Budget is $19,418,000 under O&M General. We, however, strongly recommend that the Corps be funded $29,028,000 to perform critical maintenance at the navigation locks.

The President's fiscal year 2004 Budget for the Bayou Sorrel Lock, LA project is $707,000 in GI funds. To assure the efficient flow of commerce on the GIWW, we urge that the Corps be funded $707,000 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 3 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 2001, the Port handled 37.1 million tons of import cargo and 17.3 million tons of export cargo. The Port and private facilities along this waterway provide thousands of jobs for the Lake Charles area. In 2001, 1,284 ships and 7,893 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 2004 Budget is $12,064,000 under O&M General. We, however, strongly recommend that the Corps be funded $20,559,000 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 2004 Budget is $13,700,000 (Construction General) and $12,013,000 (O&M General). We, however, strongly recommend that

the Corps be funded $29,000,000 (Construction General) and $19,900,000 (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.

1. Mississippi River Ship Channel, Gulf to Baton Rouge, LA.—Recommend the Corps be funded $196,000 (Construction General) to perform required work on the saltwater intrusion Phase 1 mitigation plan.

2. Mississippi River, Baton Rouge to the Gulf, Maintenance Dredging.—The President's Fiscal Year 2004 Budget is $56,206,000 under O&M General. Recommend that the Corps be funded $64,566,000 to construct foreshore rock dike, soft dike at deep draft crossings, and to repair Southwest Pass pile dike and tie-in.

3. Mississippi River Gulf Outlet (MRGO), LA, Maintenance Dredging.—The President's Fiscal Year 2004 Budget is $13,485,000 under O&M General. Recommend that the Corps be funded $34,325,000 for maintenance dredging and bank stabilization.

4. Inner Harbor Navigation Canal (IHNC) Lock, LA.—The President's Fiscal Year 2004 Budget is $7,000,000 in Construction General funds. Recommend that the Corps be funded $20,000,000 to continue construction and mitigation for the IHNC Lock replacement.

5. Mississippi River Outlets at Venice, LA.—The President's Fiscal Year 2004 Budget is $1,841,000 under O&M General. Recommend that the Corps be funded $5,116,000 to perform critical maintenance dredging and to repair jetties.

6. Bayou Sorrel Lock, LA.—The President's Fiscal Year 2004 Budget is $707,000 under General Investigation Studies. Recommend that the Corps be funded $707,000 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.

7. Gulf Intracoastal Waterway, LA and TX.—The President's Fiscal Year 2004 Budget is $19,418,000 under O&M General. Recommend that the Corps be funded $29,028,000 to perform critical maintenance at the navigation locks.

8. Calcasieu Lock, LA.—The President's Fiscal Year 2004 Budget is $100,000 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.

9. Calcasieu River and Pass, LA.—The President's Fiscal Year 2004 Budget is $12,064,000 under O&M General. Recommend that the Corps be funded $20,559,000 to construct revetment at Devil's Elbow, perform critical dredging and maintenance of disposal area.

10. MRGO Reevaluation Study, LA.—The President's Fiscal Year 2004 Budget has no funding for this study. Recommend that the Corps be funded $813,000 (Construction General). Funds are needed to complete a study to determine the advisability of maintaining the 36-foot depth of the MRGO.

11. J. Bennett Johnston Waterway, Mississippi River to Shreveport, LA.—The President's Fiscal Year 2004 Budget is $13,700,000 (Construction General) and $12,013,000 (O&M General). Recommend that the Corps be funded $29,000,000 (Construction General) and $19.9 million (O&M, General) to complete work already underway.

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 2004 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.

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 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 1970's. 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 2002 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 12 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 were $24 per metric ton before world events increased them to $30 per ton as this letter is written. Using $24 per ton, each foot of draft represents an additional $72,000 in vessel revenue, or $360,000 for the five additional feet over the old 40-foot project draft that the new channel provides.

The funds we request for maintenance dredging ($64.6 million, $8.4 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 request that the New Orleans District receive an additional $32.1 million to address the shortfall carried forward from fiscal year 2002. These funds were not provided by Congress

in an fiscal year 2002 supplemental appropriation as requested by the Corps and are seriously impacting needed channel maintenance on the Mississippi River, the Mississippi River-Gulf Outlet (MR-GO) and the Calcasieu Ship Channel in fiscal year 2003. To "catch up" with the dredging needs on these channels, we respectfully request this additional funding in fiscal year 2004 if it is not provided in a fiscal year 2003 supplemental appropriation.

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 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 ($27 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 $34.3 million for the MR-GO in fiscal year 2004. 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 1920's 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 8½ 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 2004 capability ($20 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 ($20.6 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 benefitting 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 2004 at $29 million for Construction General and $19.9 million for O&M General to complete work already underway.

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 50 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 260 million short tons of cargo during 2002. Of this total tonnage, more than 133 million tons are shipped in international trade by deep water vessel and 127 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;
—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.

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 you and your committee give favorable consideration to the following U.S. Corps of Engineers projects:

1. *Mississippi River Ship Channel—Gulf to Baton Rouge, Louisiana (Construction General)*.—The Port of Greater Baton Rouge supports full funding of $196,000 in fiscal year 2004 to the U.S. Corps of Engineers General Construction Budget. These funds will provide for the required work on the saltwater intrusion mitigation plan and the Phase I design studies for the 55-foot channel. Both projects are important to the future success of the Port of Greater Baton Rouge.

2. *Mississippi River—Baton Rouge to the Gulf—Maintenance Dredging*.—The President's Fiscal Year 2004 Budget is $56,206,000 under O&M General. The Port of Greater Baton Rouge recommends that the Corps be funded $64,566,000 to construct foreshore rock dike, soft dike at deep draft crossings, and to repair Southwest Pass pile dike and tie-in.

3. *Mississippi River—Gulf Outlet (MRGO), LA., Maintenance Dredging*.—The President's Fiscal Year 2004 Budget is $13,485,000 under O&M General. The Port of Greater Baton Rouge recommends that the Corps be funded $34,325,000 for maintenance dredging and bank stabilization.

4. *Inner Harbor Navigation Canal (IHNC) Lock, LA*.—The President's Fiscal Year 2004 Budget is $7,000,000 in Construction General Funds. The Port of Greater Baton Rouge recommends the Corps be funded $20,000,000 to continue construction and mitigation for the IHNC Lock replacement.

5. *Mississippi River Outlets at Venice, LA*.—The President's Fiscal Year 2004 Budget is $1,841,000 under O&M General. The Port of Greater Baton Rouge recommends that the Corps be funded $5,116,000 to perform critical maintenance dredging and to repair jetties.

6. *Bayou Sorrel, Lock, LA*.—The President's Fiscal Year 2004 Budget is $707,000 under General Investigation Studies. The Port of Greater Baton Rouge recommends that the Corps be funded $707,000 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.

7. *Gulf Intracoastal Waterway, LA and TX*.—The President's Fiscal Year 2004 Budget is $19,418,000 under O&M General. The Port of Greater Baton Rouge rec-

ommends that the Corps be funded $29,028,000 to perform critical maintenance at the navigation locks.

8. *MRGO Reevaluation Study, LA*.—The President's Fiscal Year 2004 Budget has no funding for this study. The Port of Greater Baton Rouge recommends that the Corps be funded $813,000 (Construction General). Funds are needed to complete a study to determine the advisability of maintaining the 36-foot depth of the MRGO.

9. *J. Bennett Johnston Waterway, Mississippi River to Shreveport, LA*.—The President's Fiscal Year 2004 Budget is $13,700,000 (Construction General) and $12,013,000 (O&M General). The Port of Greater Baton Rouge recommends that the Corps be funded $29,000,000 (Construction General) and $19.9 million (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 and have a tremendous impact on shipping for both ocean-going vessels and barge traffic. 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 number 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 2003 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 LAKE CHARLES HARBOR AND TERMINAL DISTRICT

The Lake Charles Harbor and Terminal District (Port of Lake Charles, Louisiana) respectfully requests that the U.S. Senate Appropriations Committee and Subcommittee on Energy and Water Development afford favorable consideration to proposed U.S. Army Corps of Engineers projects affecting the Calcasieu River Waterway, Calcasieu Lock and Gulf Intracoastal Waterway. We specifically endorse the appropriateness and necessity for increased funding levels as advocated by testimony offered by Mr. Donald T. Bollinger, Chairman of the Governor of Louisiana's Maritime Industry Task Force.

The Calcasieu River Waterway, including its nexus with the Gulf Intracoastal Waterway and Calcasieu Lock, is deemed "military essential" and further supports two refineries, a major portion of the Nation's liquefied natural gas imports, chemical industries, USDA programs, and is a major economic engine for the region.

Your support of these essential projects toward maintaining our contribution to the Marine Transportation System (MTS) infrastructure will well serve regional and National interests.

PREPARED STATEMENT OF THE ASSOCIATED BRANCH PILOTS, PORT OF NEW ORLEANS

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 2002, the Associated Branch Pilots made 10,850 transits on oceangoing vessels through Southwest Pass. Of these ships, 3,444 were of 50,000 deadweight tons or greater and 686 had a draft in excess of 40 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, agricultural, and manufactured products shipped from the Mississippi Valley more desirable due to 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 2002, 719 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.

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 14,750 ships during 2002. 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.

FISCAL YEAR 2004 CONGRESSIONAL APPROPRIATIONS FOR THE LOWER MISSISSIPPI RIVER AND CONNECTING WATERWAYS, J. BENNETT JOHNSTON WATERWAY AND CALCASIEU RIVER WATERWAY—PRESIDENT'S BUDGET REQUEST AND RECOMMENDED FUNDING LEVELS

[In thousands of dollars]

Project	President's Budget Request	Recommended Funding Levels
Mississippi River Ship Channel Gulf to Baton Rouge, LA (Construction General)	196	196
Mississippi River, Baton Rouge to the Gulf, Maintenance Dredging, and Stabilization (O&M General)	56,206	64,566
Mississippi River—Gulf Outlet (MR–GO), LA (O&M General)	13,485	34,325
Inner Harbor Navigation Canal Lock, LA (Construction General)	7,000	20,000
Mississippi River Outlets at Venice, LA (O&M General)	1,841	5,116
Bayou Sorrel Lock, LA (GI Funds)	707	707
Gulf Intracoastal Waterway, LA & TX (O&M General)	19,418	29,028
Calcasieu Lock, LA (GI Funds)	100	800
Calcasieu River and Pass, LA (O&M General)	12,064	20,559
MRGO Reevaluation Study, LA (Construction General)	0	813
J. Bennett Johnston Waterway (Construction General)	13,700	29,000
J. Bennett Johnston Waterway (O&M General)	12,013	19,900
TOTAL	136,730	225,010

PREPARED STATEMENT OF THE CITY OF FLAGSTAFF, ARIZONA

Chairman Domenici, Ranking Member Reid, and distinguished members of the subcommittee, thank you for allowing me to testify on behalf of the City of Flagstaff, Arizona in support of $4.5 million in the Army Corps of Engineers budget for the Rio de Flag flood control project in fiscal year 2004. 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 $1 million to start construction on this important project. We are extremely grateful that the subcommittee boosted this project well above the President's request, and we would appreciate your continued support for this project in fiscal year 2004.

Like many other projects under the Army Corps's jurisdiction, Rio de Flag received no funding for fiscal year 2004, although the Corps has expressed capability of $4.5 million to continue construction on the project. We are hopeful that the subcommittee will fund the Rio de Flag project at $4.5 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 manage-

ment; (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. Interstate 40, one of the country's most important east-west interstate 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.

Mr. Chairman, the intense wildfires that have ripped through the West over the last several years have only exacerbated the flood potential and hazard in Flagstaff. An intense wildfire near Flagstaff could strip the soil of ground cover and vegetation, which could, in turn, increase runoff and pose an even greater threat of a catastrophic flood.

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 $4.5 million in fiscal year 2004 for construction of the Rio de Flag flood control project.

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 $4.5 million for fiscal year 2004.

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 underserved 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 $4.5 million for this project in the fiscal year 2004 Energy and Water Development Appropriations bill. Thank you in advance for your consideration.

PREPARED STATEMENT OF THE ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of this distinguished Committee, my name is Lew Meibergen. I am Chairman of the Board of Johnston Enterprises headquartered in Enid, Oklahoma. 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 these trying times 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 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 most important transportation modes—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 $15 million Congressional Add for a total budget of $35 million for fiscal year 2004 to ensure that this urgently needed lock and dam is in operation as soon as possible at the lowest possible cost. Scheduled to be operational in 2004, Montgomery Point will protect over $5 billion in public and private investments, some 50,000 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. 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 2004 O&M funding for advance maintenance dredging and a $5 million add for the backlog of channel maintenance, for the McClellan-Kerr Arkansas River Navigation System in Arkansas is vitally important. These additional funds will help repair bank stabilization, channel and other navigational system components that have deteriorated over the past 3 decades.

The O&M funding level has been stagnant for the past 11 years while cost and maintenance needs have continued to increase. Your help in adding $7 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—continuation of a City of Wichita, Groundwater Management District No. 2 and the State of Kansas project to construct storage and recovery facilities for a major groundwater resource supplying water to more the 20 percent of Kansas municipal, industrial and irrigation users. The project will capture and recharge in excess of 100 million gallons per day and will also reduce on-going degradation of the existing groundwater by minimizing migration of saline water. Federal authorization and continued Federal funding is requested in the minimum amount of $1.5 million for fiscal year 2004 for the budget of the Bureau of Reclamation.

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 in Oklahoma. Total cost for these three locks is $4.7 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. Plans are complete and ready to implement.

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. Transportation infrastructure like the inland waterways, need be operated and maintained 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 2004 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 concerns, 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 this time of trial and tight budgets are greatly appreciated. Our fiscal year 2004 requests are modest.

First, we have grave concern about a provision of the President's fiscal year 2004 budget request which would be very detrimental to the inland waterways, and especially the McClellan-Kerr Arkansas River Navigation System. That budget proposes 25 percent to 50 percent of the cost of Operation & Maintenance of fuel-taxed inland waterways segments be financed by the Inland Waterways Trust Fund (which by law is to be used to pay 50 percent of the cost of lock-and-dam replacements and major rehabilitations).

This budget proposal singles out so-called "low-use" waterway segments moving less than 5 billion ton-miles of commerce annually, a category which would include the McClellan-Kerr, and would require reimbursement of 50 percent of O&M outlays from the trust fund.

The proposal is unfair. The inland waterways provide multiple benefits: flood control, water supply, hydropower, transportation, and recreation. While not the sole user of the waterways, transportation users would be the only beneficiaries paying for the modernization and maintenance of the waterways.

To take a portion of the inland O&M expenditures out of the Inland Waterways Trust Fund would quickly deplete the present surplus and lead to calls for closure of so-called low-use waterways or else for higher fuel taxes, which would adversely impact our Nation's agricultural, energy, and transportation sectors at a time when the economy is struggling to recover.

We urge you to reject this ill-advised proposal and the tax increase it promises as well.

We call to your attention four 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, needed advance maintenance dredging, backlog of channel 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 major project nears completion. We respectfully request a $15 million Congressional Add for a total budget of $35 million for fiscal year 2004. With this funding Montgomery Point is scheduled to be operational in 2004.

Montgomery Point will ensure reliable navigation to and from the McClellan-Kerr Arkansas River Navigation System during periods of low water on the Mississippi. Thus, it will protect over $5 billion in public and private investments, some 50,000 jobs, world trade and growing military shipments that have resulted from the McClellan-Kerr.

Completion of this $262 million project is near. We are very grateful that you, your associates, and the Congress have recognized the urgency of constructing Montgomery Point.

Advance Maintenance Dredging

A $2,000,000 Congressional Add to the fiscal year 2004 O&M account for the McClellan-Kerr in Arkansas is needed for advance maintenance dredging to assure that the authorized depth of 9 feet is maintained. This funding is vitally important.

We especially appreciate your help in the fiscal year 2003 budget by adding $1,000,000 to the O&M account for this procedure which is used to dredge in known problem areas prior to an event that is predicted to cause siltation above the authorized 9-foot channel depth.

Dredging of the system is currently done after areas have silted in above the authorized channel depth causing light loading and delay problems for the navigation industry. Locations of needed dredging include the lower White River, at Pool 2, and the downstream approaches to Locks 6, 5, 4, and 3.

Backlog of Channel Maintenance

A $5 million Congressional Add to the fiscal year 2004 O&M funding for the McClellan-Kerr will help repair bank stabilization and other components that have deteriorated over the past 3 decades and reduce the critical backlog of maintenance repairs essential to commercial navigation.

Bank stabilization and other components have deteriorated over the past 3 decades and reducing the critical backlog of maintenance repairs is essential. Repairs are necessary to maintain channel alignment, provide full channel width, eliminate shoaling and solve sediment build-up problems that cause light loading and delay problems for the navigation industry.

The O&M funding level has been stagnant for the past 10 years while cost and maintenance needs have continued to increase.

Arkansas River Navigation Study, Arkansas & Oklahoma

A $430,000 Congressional Add is needed for a total budget of $1,500,000 for the important Arkansas River Navigation Study, AR & OK.

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.

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."

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. Completion of Montgomery Point will eliminate up 95 percent of the need for dredging in the Lower White and bring about substantial O&M savings for the Navigation System.

—It is important that future budgets include funds for needed construction and the backlog of major channel maintenance that continues to grow. Repairs are necessary to maintain channel alignment, provide full channel width, and eliminate shoaling. This channel maintenance will further contribute to the efficiency and economy of the system.

—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.

In conclusion, Mr. Chairman, please help prevent a crisis for the Arkansas River Navigation System and the multi-State region it serves by appropriating $35 million for use in fiscal year 2004 to complete construction for Montgomery Point Lock and Dam.

The entire Arkansas River Navigation System is at risk and remains at risk until Montgomery Point is completed. Some $5 billion in Federal and private investments, thousands of jobs, world trade and growing military shipments for national security are endangered.

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 more than 80 percent complete and continued funding is needed. We state our unanimous support for the $35 million needed by the Corps of Engineers for fiscal year 2004 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 1 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.

The State of Kansas 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. The project is included within the Kansas Water Plan. 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. Environmental protection of the aquifer, which this strategic project provides, has increasing importance to ensure quality water for the future since south central Kansas will rely to an even greater extent on the Equus Beds aquifer for water resources.

The aquifer storage and recovery project is a vital component of Wichita's comprehensive and integrated water supply strategy. 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. 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 economically, when compared with reservoir construction or other alternatives.

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.

—Through continued cost share funding of the full-scale Aquifer Storage and Recovery Project in the minimum amount of $1,500,000 for fiscal year 2004.

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. Lansat 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. Buffer strips are most important 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 2004.

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 2005. We request your continued support in the amount of $2.6 million, the level needed by the Corps of Engineers.

—*Walnut River Basin, Kansas Feasibility Study.*—This basin including the Whitewater 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 2004 is $160,000, which is the Corps' capability.

—*John Redmond Reservoir Reallocation Study.*—John Redmond Reservoir remains a primary source of water supply for many small communities in Kansas. It is suffering loss of capacity ahead of its design rate due to excessive deposits

within the conservation pool. The flood pool remains above its design capacity. Funding was provided in fiscal year 2001 to initiate a study, which will ascertain the equitable distribution of sediment storage between conservation and flood control storages and also evaluate the environmental impact of the appropriate reallocation. Additional funding of $75,000 is needed in fiscal year 2004 to complete the study.

—*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 2004 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 2004.

—*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, Kinsley, Newton, Arkansas City, Coffeyville and Medicine Lodge) have previously requested assistance from the Corps of Engineers under these programs. The City of Wichita is also requesting funding through this program to address flooding problems. 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.

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 these Committees, we thank you for the dedicated manner in which you have dealt with the Water Resources Programs and for allowing us to present our 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. A. Earnest Gilder, 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 appreciate 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 $35 million in the fiscal year 2004 budget cycle to continue construction on the current project schedule. With the needed funding for fiscal year 2004 the project can be finished by July of 2004. This request coincides with the President's 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 ($1.3 billion) and the public and private ($4.2 billion+) sector, resulting in the creation of over 50,000 jobs in this partnered project.

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 system's components that have deteriorated over the past 3 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 $2.8 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; upgrade gate motor controls at L&D 14; dewater, inspect, repair Locks 14, 15, & 16; repair tainter gates at L&D 18; L&D 14–18—remote control tainter gates; R.S. Kerr—repair miter gates; R.S. Kerr—repair Lock 15 support cell; replace pole lighting—Locks 14—18; replace tainter gate limit switches—R.S. Kerr. These are the very worst of the needed repairs of the many awaiting proper preventive maintenance and repair.

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 $4.7 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 $1.2 million, which is greater than shown in the budget, to continue feasibility studies in fiscal year 2004.

Miami, Oklahoma and Vicinity Feasibility Study

We request funding of $231,000 to complete the reconnaissance phase 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 $6.0 million level, which is the Corps' capability for fiscal year 2004. We request that funding in the amount of $1.2 million be provided to initiate the Canton Lake Dam safety project. We are also pleased that funding is included to continue reconnaissance 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, and the Miami, OK and Vicinity region.

Oologah Lake Watershed Feasibility Study

We request funding of $259,000 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.

Wister Lake Watershed Feasibility Study

We request funding of $200,000 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 nationwide 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 ensure 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.

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, nor has the Congress appropriated, sufficient funds to meet the increasing infrastructure needs of the inland waterways of our Nation. The administration's requests 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.

As the Waterways Trust Fund is now defined, it is to be used for the Waterway Industries' cost share of new construction and major rehab of the inland waterway navigation system, so stated by law in the 1986 WRDA. The Administration's request to redirect some of those funds to operation and maintenance is in conflict with the agreement between the Congress and the Industry. We urge the Congress to protect and use these funds for their intended purpose and to honor the agreement between the Federal Government and the Waterway Industry.

We strongly urge the Appropriations Committee to raise the Corps of Engineers' budget to $5 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.

PREPARED STATEMENT OF THE SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY AND THE CITY OF MESA, ARIZONA

Chairman Domenici, Ranking Member Reid, and distinguished members of the subcommittee, thank you for allowing us to testify on behalf of the Salt River Pima-Maricopa Indian Community (SRPMIC) and the City of Mesa in support of a fiscal year 2004 appropriation of $870,000 for the Va Shly'ay Akimel, Arizona, project of the U.S. Army Corps of Engineers. This project, intended to restore a degraded stretch of the Salt River in central Arizona, is critically important to the tribe, the City, and the region.

Mr. Chairman, because of this subcommittee's efforts, $800,000 was appropriated for the feasibility phase of the Va Shly'ay Akimel project in fiscal year 2003. We are extremely grateful for the subcommittee's ongoing support of the project. We re-

spectfully request your continued support for this project in fiscal year 2004 with an appropriation of $870,000, the amount required to complete the feasibility study.

Like many projects of the U.S. Army Corps of Engineers, Va Shly'ay is drastically underfunded in the President's budget. Although the budget does include $400,000 for the project in fiscal year 2004, the Corps has a capability of $870,000 to complete the feasibility study in the coming year. We hope that the subcommittee will provide this level of funding in order to contain costs and maintain an optimal project schedule.

SRPMC and the City of Mesa fully recognize the importance of restoring the Salt River's environmental integrity. As a consequence, the tribe and City—the non-Federal sponsors of the project—remain committed to discharging the requisite cost-sharing obligations associated with the project. We would also note that, as far as we know, this project is the only one in the Nation featuring a joint cost-share agreement between an Indian tribe and a local community. This makes it a unique project of the Corps of Engineers. We have every reason to believe that this example of municipal-tribal cooperation could serve as a model for future joint projects of tribal communities and local governments.

In conclusion, it is critically important that this project remain on an optimal schedule. The Corps has expressed a maximum capability of $870,000 to complete the feasibility study in fiscal year 2004. On behalf of the SRPMIC and the City of Mesa, we ask that you fully fund the Va Shly'ay Akimel project at $870,000 in fiscal year 2004.

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. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics of 2001, approximately 2.4 billion tons of commerce moved in the U.S. marine system (inland waterways, Great Lakes, coastal and deep-draft ports). Of that total, approximately 1.04 billion tons were domestic movements with coal comprising approximately 223 million tons or 21 percent of all commodities. Of the 223 million tons of coal, 170 million tons were carried on the inland and intracoastal waterways, 18.5 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 157 million tons or 56 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, 55 million tons of coal was exported in 2001.

Iron ore, phosphate rock, and other minerals also utilize the inland waterways system. In 2001, almost 66 million tons of iron ore moved on the system. Of the total, 48.4 million tons moved domestically with 44.8 million tons moved on the Great Lakes and 3.5 million tons on the inland system. More than 1.7 million tons of phosphate rock moved on the waterways system through coastwise movements.

NMA strongly opposes the administration's proposals in the fiscal year 2004 budget to expand the responsibilities of the Inland Waterways Trust Fund (IWTF) and the Harbor Maintenance Trust Fund (HMTF). These trust funds were established after a great deal of public debate and study as part of the Water Resources Development Act of 1986. The unique partnership for sharing construction, rehabilitation and maintenance costs between the public and private sectors has built a marine transportation system that is world class.

In addition, NMA is very concerned that the proposed Fiscal Year 2004 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, and address the maintenance backlog for existing navigation projects. 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 appropriations levels that address the current challenges facing the system and plan for future demands.

ADMINISTRATION'S PROPOSALS TO EXPAND EXPENDITURES FROM THE IWTF AND THE HMTF

Users of the inland waterways system pay a fuel tax of 20 cents per gallon, which has historically generated approximately $100 million annually for the IWTF. Also, an additional fuel tax of 4.3 cents is paid to the General Treasury for deficit reduction. These monies in the IWTF are used to pay 50 percent of the annual costs associated with new construction and major rehabilitation of locks and dams on the fuel-taxed inland waterways. The remaining 50 percent is matched by money from the Federal Government. Instead of being used immediately as originally intended for inland waterways projects, the IWTF has a surplus of approximately $394 million. In reality, there is no surplus because these funds, as well as the revenue generated by the 20-cents-per gallon fuel tax for the next 8 years, are committed to complete six of the priority and congressionally-approved projects currently under construction.

Without existing authorization, the administration's fiscal year 2004 budget proposes to use the surplus and future trust fund revenues to finance 25–50 percent of the costs associated with operations and maintenance in addition to current expenditures for new construction and maintenance. The proposal is for IWTF to provide $146 million for operations and maintenance in addition to the $110 million for IWTF projects.

It is estimated that under this proposal the IWTF will be out of funds in 3 years. The real effect of the administration's proposal is an increase in user taxes for the transporters. It is estimated that the diesel tax would have to be increased from its current 20 cents per gallon to 53.5 cents per gallon—a stunning 168 percent increase. These increases would be passed along as additional transportation costs and reflected in the cost of coal and other minerals shipped on the inland waterways systems. In 2001, more than 293 million tons of coal moved domestically or to international markets. Consumers would see cost increases for electricity generated by coal and for products such as steel that use coal as a raw material. The already dismal coal exports would be further disadvantaged in the international marketplace.

Barge companies and private sector companies, such as coal and mineral producers, are not the only beneficiaries of a well-maintained inland waterways system. However, they would be the only beneficiaries paying for operations and maintenance of the system. The system also provides benefits related to national security, water supply, flood control, hydropower, and recreation. The Federal Government, up until this time, has recognized the multiple benefits and has assumed responsibility for operations and maintenance. During consideration of the Water Resources Act of 1986, Congress debated this issue and the current system was the outcome. And in 1996, a proposal to increase the fuel tax by $1.00 per gallon was rejected by Congress.

The administration's proposal related to the HMTF would require that the Federal share of deep-draft navigation channel construction costs be allocated from the trust fund rather than the Federal Government as currently mandated. Again, authorization does not exist for this proposal. Investment in the Nation's ports and harbors is a local and Federal partnership. Local authorities invest in marine terminal capacity and efficiency, dredging of berths and approach channels and cost sharing new construction dredging projects to widen or deepen navigation channels. Ports are expected to spend approximately $1.9 billion over the next 5 years on capital expenditures. Currently, the HMTF covers 100 percent of all operations and maintenance costs associated with maintaining our Nation's harbors. The funds for the HMTF come from a tax on the value of cargo imported into the United States or moved coastwise.

The Federal Government invests only in navigation projects that return national benefits. The administration's proposal relieves the Federal taxpayer, who is the ultimate beneficiary of these projects from any responsibility to pay for the modernization of our Nation's deep-draft navigation system. In addition, the proposal completely abdicates the Federal responsibility for national security. The U.S. Coast Guard, Navy and other units of the Armed Forces depend on well-maintained and deepened harbors as bases of operation. At this time, more than any other in recent history, the national security implications are very clear. Furthermore, with the administration's proposal for HMTF covering 100 percent of costs related to operations and maintenance as well as the Federal share for new construction projects, any Federal responsibility or role related to our Nation's ports and harbors is abdicated.

GENERAL RECOMMENDATIONS FOR FISCAL YEAR 2004 APPROPRIATIONS FOR THE ARMY CORPS OF ENGINEERS CIVIL WORKS PROGRAM

NMA reviewed the proposed fiscal year 2004 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 2004 for the Civil Works Program. This level balances the need to address the significant 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 appropriation 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 would accelerate the national economic benefits from the projects, minimize cost increases and ensure a viable and reliable national waterways system.

—The fiscal year 2004 appropriations for the Corps' General Investigations account should be increased to $154.4 million, the same level as appropriated in fiscal year 2002. The proposed fiscal year 2004 level of $100 million 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. It takes time to complete these projects and while there are issues related to new construction starts, projects should be in the pipeline and ready should funds be available.

—The fiscal year 2004 proposed funding in the amount of $1.939 billion for the Corps' Operations and Maintenance functions should be increased. At the end of fiscal year 2003, it was estimated that critical maintenance backlog was $884 million. Of the total, $534 million is navigation's share with $364 for inland waterways. Currently, 53 percent of the locks and dams operated by the U.S. Army Corps of Engineers are 50 years or more. With the constraints related to funds for new construction and rehabilitation, it is imperative that existing locks and dams are maintained. Delaying necessary maintenance impacts the ability to move commerce efficiently, exasperates further deterioration and accelerates the need for major rehabilitation and possibly at higher costs than necessary. Further comments and specific project recommendations are outlined below.

BUDGET PROPOSALS SUPPORTED BY NMA

NMA strongly supports the administration's fiscal year 2003 budget proposal to increase funding for two priority projects: the Olmsted Locks and Dam on the Ohio River (between Illinois and Kentucky) and the Marmet Locks and Dam on the Kanawha River in West Virginia. The proposed fiscal year 2004 funding level for Olmsted of $73 million, which is the efficient funding level for the project, illustrates the approach that should be taken for other priority projects as well. This level will reduce any further construction delays resulting in delayed economic benefits for the country. While Marmet is not at the efficient funding level, the appropriations level is significantly more than fiscal year 2003 and is recognition of the importance of the project.

Following 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 be reduced and the Nation will be able to realize the economic benefits that were projected when these projects were authorized. The list also contains recommendations for additional funds for preconstruction, engineering and design and surveys.

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 2004 budget proposes only $212 million, which represents less than half of the $430 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.

CONCLUSION

NMA strongly opposes the administration's proposals to expand the IWTF to cover 25–50 percent of operation and maintenance costs and the expansion of the HMTF to cover deep-draft construction costs. In addition, we are concerned that the administration continues to propose funding levels for our inland waterways system that will continue to have very negative impacts on the system. 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 2004 APPROPRIATIONS REQUEST FOR INLAND WATERWAYS PROJECTS

FISCAL YEAR 2004 APPROPRIATIONS LEVELS SUPPORTED BY NMA

[In millions]

	Fiscal Year 2004 Request	Efficient Funding Level
Olmsted Lock and Dam	$73	$73
Greenup Lock and Dam	2.895	3
Ohio River Mainstem Study	1.35	1.5

FISCAL YEAR 2004 PROJECT APPROPRIATION LEVELS NEEDING ADDITIONAL FUNDS

Construction and Rehabilitation

McAlpine Locks Replacement Project—Fiscal Year 2004 Request: $26.1 million, Efficient Funding Level: $70 million

Located in downtown Louisville, Kentucky and near Jefferson, Indiana, the project provides for a new 1,200′ lock that will replace an inactive 56′×360′ lock and a 110′×600′ auxiliary lock. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics for 2001, more than 55 million tons of commodities valued at nearly $11.7 billion were shipped through the locks. Coal was the leading commodity, comprising 37 percent of all shipments. Of the 20 million tons of coal moving through McAlpine in 2001, 13 million tons went to 30 power plants in 8 States. Kentucky received the most tonnage with 12.6 million tons valued at $1.6 billion and coal was the top commodity received in Kentucky. The total project cost is $278 million. The project is 6 years behind schedule with a current loss of $245 million in benefits.

Locks and Dams 2, 3, and 4—Fiscal Year 2004 Request: $35 million, Efficient Funding Level: $61 million

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. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics for 2001, almost 22.2 million tons of commodities valued at $1.7 billion were shipped through any or all of the locks. Coal comprised 86 percent of the tonnage moving through the locks. Of the 19.2 million tons of coal moving through the locks, more than 7.2 million tons went to 23 power plants in 7 States. The value of the coal was almost $1.6 billion. Pennsylvania received and shipped the most tonnage through the locks with coal the No. 1 commodity. Construction began on the $750 million project in 1994 and is scheduled for completion in 2010. The project is 6 years behind schedule with a current loss of $134.6 million in benefits.

Marmet Locks and Dams—Fiscal Year 2003 Request: $52.154 million, Efficient Funding Level: $69.2 million

Located on the Kanawha River near Belle, West Virginia this project includes the construction of an additional 110′×800′ 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 2001, 17.1 million tons of commodities valued at $802 million were shipped through the locks. Coal shipments comprised 95 percent of all shipments with 16.1 million tons moving through Marmet. West Virginia shipped the most tonnage with 16.4 million tons valued at $665 million. Ohio received the most tonnage with 6.4 million tons valued at $245 million. For both States, coal was the No. 1 commodity shipped. The project cost is $313 million. Originally scheduled to be completed in 2007, it will not be completed until 2010 with a current loss of benefits of almost $118 million.

Kentucky Lock—Fiscal Year 2004 Request: $24.8 million, Efficient Funding Level: $53 million

Located on the Tennessee River near Grand Rivers, Tennessee this project includes the addition of a 110′×1,200′ lock and the relocation of an existing railroad, highway and powerhouse access road. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics for 2001, almost 35 million tons of commodities valued at $6.2 billion moved through Kentucky Lock. Coal was No. 1 commodity with 12.6 million tons or 36 percent of all shipments. The value was almost $500 million. Of the total coal shipments nearly 10 million tons moved to 9 power plants. Construction began on this project in 1999 and the total cost of $533 million. The project is now scheduled to be completed in 2010 (originally 2008) with a current loss of $75 million in benefits.

Preconstruction Engineering and Design

J.T. Myers Locks and Dam—Fiscal Year 2004 Request: $0, Efficient Funding Level: $2 million

The John T. Myers Locks and Dam located on the Ohio River about 3½ miles downstream from Uniontown, KY. The John T. Myers and Greenup Locks Improvements Interim Feasibility Report, a product Ohio River Mainstem Study, recommends a 600′ extension of the auxiliary chambers at both locations along the Ohio River. This project was authorized in the Water Resources Development Act of 2000. The expected cost is $225 million with a benefit/cost ratio of 1.8 to 1. According to the U.S. Army Corps of Engineers Waterbourne Commerce Statistics for 2001, over 75 million tons of commodities were shipped through the project with a total value of $13.8 billion. Coal comprised almost 33 million tons or 44 percent of all shipments. Most of the coal went to 31 power plants in 8 States. Louisiana shipped the most commodities with iron and steel No. 1 at almost 21 million tons. Indiana received the most commodities with coal being No. 1 at 16.1 million tons.

Surveys

Emsworth, Dashields & Montgomery Lock and Dams—Fiscal Year 2004 Request: $0, Efficient Funding Level: $1.5 million

As the uppermost navigation projects on the Ohio River (located downstream of Pittsburgh, PA), these three projects have main lock chambers measuring 600′×100′ and auxiliary locks of 360′×56′. The main chambers are one-half the size of the standard chamber (1,200′×110′) on the Ohio River and the auxiliary locks are one-fourth the standard auxiliary locks (600′×100′). Major remedial work was done in the 1980s at a total cost of more than $100 million. The work was designed to extend the life of the projects to the 2005–2010 timeframe. In order to look at all of the problems and needs associated with the three projects, Congress authorized and provided funding for a detailed feasibility study.

PREPARED STATEMENT OF THE MIDWEST AREA RIVER COALITION 2000

Mr. Chairman and Members of the Committee, I am Christopher Brescia, President of the Midwest Area River Coalition 2000 (MARC 2000). Thank you for the opportunity to submit MARC 2000's views on the needs of the Mississippi Valley and especially the Upper Mississippi River Basin for fiscal year 2004.

MARC 2000 supports full efficient funding levels for the Upper Mississippi/Illinois River Navigation Feasibility Study and key major rehabilitation projects on the Upper Mississippi/Illinois Rivers, including the Environmental Management Program (EMP). We would like to specifically highlight the increasing backlog of navigation-related operation and maintenance projects in the entire Mississippi River

Valley. MARC 2000 rejects the call to raid the Inland Waterway Trust Fund (Trust Fund) for purposes other than it was originally created.

UPPER MISSISSIPPI/ILLINOIS RIVER NAVIGATION FEASIBILITY STUDY

This study is the most important "project" for the Upper Mississippi River Basin. Full efficient funding is critical to keep this study from falling even further behind. Re-initiation of the study along broader parameters has increased the cost once again. Every year we fail to complete this work adds burden to the system and increases the risk of failure of these 70-year-old lock and dam structures.

MARC 2000 requests an increase to the President's request for a total of $7.216 million for this study in fiscal year 2004 to keep the study on schedule. Alternatively, $3.8 million in fiscal year 2003 supplemental funds along with the President's $3.216 fiscal year 2004 request would be an even more efficient funding stream. This is the No. 1 priority of our coalition.

Linked to this study is the need to begin PED for both 1,200′ lock design and enhanced environmental restoration. MARC 2000 urges the appropriation of $8 million for this very important effort in providing a seamless process and for not falling further behind in assuring the region of a modernization program.

[In millions]

General Investigative	Budget Request	Needed Amount	Variance
Upper Miss Nav. Study	$3.216	$7.216	$3.8
Comprehensive Plan	.494	2.6	2.106
Upper Miss/Illinois PED	0	8.0	8.0
Subtotal	3.710	17.616	13.906

Addressing these functions immediately, as we approach the close of the study phase, prepares us for Congressional authorization for large-scale construction for the basin. Waiting until the study's completion to address design work causes at least 2 more unnecessary years in elevated competitive risk, a problem recognized in WRDA'99.

While this study evaluates navigation needs and environmental restoration options for the basin, conclusion of the Comprehensive Plan, along with full efficient funding, is needed so the Basin can evaluate all aspects including: navigation, flood control and environmental restoration.

CONSTRUCTION GENERAL AND MAJOR REHABILITATION

The lock and dam system on the Upper Mississippi, once considered a flagship for the Nation's principal artery, the Mississippi River, is virtually crumbling in some cases.

MARC 2000, in concert with the Inland Waterway Users Board, supports full efficient funding for key priority projects already underway, with priority given to Lock and Dam 24 at $17.2 million (+$4.2 million); Lock and Dam 11 at $6.5 million (+$5.187) and Lock and Dam 3 at $.6 million. A congressionally approved fiscal year 2003 new start at Lock and Dam 19 and a fiscal year 2004 new start at Lock and Dam 27 need attention this year as well. Funding for EMP has met requested levels, ensuring its credibility for fiscal year 2004.

[In millions]

Construction General and Major Rehabilitation	Budget Request	Needed Amount	Variance
Lock & Dam 24	$13.00	$17.20	$4.2
L&D 11	1.313	6.50	5.187
L&D 3	.6	.6	0
L&D 19	0	1.2	1.2
L&D 27	0	6.0	6.0
Environmental Management Program	33.320	33.320	0
Subtotal	51.943	78.636	26.690

As indicated in the preceding table, construction and general rehabilitation funding is severely lacking with an additional need of $26.690 million in fiscal year 2004. Consistent under funding by the President's budget results in inefficient timelines, extended schedules, delayed projects, and broken commitments from our

Federal Government, and the loss of benefits to the Nation from an efficient inland waterway system.

OPERATIONS AND MAINTENANCE

The President's budget continues to place a strain on the operations and maintenance (O&M) of the system. One example of this is the failure to fund an additional $26 million in non-deferrable maintenance and operations services, work that is essential to keeping the program working properly.

[In millions]

Operations and Maintenance	Budget Request	Needed Amount	Variance
Miss. River—StL	$35.473	$38.00	$2.527
Miss. River—Rock Island	44.429	54.429	10.00
Miss. River—St. Paul	36.056	45.405	9.394
Illinois River	27.615	31.915	4.3
Subtotal	143.573	169.749	26.176

Funding support for Operations and Maintenance has been lacking for the last 5 years. The result is an accumulated backlog of critical maintenance on the Upper Mississippi approaching $200 million in navigation needs alone. As O&M allotment fails to address the maintenance of our region's lock & dam sites, we face the greater risks of lock closures and the hundreds of millions of dollars costing the Nation via tows waiting for repairs to lock gates, chambers, and other parts of the system.

CRITICAL BACKLOG

An issue of paramount importance to the entire inland navigation system is new safety-imposed de-watering requirements for locking chambers. The recently discovered need to establish bulkheads at virtually every lock in our system will compound the resource allocation of existing dollars without additions to the President's Budget. At least $81 million is needed in the Mississippi Valley to address these concerns in fiscal year 2003–fiscal year 2005. The inability to de-water a lock resulting from emergency closures or winter rehabilitation work could bring the Mississippi River to a standstill.

OPPOSE RAIDING THE INLAND WATERWAY TRUST FUND

Even more disconcerting than lack of funding support and a growing backlog is the proposed raid of the Inland Waterway Trust Fund to be reallocated to O&M needs. This fuel tax depository, founded over 20 years ago, was a result of a unique agreement between the Federal Government and industry to establish a funding mechanism for costs toward major construction of our infrastructure. Through the years, industry has contributed more than a billion dollars into this fund, into which over $400 million now sits while we await the conclusion of the navigation study, and lose world market opportunities.

Proposals to use these dollars to cover 25 percent–50 percent of the cost of O&M will eliminate the balance of the fund in just 2½ years, exactly when an Upper Mississippi Basin modernization plan should be in place and begin to utilize those dollars for the purpose for which they were intended. The implications of this trust fund raid would also require additional .30–.40 cents per gallon to meet O&M needs alone, or a 200 percent tax increase. The Inland Waterway Trust Fund must be reserved for its original purpose. Anything less constitutes a violation of the agreement and trust forged between the Federal Government and industry in a good faith effort to ensure the future of our inland waterways.

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, Russell Jeffries, 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 2004 Energy and Water regular appropriations measure.

The Commission recognizes and expresses its gratitude to our local Congressman, the Honorable Sam Farr, a valued member of the Appropriations Committee for his continued assistance and support on our behalf.

We express our profound appreciation to the Subcommittee and full Committee for its inclusion of approximately $2.750 million in fiscal year 2002 funds for periodic maintenance dredging of the federal entrance channel and the initiation of a first-ever Dredged Material Management Plan (DMMP) 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. 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.

To put our needs in proper perspective, our geographical location and marine ecosystem is unique in that the harbor district is located at the confluence of the Pajaro and Salinas Rivers in between two national treasures—the Monterey Bay National Marine Sanctuary and the Elkhorn Slough National Estuarine Research Reserve—precluding most potential upland disposal sites. The SF–12 Aquatic Disposal Site is grandfathered for sanctuary purposes. It is located fifty yards offshore at the apex of the Monterey Bay Submarine Canyon which plunges to a depth of 8,000 feet in less than one mile. Every year deposition, erosion, and flushing cycles transport thousands of tons of sedimentary material down the canyon like a chute—so much so that our dredged material is a miniscule amount measured against the total annual flushing event.

Periodic El Niño events deposit trace elements of DDT in our harbor sediments traced to Salinas Valley agriculture—America's salad bowl—as a natural sink. With no realistic long term alternative—including upland disposal—to continued use of our current disposal site, our very livelihood as the largest fishing port on the central coast and largest concentration of marine scientific research south of Seattle, is at stake.

Of amounts previously appropriated, approximately $2.4 million has been expended for maintenance dredging to date and $350,000 has been expended to begin the DMMP process. Most of that was transferred to the Corps of Engineers Waterways Experiment Station (WES) to prepare a preliminary Ecological Risk Assessment (ERA). We expect that something on the order of $1,250,000 will belatedly emerge in operations and maintenance funds in the fiscal year 2003 budget. Much of that has already been expended or will be used to reimburse the San Francisco District for program management costs, conduct of the required economic analysis (including of a finding of a very favorable current benefit cost ratio of 1.7 to 1), DMMP plan formulation and project scoping (including alternative upland disposal site analysis), and technical support to WES.

The completion of both the federal channel work and the Inner Harbor with a combination of beach replenishment and ocean disposal at the SF–12 historic disposal site marks the first time in a decade that we have returned to a normal three year maintenance cycle of the federal channel.

We are just now embarking on the heart of the ERA process defining a preliminary statement of work, identifying data gaps to drive the WES model, and initiating complementary local site-specific scientific studies, and with those results completing the remainder of the DMMP process.

To this end we request the Subcommittee's approval of $2.0 million in appropriations from the Operations and Maintenance General Account in fiscal year 2004 in order to complete the Ecological Risk Assessment and Dredged Material Management Plan so that the process is completed and plan implemented prior to the next periodic maintenance event scheduled to occur in fiscal year 2005.

With the assistance of the local scientific community, we are fortunate to have as much as three years of scientific data in the form of benthic community biomass and tissue sampling, and first-ever nearshore state-of-the-art bathymetric survey of the disposal site and Monterey Bay Canyon. These efforts should prove invaluable in measuring before and after direct impacts of dredged material disposal at the disposal site.

With the assistance of the San Francisco district, we were determined to take advantage of this year's dredging episode to do before and after measurement of both sedimentary transport at the disposal site and to measure any direct impacts on benthic communities—the source of any bioaccumulation of contaminated sediments in trace amounts. It appears that this will now occur with district support as we proceed to the use of current dredging activity as an experiment involving approximately 20,000 cubic yards from which we can derive valuable data.

Despite the drastic differences between the use of the WES ERA model adapted from aquatic Mississippi River application and our unique submarine canyon eco-

system and volume of material, the district has elected to proceed with a tracer study using European technology that may be of help in other areas with similar problems. We now recognize that we must undertake local site-specific data collection and studies to complement the WES activities or the end result will not be a document that will prove persuasive to the greater scientific community, federal and state regulatory agencies, and an informed and involved public in our community.

We now know that there is a considerable body of unpublished relevant data concerning the Monterey Bay Canyon and the impact, fate and effect of sedimentary material transport in the hands of the local scientific community that must be collected, catalogued, analyzed, and used both as input data and for comparison with the WES model so that each can operate as an invaluable countercheck on the output results of the other in predicting and directly measuring the impacts of dredged material disposal at our ocean disposal site.

We have agreed with the district that in order to remove any potential bias in data interpretation, an independent scientific peer review group will be convened utilizing EPA guidelines for ERA review to oversee this process.

The next periodic maintenance cycle would normally occur in fiscal year 2005. We do not anticipate either another El Niño event on the heels of the last severe one. Beyond completion of the ERA and gap filling scientific research and peer review, a significant part of the DMMP process is the identification and evaluation of potential upland disposal sites of which there are few choices in our situation. Nonetheless a long lead time would be necessary in our situation, front end funding of which would necessarily be a part in order to complete the DMMP process in exhaustive fashion.

From our perspective the better job we do completing the DMMP/ERA process now in developing a persuasive case to the various constituencies as a decision document supporting continued aquatic disposal for all but a very small fraction of total dredged material in exceptional circumstances over the twenty year span of the study will save significant amounts of scarce federal and local dollars in the future . . . that said, we sincerely hope our experience in this effort will:

—Produce both a useful and practical multidisciplinary decision document for those agencies exercising regulatory or oversight jurisdiction over dredging in both our and other settings; and

—Serve as a model for collaborative effort in dredged material disposal consensus decisionmaking 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.

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.

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 are thankful for the support provided by the Committee for fiscal year 2002 and 2003, and we also appreciate the opportunity to present our views on fiscal year 2004 appropriations issues.

APPROPRIATIONS REQUEST

The Port of Garibaldi requests an $8,000,000 appropriation for operations and maintenance (O&M) of Tillamook Bay and Bar, Oregon. These funds will allow the U.S. Army Corps of Engineers' (Corps) Portland District begin the protection, restoration and repair of the Tillamook Bay North and South Jetties. Specifically, the funds will allow the Corps to build a revetment near the North Jetty root, and perform additional restoration and repair work on the South Jetty.

The Committee provided an additional $200,000 for a Major Maintenance Report in fiscal year 2002, and an additional $300,000 for Plans and Specifications in fiscal year 2003. Both of these appropriations were made above the Administration's budget requests for the project. The Major Maintenance Report is nearly complete, and the Corps will begin Plans and Specifications soon after the completion of the report. We believe that the total cost to protect, restore and repair the jetties will be $10–$15,000,000. The Administration did not request funding for this project for fiscal year 2004.

REPORT ON THE TILLAMOOK BAY JETTY SYSTEM

There are serious problems with both jetties. The Corps' recent engineering analysis demonstrates that erosion on the north side of the North Jetty continues at a highly accelerated rate. Frequently, the U.S. Coast Guard (USCG) pulls its crewmembers out of the tower located near the root of the North Jetty because of the threat of a jetty breach at that site during periods of high seas. Should the breach occur, shellfish beds, a county park and a state highway would sustain severe damage. The USCG has also determined that deterioration of the South Jetty has created a dangerous threat to navigation safety.

A functional 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 landmass 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 twenty-five 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 that 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 landmass 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 USCG Tillamook Bay Station has publicly commented on the threat of a jetty breach to its observation tower, and 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 USCG 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. In the spring of 2001, the Corps put in place temporary barriers to provide support to the North Jetty at the root. These temporary barriers have largely eroded since that time.

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. The USCG now identifies these two areas, adjacent to popular sport fishing locations, 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.

PREPARED STATEMENT OF THE COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION

SUMMARY

Mr. Chairman & distinguished Committee members, this statement includes the following: A) A plea to rend maintain our Nation's inland waterways system as a vital part of the national transportation infrastructure; B) A request for support in the following areas: 1) Sufficient funding to maintain and improve our nation's inland waterway system; 2) O&M funding for federal projects in the Coosa-Alabama Basin; 3) Funding to renovate and upgrade a recreation site on the Alabama River; 4) Funding to complete backlogged maintenance items to keep the Alabama River navigation channel a viable economic asset to the State of Alabama.

EXPANDED STATEMENT

The Coosa-Alabama River Improvement Association is 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. The attached statements from many of our members and interested parties in our region call for measures to assure a viable inland waterways system and are indicative of the strong support of the inland waterways system in our region of the country.

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, 1 out of every 8 tons. It is incumbent upon the Federal Government to maintain and improve this valuable national asset. Therefore, we ask Congress to appropriate funds for required maintenance and construction to keep the waterways the economic multiplier they are. To maintain the inland waterways facilities and to accommodate vitally needed growth will require a minimum of $5 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 2004 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 $3 million for dredging on the Alabama-Coosa River project. Without dredging, the channel is vulnerable to being closed for several months of the year. Without the channel, the State of Alabama has no hope of attracting prospective users of barge transportation in the Alabama River basin, which traverses counties with some of the highest unemployment in the Nation. We cannot close any opportunities to bring jobs to these counties. Several prospective barge-using shippers (representing 3 to 4 million tons a year) are currently evaluating the Alabama River basin for relocating or expanding their businesses. A fully-maintained channel is crucial to their decision. Maintaining the channel also dampens the rail and truck prices for movement of goods between Mobile and Montgomery. The relatively small investment in this channel pays large dividends for the consumers and businesses in Alabama.

Recreation is 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 $1.5 million be added to the RF Henry project to renovate and upgrade Swift Creek.

Studies predict international trade, particularly with Latin America, over the next 20 years will double or even triple current levels of activity. Containerized cargo is expected to increase dramatically as shippers move away from break bulk shipping and realize the economies of moving goods in containers. The primary method of moving that cargo out of the Port of Mobile is by truck and rail. There is limited capacity to increase rail. Our highways cannot accommodate the expected increase in truck traffic. The only logical, safe, and environmentally-friendly alternative mode of transportation is by water. With Montgomery sitting at a junction of road, rail, air, and water modes, it makes sense to evaluate the feasibility of an intermodal port in the Montgomery area. We ask the Committee to include $100,000 in General Investigations to allow Mobile District of the U.S. Army Corps of Engineers to conduct this study, which was authorized by resolution (Docket 2699) in July 2002 by the House Transportation and Infrastructure Committee of the 107th Congress.

Project	Fiscal Year 2003 Appropriation	President's Budget Fiscal Year 2004	Association's Fiscal Year 2004 Budget Request
Alabama-Coosa River, AL [1] (AL River incl Claiborne L&D)	$3,174,000	$2,961,000	$5,961,000
Miller's Ferry L&D	7,094,000	5,429,000	5,429,000
Robert F. Henry L&D [2]	5,858,000	5,726,000	7,326,000
Lake Allatoona, GA	6,456,000	6,000,000	6,000,000
Carters Lake, GA	9,958,000	10,012,000	10,012,000
Totals	34,413,000	30,128,000	34,728,000

[1] Includes dredging from the mouth of the Alabama River through Claiborne L&D to Miller's Ferry. Coosa River not included. The Fiscal Year 2004 Budget Request includes funding for maintenance dredging to keep the Alabama River navigation channel open.

[2] Fiscal year 2004 request includes $1.5 million for upgrade and rehabilitation of Swift Creek campground and $100,000 for a Federal study to determine feasibility of an intermodal port in the Montgomery-Selma, area.

In summary, we request your support in the following areas:

—Sufficient O&M funding of the US Army Corps of Engineers Civil Works budget to maintain the Alabama River navigation channel, including dredging below Claiborne Dam;

—Funding to renovate and upgrade Swift Creek campground on the Alabama River; and

—Funding to evaluate the feasibility of an intermodal port in the Montgomery-Selma area.

Thank you for allowing us to submit this testimony and for your strong support of the Nation's waterways.

PREPARED STATEMENT OF THE PERKINS COUNTY RURAL WATER SYSTEM, INC.

The Perkins County Rural Water System, Inc. respectfully submits this written testimony to the Appropriations Sub-Committee on Energy and Water Development for appropriations for fiscal year 2004.

Perkins County is located in northwestern South Dakota on the North Dakota State line. We are the second largest county in South Dakota and have a total of 2,866 square miles. Perkins County has a population of 3,542 people, of which 2,065 live in the two incorporated towns of Lemmon and Bison. Number one business in our country is agriculture and support services for the farmer and rancher. We have three manufacturing plants in Lemmon that employ approximately 130–140 full-time jobs. Other large employers in Perkins County are Federal Government offices, State highway district offices, rural electric offices, county government, hospital and clinic and three school districts. Perkins County and the rest of northwestern South Dakota is a semi-arid climate with an annual precipitation of 14 inches, of which 76 percent falls normally in April through September.

History of this project goes back to 1982 when a group of farmers and ranchers in Perkins County were contacted by Southwest Pipeline project in North Dakota if they would be interested in obtaining water to serve Perkins County. At that time, approximately 100 farms and ranches and the towns of Bison and Lemmon were interested, so Perkins County was included in their feasibility study. In November of 1992, Southwest Water Pipeline Project had grown to the point that Perkins County was contacted about receiving water from the project and to be in-

cluded in the engineering design work. A committee of interested landowners and representatives from the two incorporated towns were organized through the Perkins County Conservation District/Natural Resources Conservation Service. From this committee, nine directors volunteered to serve on a board to study the feasibility of rural water for the county. In March of 1993, Perkins County Rural Water System, Inc. was organized as a non-profit organization. Two grants were obtained from the South Dakota Department of Environment and Natural Resources for $50,000 each to do a feasibility study. At the same time, the Directors were able to acquire good intention fees from rural landowners, State land, Federal land, and the two towns for a total of $28,250 to cost share the State money on an 80–20 share basis. A feasibility study was conducted for Perkins County Rural Water by KBM, Inc. of Grand Forks, North Dakota, and the Alliance of Rapid City, South Dakota in 1994. In the 1995–96 South Dakota legislature, we obtained State authorization and appropriation of $1 million. This money was used to up-size the pipe in North Dakota for our capacity and for administration costs of Perkins County Rural Water. We have signed a contract with the North Dakota State Water Commission to deliver 400 gallons per minute to the border. We have also signed contracts with both towns to be the sole supplier for their water systems. We have had a very good response from the rural farmers and ranchers in that 50 to 60 percent have signed and paid for water contracts delivered to their farmstead. The total for those contracts equals $81,500 plus obligations of another $72,000 when the project becomes a reality. To the ranchers and farmers of Northwestern South Dakota, that is a substantial investment for them to make. We also have signed a contract with a grazing association that run livestock on U.S. Forest Service land. In the fall of 1999, we received Federal authorization with the 106th Congress for a 75 percent grant of $20 million. We have received appropriations for the last two appropriation's bill in 2002 and 2003 for $3.4 million and $4.3 million respectively. The budget presented has been sent to the Bureau of Reclamation in Bismarck, North Dakota to be entered in their budget processing for 2004.

During our feasibility study, conducted by the combination of two engineering firms of the Alliance of South Dakota and KBM, Inc. of North Dakota, several alternatives were looked at to provide Perkins County with quality water. These alternatives were pumping water from Shadehill Lake or from deep-water wells drilled into the Fox Hills formation. Due to the high salt content, both of these sources would have to use reverse osmosis treatment that is very costly to build and operate. Buying bulk water from a large rural water system turned out to be the most feasible. Water from Southwest Water Authority is already treated at a large treatment plant and distributed to the border of North Dakota and South Dakota.

The quality of water in Northwestern South Dakota is the main concern for the health and well being of the people. Although the water in Perkins County typically meets the primary standards established by the U.S. EPA, most of the chemicals in the water are exceedingly high by the State of South Dakota standards. Due to the fact that new standards by the EPA are set each year, it will be impossible for small water systems such as those in our towns to comply. Just across the line in North Dakota, two small towns have exceeded the fluoride levels from the same aquifer that water is pumped in South Dakota. At this time, fluoride in the Town of Lemmon is within one- to two-tenths of the MCL set by EPA through the Safe Drinking Water Act. In the deep wells of both Bison and Lemmon, the total dissolved solids, sulfates, and sodium consistently exceed the recommended levels set by EPA. Sodium is the major concern with the water in Perkins County. Running at 450 parts per million and above, the medical community has problems with people who have to be on a salt free diet. In the rural areas, bacteria contamination has been noted in wells that dug into shallow aquifers. The rural population has noticed declining water levels in these same wells due to drought and over use. We are currently in a drought that has dried up any surface water supplies for livestock. If water had been available, some ranches would not have had to sell or ship livestock out of the country last fall.

Inserts include the request for fiscal year 2004. We are able to do this much construction work in 1 year and hope to finish the project in 6 years with this size appropriation per year.

2004 BUDGET

Income:	
Bureau of Reclamation [1]	$5,000,000.00
Projected Water Sales	259,000.00

2004 BUDGET—Continued

All Other Income	101,000.00
Total Income	5,360,000.00
Expenses:	
Administrative expenses	195,150.00
O&M expenses including water purchases	156,500.00
Engineering, construction, contingency	5,008,350.00
Total Expenses	5,360,000.00

[1] Request is for $5,000,000.00 in the Bureau of Reclamation Budget.

Water quality and quantity in Perkins County has been a plague for the county over many years. Droughts, both long and short term, are a fact of life for the people in this area. Being able to obtain quality water during these periods and having a backup system for other times would make the life in the country easier. Due to our isolation from major water supplies, this may be our only chance to obtain water at an affordable cost.

At the present time, we have finished our final engineering report, environmental and cultural resources reports, and, with a 50–60 percent signup rate, we are still signing up farmers and ranches. Upon obtaining the amount requested, we would be able to proceed with construction in the spring of 2004 and have the system completed in 6 years. We know that funds are hard to obtain, but finding quality water in our area is even harder. Thank you for reading our report and, on behalf of the people of Perkins County South Dakota, we hope you can find the funds to build our system.

PREPARED STATEMENT OF THE PONTCHARTRAIN LEVEE DISTRICT

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

FISCAL YEAR 2004 RECOMMENDED APPROPRIATIONS

Project	Recommended
Mississippi River & Tributaries Flood Control Project	$435,000,000

COMMENTS ON PROJECTS

History.—The Mississippi River and Tributaries Project (MR&T) was authorized following the Record Flood of 1927 that inundated some 26,000 square miles of the fertile and productive land in the Alluvial Valley of the Mississippi River, left 700,000 people homeless, stopped all East/West Commerce and adversely affected both the Economy and Environment of the entire Nation.

The MR&T Project has prevented over $180 billion in flood damages for an investment of less that $70 billion and in addition the Nation derives about $900 million in Navigation Benefits each year due to the MR&T.

The Project is not complete and we cannot pass another event as great as the 1927 Flood safety to the Gulf, this is an Historical Event—not the much greater Project Flood.

Levees.—The Mississippi River and Tributaries Flood Control Project has been under construction as an authorized project for about 76 years, and yet there are a number of segments not yet complete. Although most levees are complete to grade and section in south Louisiana and 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 $50,645,000 be appropriated for Mississippi River Levees.

Channel.—The second item of indispensable importance to the 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 $44,017,000 be appropriated for fiscal year 2004 for Mississippi River Channel Improvements.

Total Appropriation Request for MR&T.—The $435 million we are requesting for Fiscal Year 2004 Appropriations for the MR&T Project is the minimum amount we consider necessary to continue with vital on-going construction work and to do the barest amount of maintenance work that is required to prevent further deterioration of the Federal investment already made to our Flood Control and Navigation Work and to continue to work of restoring and protecting our natural environmental including providing for adequate water supply. The total appropriation we are requesting is attached.

Opposition.—We strongly oppose the Administration's recommendation in its fiscal year 2004 Budget Submission to use funds from the INLAND WATERWAYS TRUST FUND to pay for a part of the Operations and Maintenance Cost of the Inland Waterways. The Trust Fund was established in 1978 to make available monies for Construction and Rehabilitation for navigation on the Inland and Coastal Waterways, not for Operations and Maintenance. If Congress allows this recommendation the Trust Fund would be drained in a short period of time and the 50 percent share to pay for Construction for Navigation would not be available unless the tax on fuel used by tow-boats was raised, some day doubled, which would make it extremely difficult for barge operators to continue their operations and making it more expensive for farmers to get their products to market and for the public to realize savings in transportation cost for bulk commodities such as fuel, oil, gasoline and other items shipped by barge.

We are also strongly opposed to any action that would transfer all or any part of the U.S. Army, Corps of Engineers Civil Works mission to other agencies or department of the Federal Government. It has been reported that the Administration would desire to transfer the Corps NAVIGATION program to the Department of Transportation, FLOOD CONTROL AND ENVIRONMENTAL RESTORATION to the Department of the Interior, and the REGULATORY PROGRAMS to EPA. The U.S. Army Corps of Engineers has rendered extremely valuable services to this Nation since 1802 (over 200 years). The Corps has created an Inland Waterways System that is the envy of the rest of the world. This commercial transportation system is critical to the Nation's economy and environmental well-being and part of this system is used to deploy military equipment in support of the war on terrorism. The Corps has also been in the forefront to provide Flood Control and Environmental Restoration Projects, they have also supported our troops in every armed conflict this Nation has engaged in. It would be a serious mistake of Nation-wide impact to spread the functions of the Corps into several parts and across the Federal Bureaucracy. This Nation would lose a wonderful asset that we have enjoyed for many, many years.

We are strongly opposed to any proposal to "out-source" or contract-out any of the present positions in the Corps of Engineers' Civil Works function. The Secretary of the Army has proposed that 90 percent of all Corps of Engineers' positions be contracted out, this would eliminate approximately 32,000 current employees and make it almost impossible to continue with our work.

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 63-year practice of hearing our delegation.

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 efficient, 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. The Board of Commissioners desires our statement be made a part of the record.

FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

Project and State	Request
SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING & ADVANCE ENGINEERING & DESIGN:	
Memphis Harbor, TN	$700,000
Germantown, TN	171,000
Millington, TN	127,000
Fletcher Creek, TN	150,000
Southeast Arkansas	1,000,000
Coldwater Basin Below Arkansas	500,000
Quiver River, MS	100,000
Alexandria, LA to the Gulf of Mexico	700,000
Morganza, LA to the Gulf of Mexico	7,992,000
Donaldsonville, LA to Gulf of Mexico	1,400,000
Spring Bayou, LA	832,000
Tensas River, LA	500,000
Donaldsonville Port Development, LA	100,000
Collection & Study of Basic Data	695,000
SUBTOTAL—SURVEYS, CONTINUATION OF PLANNING & ENGINEERING & ADVANCE ENGINEERING & DESIGN	14,967,000
CONSTRUCTION:	
St. John's Bayou-New Madrid Floodway, MO	7,600,000
Eight Mile Creek, AR	2,050,000
Helena & Vicinity, AR	3,407,000
Grand Prairie Region, AR	24,700,000
Bayou Meto, AR	16,000,000
West Tennessee Tributaries, TN	620,000
Nonconnah Creek, TN	3,068,000
Wolf River, Memphis, TN	2,500,000
Reelfoot Lake, TN	1,240,000
St. Francis Basin, MO & AR	6,300,000
Yazoo Basin, MS	53,555,000
Atchafalaya Basin, LA	21,235,000
Atchafalaya Basin Floodway	14,200,000
MS Delta Region, LA	3,400,000
Horn Lake Creek, MS	395,000
MS & LA Estaurine Area, MS & LA	30,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA	44,017,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA	50,645,000
SUBTOTAL—CONSTRUCTION	254,962,000
SUBTOTAL—MAINTENANCE	208,433,000
SUBTOTAL—MISSISSIPPI RIVER & TRIBUTARIES	478,362,000
LESS REDUCTION FOR SAVINGS & SLIPPAGE	−43,362,000
GRAND TOTAL—MISSISSIPPI RIVER & TRIBUTARIES	435,000,000

Prepared Statement of the Fifth Louisiana Levee District

In order to continue the current level of construction on the Mississippi River and Tributaries Project (MR&T), and to provide proper maintenance of the completed portions, it is essential that the $435 million, as requested by the Mississippi Valley Flood Control Association for fiscal year 2004 (copy attached), be appropriated for the MR&T Project.

Less than $10 billion has been invested in the MR&T Project since its authorization following the great flood of 1927, but even in its incomplete stage, the MR&T project has prevented over $180 billion in flood damages and makes possible about $900 million in navigation benefits each year.

Levee enlargements have been completed along most of the Mississippi River Levee, with one exception being portions of the system in Louisiana where people and property remain vulnerable to a Levee that is the lowest in the MR&T system, even though it conducts to the Gulf 41 percent of the total water runoff of the Nation. It is imperative that construction of these Levees remain a top priority for the Administration and U.S. Army Corps of Engineers and that adequate funding be provided.

I urge reconsideration of the Administration's recommendation (in its Fiscal Year 2004 Budget Submission) to fund Operations and Maintenance cost of the Inland Waterways by using funds from the Inland Waterways Trust Fund. Depletion of that fund will have long term effects on construction for navigation, and ultimately on commerce and individuals dependent upon River transportation of bulk commodities.

It is essential that the U.S. Army Corps of Engineers remain intact and not be divided into separate, smaller entities and transferred to administration of other established Departments. The Inland Waterways System created by the Corps is recognized world-wide and has set the standard for construction of water control and navigational systems. It must continue to function as one unit to retain its effectiveness.

It is vital to the people of Louisiana and to the Nation that the Mississippi River and Tributaries Project be completed as designed and as quickly as possible. To transfer any part of the Civil Works mission, or to "out-source" or contract-out positions in the Corps' Civil Works organization, as proposed by the Secretary of The Army, will wreck the current construction and maintenance time table and eliminate approximately 32,000 current employees.

I respectfully request that $435 million be appropriated for the MR&T Project for the coming fiscal year, and urge your support for protection of the Inland Waterways Trust Fund and the structure of the U.S. Army Corp of Engineers as it currently exists.

FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

Project and State	MVFCA Request
SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING & ADVANCE ENGINEERING & DESIGN:	
Memphis Harbor, TN	$700,000
Germantown, TN	171,000
Millington, TN	127,000
Fletcher Creek, TN	150,000
Southeast Arkansas	1,000,000
Coldwater Basin Below Arkansas	500,000
Quiver River, MS	100,000
Alexandria, LA to the Gulf of Mexico	700,000
Morganza, LA to the Gulf of Mexico	7,992,000
Donaldsonville, LA to Gulf of Mexico	1,400,000
Sprung Bayou, LA	832,000
Tensas River, LA	500,000
Donaldsonville Port Development, LA	100,000
Collection & Study of Basic Data	695,000
SUBTOTAL—SURVEYS, CONTINUATION OF PLANNING & ENGINEERING & ADVANCE ENGINEERING & DESIGN	14,967,000
CONSTRUCTION:	
St. John's Bayou-New Madrid Floodway, MO	7,600,000
Eight Mile Creek, AR	2,050,000
Helena & Vicinity, AR	3,407,000
Grand Prairie Region, AR	24,700,000
Bayou Meto, AR	16,000,000
West Tennessee Tributaries, TN	620,00
Nonconnah Creek, TN	3,068,000
Wolf River, Memphis, TN	2,500,000
Reelfoot Lake, TN	1,240,000
St. Francis Basin, MO & AR	6,300,000
Yazoo Basin, MS	53,555,000
Atchafalaya Basin, LA	21,235,000
Atchafalaya Basin Floodway	14,200,000

FISCAL YEAR 2004 CIVIL WORKS REQUESTED BUDGET—MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS—Continued

Project and State	MVFCA Request
MS Delta Region, LA	3,400,000
Horn Lake Creek, MS	395,000
MS & LA Estaurine Area, MS & LA	30,000
Channel Improvements, IL, KY, MO, AR, TN, MS & LA	44,017,000
Mississippi River Levees, IL, KY, MO, AR, TN, MS & LA	50,645,000
SUBTOTAL—CONSTRUCTION	254,962,000
SUBTOTAL—MAINTENANCE	208,433,000
SUBTOTAL—MISSISSIPPI RIVER & TRIBUTARIES	478,362,000
LESS REDUCTION FOR SAVINGS & SLIPPAGE	−43,362,000
GRAND TOTAL—MISSISSIPPI RIVER & TRIBUTARIES	435,000,000

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 Domenici 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 2004 budget for: Second 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, five operating berths, a 45-inch deep Freeport Harbor Channel and a 70-foot 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 3 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 completed that study. The report indicates that "transportation savings in the form of National Economic Development Benefits (NED) appear to substantially exceed the cost of project implementation", thus confirming "a strong Federal interest in conducting the feasibility study of navigation improvements at Freeport Harbor". In fact, the Corps anticipates a benefit to cost ratio of the project to be at an impressive more than 20 to 1 benefit to cost.

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 25 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.

DEFENSE SUPPORT OF OUR NATION

Port Freeport is a strategic port in times of National Defense of our Nation. It houses a critically important petroleum oil reserve—Bryan Mound. It also is the only port in Texas that is being considered by the United States Navy and General Dynamics as the site for the building of Amphibious Assault Vehicles. Its close proximity to State Highways 36 and 288 make it a convenient deployment port for Fort Hood. In these unusual times, it is important to note the importance of our ports in the defense of our Nation and to address the need to keep our Federal waterways open to deep-draft navigation.

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 was indicated from the Corps of Engineers reconnaissance study firmly solidified the Federal interest.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FISCAL YEAR 2004

The Administration's budget included $250,000 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 2004 of $500,000 to continue the feasibility study and keep this project on an optimal and most cost-efficient time frame for the Federal Government and the local sponsor. We respectfully request the additional $250,000 for fiscal year 2004.

PREPARED STATEMENT OF CAMERON COUNTY, TEXAS

On behalf of Cameron County and the users of the Gulf Intracoastal Waterway, (GIWW) Texas, we extend gratitude to Chairman Domenici, 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 2004 budget for: First Phase of feasibility study—$500,000.

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. On May 2, 2002, three barges being pushed by a tug collided with the swing bridge at Port Isabel, Texas, closing the waterway and stranding residents of Long Island Village. These accidents prompted Cameron County to request a reconnaissance study to study realignment of the portion of the Gulf Intracoastal Waterway near the swing bridge to straighten the circuitous route, thus significantly reducing the threat of future accidents.

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 allowed 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 foresee the terrible accident that occurred on September 15 or the additional one on May 2, 2002. 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.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FISCAL YEAR 2004

The $500,000 that must be added to the fiscal year 2004 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 Domenici 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 2004 budget for: Pre-Construction Engineering and Design (OEM) For Cedar Bayou, Texas—$100,000.

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-foot deep and 100-foot 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′×125′ channel from the Houston Ship Channel Mile 3 to Cedar Bayou Mile 11 at the State Highway 146 Bridge. The Texas Legislature created the Chambers County-Cedar Bayou Navigation District 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

Congress appropriated $100,000 in fiscal year 2001 for the Corps of Engineers to conduct the feasibility study to determine the Federal interest in this improvement project. The study indicated a benefit to cost ratio of the project of 2.8 to 1. The estimated total cost of the project is $16.8 million with a Federal share estimated at $11.9 million and the non-federal sponsor share of approximately $4.9 million. Total annual benefits are estimated to be $4.8 million, with a net benefit of $3 million. Congress appropriated $400,000 each in fiscal year 2002 and fiscal year 2003 to support the feasibility study. This project is environmentally sound and economically justified.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FISCAL YEAR 2004

We would appreciate the subcommittee's support of the required add of the $100,000 appropriation needed by the Corps of Engineers 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 CITY OF NEWARK, NEW JERSEY

Chairman Domenici and members of the Subcommittee, thank you for giving the City of Newark the opportunity to submit testimony about a project under your jurisdiction which is very important to the quality of life of the people of Newark, New Jersey and the surrounding region. The Passaic River Streambank Restoration Project, known as the Joseph G. Minish Passaic River Waterfront Park and Historic Area, is an important part of the overall economic, land use and transportation development plan of the City of Newark.

The Joseph G. Minish Park/Passaic Riverfront Historic Area project addresses the restoration and rehabilitation of approximately 9,000 linear feet of Passaic River shoreline. This encompasses the eastern boundary of Newark's Central Business District, as well as the edge of the City's densely populated Ironbound neighborhood. This reach of the Passaic River, from Bridge Street to Brill Street, in the City of Newark is eroded, deteriorated and environmentally degraded due to past heavy commercial and industrial use and flooding. The total project includes bulkheading and other streambank restoration measures, the creation of a 40-foot-wide walkway on top of the bulkhead, and a system of open spaces tying together large public park areas as well as open space required in any private development.

The project was authorized in the Water Resources Development Act (WRDA) of 1990 (Public Law 101–640) as an element of the Passaic River Flood Damage Reduction Project on November 28, 1990, modified in the Water Resources Development Act of 1992 (Public Law 102–580) by extending the project area, and further modified in the Water Resources Development Act of 1996 (Public Law 104–303). The project is divided into three phases. Phase I consists of 6,000 feet of bulkhead replacement (Bridge Street to Jackson Street) and 3,200 feet of wetlands restoration (Jackson Street to Brill Street). The Project Cooperation Agreement for Phase I was executed in May 1999. Plans and specifications for this first phase have been prepared, and it is being implemented in four contracts. Construction of the first bulkhead section at a value of $2,069,910 was completed in September of 2000. A second construction contract to continue Phase I has been contracted at a cost of $4.7 million, and is scheduled for completion in March 2003. The third contract specifications have been prepared, and will be bid as soon as required property remediation is completed by a private owner. The fourth contract includes a naturalized streambank area in the riverfront area adjacent to City and County parkland in a densely populated neighborhood, and could be constructed simultaneously to contract three. The Army Corps of Engineers has committed funds still available to apply toward Phase I elements. The State of New Jersey has been the primary cost-sharing sponsor of Phase I, with significant City investment and support. Some additional funding will be needed for Phase I, according to the U.S. Army Corps of Engineers March 2002 project fact sheet. Prior appropriated funds have been utilized to fully design the bulkhead, a segment of naturalized streambank, and a system of walkways and public open spaces.

City Engineering professionals are coordinating with the Corps to complete all elements of the bulkheading and its integration with significant Combined Sewer Overflow facilities and related Phase I costs. Close coordination has also been continuing with the NJ Department of Transportation, which is rebuilding the section of Route 21 adjacent to Minish Park, and NJ Transit, which has begun construction of the

Minimum Operable Segment of a light rail line, the Newark Elizabeth Rail Link, on the west side of Route 21. Adjacent, previously dormant, sites have become desirable locations for development of commercial properties, due to the projected walkway, park and open space facilities. The Federal Bureau of Investigation has become the tenant in a new office building on the riverfront, and a private developer is planning new housing units on a riverfront site adjacent to Penn Station. The complexity of all of these interrelated projects, as well as the private development of properties in the area, has increased the importance of moving the Minish Park construction at an accelerated pace.

As planned, Phase II will add a 9,200-foot long and 40-foot-wide waterfront walkway on top of and adjacent to the bulkhead, and Phase III adds park facilities, plazas, and landscaping on the inland side of the promenade, between the river and Newark's downtown edge. Future project segments will create linkages to Riverbank Park and other community facilities, including a naturalized streambank and a new Essex County Park. However, a change in the phasing, but not the scope, of the overall project would provide needed open space in one of our Nation's oldest and most densely populated cities.

It is vital to the interests of the City of Newark, its residents, visitors, businesses and investors that construction of the walkway and park between Penn Station and the northern end of the completed bulkhead proceed as soon as possible. This area includes the large park proposed at Center Street and the Riverfront. Construction of this project segment will allow pedestrians safe and convenient access to the riverfront from Newark Penn Station north to the New Jersey Performing Arts Center. The Army Corps has completed preliminary designs, so that the waterfront walkway can built over the two sections of the bulkhead which have been substantially completed, and the park built on adjacent property now owned by the City of Newark and other public entities.

Mandatory site remediation by private owners on property slated for bulkhead construction has become more extensive than originally anticipated. Since design efforts for Phases II and III are underway, as are negotiations for a Project Cooperation Agreement, construction of Phases II and III can take place on completed areas of Phase I. This restoration will provide a new focal point for downtown development activities, reconnect Newark to its riverfront and maritime history, and allow neighborhood residents direct access to the riverfront as part of a much-needed recreation complex.

An appropriation of $14 million for the continuation of construction on the Newark Riverfront Project is requested, so that this integral element in Newark's revitalization can move forward as planned, and can be utilized by the Army Corps of Engineers, in fiscal year 2004. The current funding will only take us through the construction of bulkhead and some of the mud flats restoration, not to a usable facility. An additional appropriation will enable the City, State and Corps to proceed with a Phase II City/Corps cooperative program agreement on the next set of essential Phase II and Phase III elements. This will include the walkway/greenway component above and behind the completed bulkheading, and the critical connective infrastructure that will be needed to insure access and maximum effectiveness and utilization of this project for the community and key stakeholders and project partners.

A supplemental appropriation of $14 million is requested so that this integral element in Newark's revitalization can move from partial construction to the beginning of full project build-out. This investment in Newark's future will help us to improve the economic status of our Nation's third oldest major city. The development of the riverfront now is a critical element in the overall plan for Newark's downtown revitalization. This linear park will serve as a visual and physical linkage among several key and exciting development projects. It is adjacent to one of the oldest highways in the Nation, Route 21, which is undergoing a multi-million dollar realignment and enhancement. A light rail system, the Newark-Elizabeth Rail Link, is under construction. It will connect Newark's two train stations, and ultimately, Newark International Airport and the neighboring City of Elizabeth, providing users with access to mass transportation. Conversely, the riverfront will become a destination served by that system, providing an important open space and waterfront opportunity for residents of one of the most densely populated cities in the Nation.

The environmental benefits of the project include flood control, riverbank and wetlands restoration, creation of urban green space, and enhancement of water quality in the Passaic River. These improvements will allow the Passaic River to be converted from one of the nation's most troubled waterways to a cultural and recreational asset. Ongoing and planned greenway projects will provide pedestrian and

bicycle access to the waterfront from Newark's residential neighborhoods as well as the City's five major institutions of higher learning.

The riverfront development will complement and provide a visual and physical connection with the $170 million New Jersey Performing Arts Center, which opened in the Fall of 1997 and has been incredibly successful. Further north along the riverfront, also accessible from the riverfront walkway when it is fully built, the City of Newark and Essex County have opened Riverfront Stadium, home to a minor league baseball team as well as community sporting events such as the Project Pride Bowl. Also in close pedestrian proximity is the site for the new Newark Sports and Entertainment Arena, which is expected to bring two million visitors a year into the area. In addition, NJ Transit has completed construction of a new concourse, which is directly adjacent to the riverfront. Once the park and walkway are completed, rail and bus passengers will be able to exit the Penn Station north concourse directly onto the riverfront area. On the eastern portion of Minish Park, residents of a crowded community, Newark's Ironbound, will have direct access to the river and its streambank for active and passive recreation for the first time.

The riverfront will be the nexus of these activities, creating a vibrant downtown center that will provide economic development opportunities for the citizens of Newark and our region. Visitors from throughout the Nation are expected to come to visit our revitalized city, and participate in the exciting growth and development taking place. There is tremendous potential for Newark's riverfront to mirror the success of other riverfront developments throughout the country, and Newark stands ready to accept the challenges such developments present.

The City of Newark has completed conducting a master plan study for the entire riverfront area, which will guide us in tying together these incredibly exciting, and challenging, projects. We have received State of New Jersey planning funds to develop a redevelopment plan for the entire site, which will serve to coordinate redevelopment plans with private developers, public agencies, and non-profit partners. Funds have also been made available by the State for a Newark Waterfront Community Access Study, which is examining the optimum way to safely cross Route 21 to enable pedestrians to enjoy the riverfront area. We have a once in a lifetime opportunity to coordinate several major development activities into a virtually seamless development plan. The appropriation of $15 million which Newark requests will serve to incorporate the Army Corps of Engineers' construction into our overall economic development plan to reinvigorate Newark. I urge you to support this appropriation request, and help us to continue Newark's revitalization.

In closing, I would like to extend my thanks to the entire New Jersey delegation for its ongoing support, especially to subcommittee member Rodney Frelinghuysen for his advocacy of Newark's critical projects. The time and attention of this subcommittee are deeply appreciated.

PREPARED STATEMENT OF THE CITY OF MIAMI BEACH, FLORIDA

On behalf of the City of Miami Beach, I appreciate this opportunity to submit for the record testimony in support of the request by Miami-Dade County for beach renourishment funds.

SUPPORT FOR MIAMI-DADE CONSTRUCTION REQUEST

The City of Miami Beach would first like to thank the members of the subcommittee for all their efforts in the past to provide support for the State of Florida's beaches and in particular, those of Miami Beach.

Beaches are Florida's number one tourist "attraction." In 2002, beach tourism generated more than $16 billion for Florida's economy and more tourists visited Miami Beach than visited the three largest national parks combined.

In addition to their vital economic importance, beaches are the front line defense for multi-billion dollar coastal infrastructure during hurricanes and storms. When beaches are allowed to erode away, the likelihood that the Federal Government will be stuck with astronomical storm recovery costs is significantly increased.

The Florida Department of Environmental Protection estimates that at least 276 miles (35 percent) of Florida's 787 miles of sandy beaches are currently at a critical state of erosion. This includes the entire 6 miles of Miami Beach. As a result of the continuing erosion process and more dramatically, recent intense storms which have caused tremendous damage to almost all of the dry beach and sand dune throughout the middle segment of Miami Beach. Three years ago, most of the Middle Beach dune cross-overs were declared safety hazards and closed, as the footings of the boardwalk itself were in immediate jeopardy of being undercut by the encroaching tides. If emergency measures, costing approximately $400,000 had not been taken

by the City, there would have been considerable risk of coastal flooding west of the dune line in residential sections of Miami Beach. As you can see, this example points to the commitment we as a beach community have to our beaches, but Federal assistance remains crucial. While we are thankful of the substantial commitment made by the subcommittee in the fiscal year 2002 Energy and Water Conference Report, there is still much work to be done. Our beaches must be maintained not only to ensure that our residents and coastal properties are afforded the best storm protection possible, but also to ensure that beach tourism, our number one industry, is protected and nurtured.

In 1987, the Army Corps of Engineers and Metropolitan Dade County entered into a 50-year agreement to jointly manage restore and maintain Dade County's sandy beaches. Since then, Metropolitan Dade County has been responsible for coordinating and funding the local share of the cost for the periodic renourishment of our beaches.

In order to ensure that adequate funding will continue to be available, the City of Miami Beach supports and endorses the legislative priorities and appropriation requests of Metropolitan Dade County, as they relate to the restoration and maintenance of Dade County's sandy beaches. Specifically, the City respectfully adds their strong support for the efforts of Miami-Dade County and wholeheartedly supports their fiscal year 2003 request for beach renourishment funds.

Your support would be appreciated, Mr. Chairman. The City of Miami Beach thanks you for the opportunity to present these views for your consideration.

PREPARED STATEMENT OF THE GREEN BROOK FLOOD CONTROL COMMISSION

SUMMARY

The Commission requests that the Congress appropriate $10,000,000 in Construction General Funds for the Project in fiscal year 2004, to continue construction of the 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 2004 for $10,000,000 in Construction General funds.

As you know from our previous testimony, 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 catastrophic 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 have previously reported to you, 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 involved 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 now complete, and the new bridge is in use.

Last year, the New York District of the Corps of Engineers awarded the second construction contract, known 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.

This Segment T also includes a large pumping station being 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.

The next following segment of the Project is planned for construction to begin later this year. This next construction, known as Segment U, will begin the protection for the western portion of Bound Brook Borough.

As that segment gets into construction, the final plans for the remaining segments for the protection of Bound Brook Borough will be translated into construction documents.

It is important to recognize that the Borough of Bound Brook will remain in danger of further catastrophic flooding until the ring of protection for the Borough is completed.

The constructed completed thus far will not provide protection for Bound Brook Borough until the ring is closed around the Borough. It is of the utmost importance that the remaining construction to complete the protection for the people and property of Bound Brook Borough be carried forward with dispatch. With the continued support of the Congress, this work can continue seamlessly during the next few 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.

Bound Brook Borough needs flood protection sooner, not later.

To accomplish that, the Project requires $10,000,000 in Federal appropriation for fiscal year 2004.

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 32 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 2004.

We urgently request an appropriation for the Project in fiscal year 2004 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 continued 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	7,000,000	.....	.....	.....	.....	.....
2004	6,500,000	[1] 10,000,000	.....	.....	.....	.....	.....

[1] Recommendation of the Green Brook Flood Control Commission for Fiscal Year 2004 to Continue Construction

Reference: This summary of funding for the Green Brook Flood Control Project has been assembled based upon publicly available information.

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

PREPARED STATEMENT OF THE GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. Chairman, Members of the Committee, my name is Dave Koland; I serve as the manager of the Garrison Diversion Conservancy District. The mission of the Garrison Diversion is to provide a reliable, high quality and affordable water supply to the areas of need in North Dakota. Over 77 percent of our State residents live within the boundaries of Garrison Diversion. I would like to comment on the impact that the President's fiscal year 2004 budget request has on the effort to provide reliable, high quality and affordable water supplies to the citizens of North Dakota through the Garrison Diversion Unit.

The President's fiscal year 2004 budget request removed, from the Garrison Diversion Unit budget, funding for one of the most successful government programs in North Dakota. As I read the OMB Program Assessment Rating Tool (PART), dealing with Rural Water Supply Projects, I can only conclude that they had no knowledge of the North Dakota Municipal, Rural and Industrial (MR&I) program.

The MR&I program was started in 1986 after the Garrison Diversion Unit was reformulated from a million-acre irrigation project into a multipurpose project with emphasis on the development and delivery of municipal and rural water supplies. The statewide MR&I program has focused on providing grant funds for water systems that provide water service to unserved areas of the State. The State has followed a policy of developing a network of regional water systems throughout the State. Every rural water system built in North Dakota is still operating. They are providing safe, clean water to their members, reducing their debt, putting money in reserve, complying with every State and Federal regulation, and doing so with a stable, prudent rate structure.

NORTH DAKOTA'S SUCCESS STORY

Rural communities offer the experience and lifestyle many people seek in which to raise their family. People live on farmsteads with a rural water connection, while farmsteads without decent water stand empty. For instance, Sheridan County lost 20.4 percent of its population between 1990 and 2000, yet the rural water system serving that county hardly lost a connection. Good water does make a difference as to where people choose to live.

The key to providing water to small communities and rural areas has been the Grant and Loan program of Rural Development and the MR&I program jointly operated by the Garrison Diversion Conservancy District and the State Water Commission. Without the assistance of these two grant programs, the exodus from the rural areas would have been a stampede.

Rural water systems are being constructed using a unique blend of local expertise, State financing, rural development loans, MR&I grant funds to provide an affordable rate structure, and the expertise of the Bureau of Reclamation to deal with environmental issues. The projects are successful because they are driven by a local need to solve a water quantity or quality problem. The solution to the local problem is devised by the community affected by the problem. Early, local buy-in helps propel the project through the tortuous pre-construction stages.

The MR&I program has been so successful and so important to North Dakota that the North Dakota Legislature loaned the program $15 million to help deal with the severe lag time that developed in the Federal appropriations process.

The desperate need for clean, safe water is evidenced by the willingness of North Dakota's rural residents to pay water rates well above the rates EPA considers affordable. The EPA Economic Guidance Workbook states that rates greater than 1.5 percent of the median household income (MHI) are not only unaffordable, but also "may be unreasonable".

The average monthly cost on a rural water system for 6,000 gallons of water is currently $48.97. The water rates in rural North Dakota would soar to astronomical levels without the 75 percent grant dollars in the MR&I program. For instance, current rates would have to average a truly unaffordable $134.19/month or a whopping 3.8 percent of the MHI. Rates would have ranged as high as $190.80/month or a prohibitive 5.3 percent of MHI without the assistance of the MR&I program.

The people waiting for water in our rural communities are willing to pay far more than what many consider an affordable, or even reasonable, price for clean, safe water.

ENVIRONMENTAL LAWS

The Bureau of Reclamation plays a vital role by ensuring compliance with the National Environmental Policy Act of 1969 (NEPA) and dealing with international issues. Such is the case with the Northwest Area Water Supply Project (NAWS). Canada and the province of Manitoba have filed a lawsuit protesting the thorough Final Environmental Assessment and the subsequent Finding of No Significant Impact on the NAWS project.

One reason for the success of the North Dakota program is the reliance on local control. Decision-making is accomplished at the lowest level possible. The decision on who the system can afford to provide service to and the rate structure is made by a local board of directors composed of members who will be served by the water system. Volunteer involvement and low administrative costs are hallmarks of the program. Local firms that have experience in designing and constructing systems in North Dakota typically provide engineering services.

Across North Dakota, we have seen the impact of providing good water to rural areas and witnessed the dramatic change in small communities. Homes once occupied by aging widows are soon rented or sold to young adults, while houses and farmsteads without rural water stand empty.

Good drinking water is still a dream in many rural North Dakota communities. Turning on the tap each morning brings brown, putrid smelling water instead of clear, fresh water a majority of people enjoy.

The opportunity to impact rural North Dakota is now. If we do nothing, it is easy to predict what will occur in rural North Dakota. We only need to look at counties without good water.

It is in the best interest of North Dakota and the 150+ local communities not yet served by a regional system that we build every piece of rural infrastructure feasible. We must continue to build on what has proven so successful in the past.

Providing a reliable source of good, clean water in rural areas has worked to stabilize the rural economy in North Dakota. The combination of leveraging Rural Development loan funds with MR&I grant dollars has provided a cost efficient, long-term solution to the rural communities in North Dakota.

If we act now, we can make a difference in rural North Dakota. Providing for healthy, vibrant rural communities is good for North Dakota and good for our Nation. We know from past experience that providing good water for rural communities is one sure way of helping people change the future.

The MR&I program in North Dakota should serve as an outstanding example of a successful program that could be implemented in other States.

DISCUSSION OF OVERALL BUREAU OF RECLAMATION BUDGET

It is important to recognize that the fiscal year 2004 budget submission of $771 million for the Bureau of Reclamation's Water and Related Resources program is $45 million more than their request for fiscal year 2003. It is $150 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 1990s has created problems across the west for virtually all of its constituents.

BUDGET IMPACTS ON GARRISON DIVERSION UNIT

At this point, I would like to shift to the particulars of the budget as it impacts the Garrison Diversion 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 the current level of funding will have on the program.

Attachment 1 shows the funding history over the last 7 years for the Garrison Diversion Unit. The average is approximately $27 million. The President's budget request for fiscal year 2004 is $17.314 million. A continuation of this trend is a formula for disaster. The President's budget request does not even maintain the historic funding level and ignores the needs of the current programs and does not keep up with price increases expected in major programs as delays occur. Fortunately, Congress saw fit to provide that the unexpended authorization ceilings would be indexed annually to adjust for inflation in the construction industry. The proposed allocation to the indexed programs in the President's budget is zero. 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 $61.3 million for the Project. Attachment 2 is a breakdown of the elements in the District's request. To discuss this in more detail, I must first explain that the Garrison Diversion 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 3 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 increase and create a need that will need to be addressed.

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 reaches 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. Project costs generally run around $20 million. Some are, of course, smaller and others somewhat larger. One that is considerably larger is the NAWS Project. The first phase of this project is under construction. The optimum construction schedule for completion of the first phase has been determined to be 5 years. The total cost of the first phase is $66 million. At a 65 percent cost share, the Federal funding needed to support NAWS is $43 million. On the average, the annual funding for the NAWS Project alone is over $8 million. Four other projects have been approved for future funding, and numerous projects on the reservations are ready to begin construction. These requests will all compete with one another. It will be a delicate challenge to balance these projects. Nevertheless, we believe that once a project is started, it needs to be pursued vigorously to completion. If not, we simply run up the cost and increase the risk of incompatibility among the working parts.

An example of the former would be the certain impact of the increased cost of construction over time through inflation, as well as increased engineering and administration costs.

The third element of the budget is the Red River Valley Water Supply Project (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 5 years. This will create an immediate need for increased 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 7 years. This creates a need for an additional $25 million. Fortunately, it appears the RRV project start will probably follow the completion of the NAWS first phase.

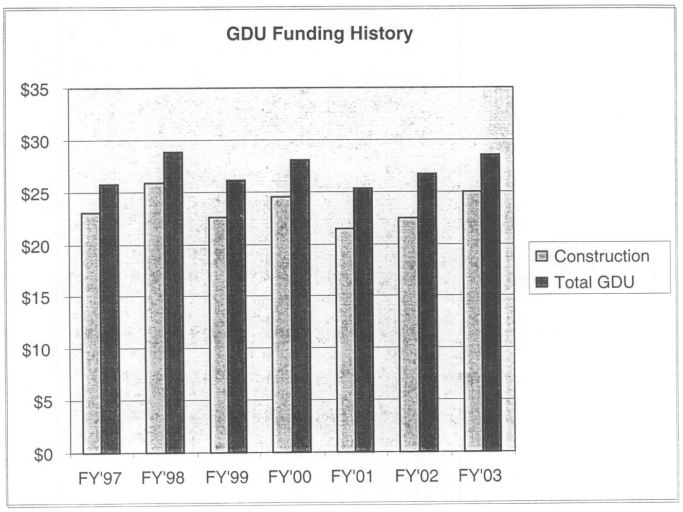
Using these two projects as examples sets up the argument for a steadily increasing budget. First, to accelerate the MR&I program in early years to assure the timely completion of the NAWS project and then to ready the budget for a smaller MR&I allocation when the RRV project construction begins.

Attachment 4 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, a funding spike will occur in the sixth year. This is when an additional $25 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 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. Over time, a smoother, more efficient construction program will result.

Attachment 5 shows such a program. It begins with a $61.3 million budget this year and gradually builds to over $90 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 $150 million in fiscal year 2004 and, over time, an increase totaling $1 billion.

The Bureau of Reclamation, Rural Development, Garrison Diversion Conservancy District, State Water Commission and local rural water districts have formed a formidable alliance to deal with the lack of a high quality, reliable water source throughout much of North Dakota. These cost-effective partnerships of local control, statewide guidance and Federal support have combined to provide safe, clean, potable water to hundreds of communities and thousands of homes across North Dakota.



Attachment 1

ATTACHMENT 2.—JUSTIFICATION FOR $61.3 MILLION GDU APPROPRIATION

FISCAL YEAR 2004

Northwest Area Water Supply is under construction after 15 years of study and diplomatic delay. Construction of first phase is estimated to be $66 million.

Designs are based on a 5-year construction period; thus, $12 million is needed for NAWS alone. Indian MR&I programs should be approximately the same.

Ramsey County expansion, Southwest Pipeline, and Williston Water Treatment Plant are under construction.

Red River Valley special studies are underway and need to be accelerated.

[In millions]

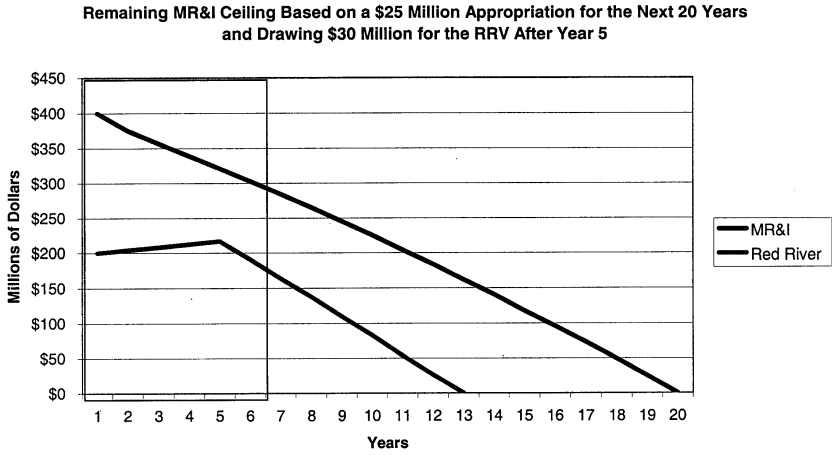
	Amount
OPERATION AND MAINTENANCE OF INDIAN MR&I SYSTEMS PLUS JAMESTOWN DAM	$3.4
BREAKDOWN OF $57.9 MILLION CONSTRUCTION REQUEST:	
Operation and Maintenance of Existing Supply System	4.8
Wildlife Mitigation & Natural Resources Trust	4.4
Red River Valley Special Studies and EIS	1.0
Indian and non-Indian MR&I	39.0
Indian Irrigation	3.2
Recreation	0.5
Under financing 9.5 percent	5.0
Total for Construction	57.9
Grand Total	61.3

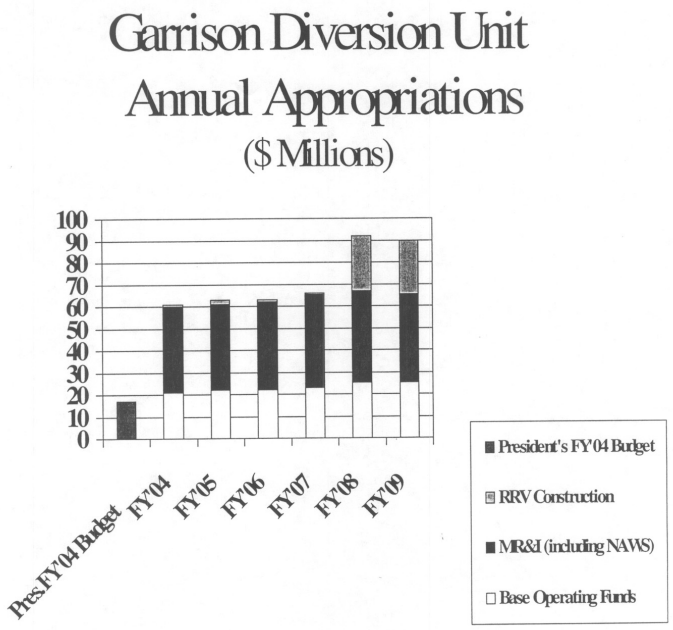
ATTACHMENT 3.—ELEMENTS OF THE BASE OPERATIONS PORTION OF THE GARRISON DIVERSION UNIT BUDGET FISCAL YEAR 2004

[In millions]

	Amount
Operation and Maintenance of Indian MR&I Systems and Jamestown Dam	$3.4
Operation and Maintenance of Existing GDU Facilities	4.8
Funding of Natural Resources Trust and Remaining Wildlife Mitigation Programs	4.4
Indian Irrigation	3.2
Recreation	0.5
Under financing at 9.5 percent	5.0
Total	21.3

ATTACHMENT 4





Attachment 5

LETTER FROM THE NORTH DAKOTA RURAL WATER SYSTEMS ASSOCIATION

Bismarck, North Dakota, March 26, 2003.

GALE NORTON,
U.S. Dept. of Interior, Washington, DC 20240.

DEAR MS. NORTON: The North Dakota rural water community would appreciate your assistance and support to restore rural water funding for the fiscal year 2004 and re-establish a firm rural water supply function of the Bureau of Reclamation (BOR) for 2005 and beyond.

North Dakota has a healthy relationship with the BOR and has worked side-by-side in the development and building of rural water systems. The North Dakota State Water Commission, Garrison Diversion Conservancy District, BOR, and project sponsors have successfully built rural water systems in a team effort throughout North Dakota.

This unique team concept has delivered water through pipeline projects to small communities as well as to rural residents at responsible costs. North Dakota rural residents are willing to pay a reasonable cost-share to complete current projects and begin future projects. The EPA's household affordability ratio states water rates should be 1.5 percent to 2.5 percent of a household's median income to be considered affordable. The attached document provides information documenting household water rate affordability ratios that range from 2.07 percent to 2.31 percent. These percentiles weigh on the high side of what the EPA suggests is affordable.

The Southwest Pipeline Project provides treated drinking water via 2,600 miles of pipeline and serves 23 communities and more than 2,300 rural residents. The Federal cost-share of this project is $7,200 per connection. The life of a water system is estimated at 40 years. $7,200 per connection divided by 40 years equals an investment by the Federal Government of $180 per year per connection. North Dakota has a long list of additional rural water projects that reflect similar economics. Is $180 per year per connection too much for the Federal Government to invest to sustain residents in rural North Dakota, which ranks 4th in the harvesting of our Nation's principal crops?

New Federal drinking water regulations have increased the cost and complexity of the water treatment and distribution process. Increasingly, small communities find that their best and most efficient solution for safe drinking water is to obtain their water supply from a rural water system. Small communities simply cannot afford to comply with the Federal mandates in many situations. In an effort to comply with the Safe Drinking Water Act, communities with populations of less than 500 will have to invest more than $1 million in treatment facilities. Rural water systems provide a dependable supply of treated drinking water to communities and rural residents from centralized treatment facilities resulting in a very cost effective way to treat water.

Drought conditions have plagued the west, southwest, and central areas of North Dakota. Indications are that this drought pattern will continue and is moving east as well. The need for an abundant supply of quality water is serious.

The Dakota Water Resources Act authorized an additional $200 million for state MR&I and $200 million for tribal MR&I projects. North Dakota has started a process of long-range water development planning with many rural water systems in the construction phase. The Dakota Water Resources Act is the basis of our planning. North Dakota has had a healthy relationship with the BOR and is willing to share in the cost of developing and building water systems to sustain our North Dakota heritage.

Respectfully submitted,

STUART CARLSON,
Executive Director.

Ransom-Sargent	Median Household Income (MHI)*	Annual User Cost Share (AUCS), 94,000 gallons**	Household Affordability Ratio (X), (AUCS/MHI) = X percent ***
Ransom	$37,672	$40 Monthly	
Sargent	$37,213	$4.00/1000 gallons	
Average	$37,443	$856	2.29%
North Valley	**Median Household Income (MHI)***	**Annual User Cost Share (AUCS), 94,000 gallons****	**Household Affordability Ratio (X), (AUCS/MHI) = X percent *****
Pembina	$36,430	$26 Monthly	
Cavalier	$31,868	$4.20/1000 gallons	
Average	$34,149	$707	2.07%
South Central	**Median Household Income (MHI)***	**Annual User Cost Share (AUCS), 94,000 gallons****	**Household Affordability Ratio (X), (AUCS/MHI) = X percent *****
Burleigh	$41,309	$30 Monthly	
Kidder	$25,389	$3.40/1000 gallons	
Emmons	$26,119		
Logan	$27,986		
McIntosh	$26,389		
Average	$29,438	$680	2.31%
Southwest Pipeline	**Median Household Income (MHI)***	**Annual User Cost Share (AUCS), 94,000 gallons****	**Household Affordability Ratio (X), (AUCS/MHI) = X percent *****
Mercer	$42,269	$38.25 Monthly, 2000 gallons	
Dunn	$30,015	$3.60/1000 gallons	
Morton	$37,028		
Grant	$23,165		
Adams	$29,079		
Bowman	$31,906		
Slope	$24,667		
Stark	$32,526		
Billings?	$32,667		
Golden Valley?	$29,967		
Average	$31,329	$711	2.27%
North Dakota	$34,604		
United States	$41,994		

* Median Household Income - 2000 United States Census

** According to the US EPA website, Each American household uses an average of 94,000 gallons of water per year

*** Water Utility Financing Study (1980) - Source US EPA website
Household Affordability Ratio should be between 1.5% to 2.5% to be considered affordable and anything >2.5% is considered unaffordable

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PREPARED STATEMENT OF THE OREGON WATER RESOURCES CONGRESS

The Oregon Water Resources Congress (OWRC) was established in 1912 as a trade association to support member needs, to protect water rights and encourage conservation and water management statewide. OWRC represents non-potable agriculture water suppliers in Oregon, primarily irrigation districts, as well as member ports, other special districts and local governments. The association represents the entities that operate water management systems, including water supply reservoirs, canals, pipeline and hydropower production.

BUREAU OF RECLAMATION

For this reason we support an increase of $150 million above the administration's proposed budget request for the Bureau of Reclamation's programs westwide. The administration's current budget proposal is $45 million less than Congress provided in the 2003 omnibus appropriations for Reclamation.

With many western States confronting significant budget deficits, increased emphasis is being placed on targeted Federal aid. Oregon is facing a $2 billion deficit, or about 16 percent of the State's general fund budget. We also support the Western Water Initiative of the Bureau of Reclamation.

OREGON NEEDS

Conservation Implementation

The largest need for funding for OWRC's members is to implement water conservation projects. Irrigation districts in Oregon continue to line and pipe open waterways to enhance both water supply and water quality. But the ability to continue this work depends on some public investment in return for the public benefits. Districts have conserved water and provided some of the saved or conserved water to benefit the fishery instream while also building reservoir supplies. Oregon districts hope to continue this work through enhanced conservation, but to do that the districts need support to implement effective alternative programs such as pilot water banking projects (Klamath Basin and the Deschutes Basin), energy reduction programs, additional measurement and telemetry monitoring, etc.

Rogue River Basin

Medford Irrigation District

Rogue River Valley Irrigation District

Talent Irrigation District

Grants Pass Irrigation District

Three contiguous districts in the Rogue Project (Medford, Rogue River and Talent irrigation districts) are requesting $1 million to fund the Bear Creek and Little Butte Optimization Study by the Bureau of Reclamation. That study will propose a plan to conserve water throughout the basin by lining and piping canals within the districts, considering the potential for raising Howard Prairie Dam and the feasibility of other conservation options.

The Grants Pass Irrigation District (GPID) continues to address conservation and the eventual outcome of the Savage Rapids Dam. In the 2004 budget, $3,700,000 is requested for the Rogue River Water Conservation Project of the Grants Pass Irrigation District as part of the Department of Agriculture budget for the Natural Resources Conservation Service, or the Western Water Initiative or other applicable programs. If that amount is not fully funded, any unfounded amount would be requested as part of an ongoing multiyear request. This amount is not included in the administration's requested budget. The request is supported by the Governor's office, as well as conservation and recreation interests. The district will provide matching funds.

The GPID funding will be used to install piping or lining in 68.4 miles of existing open ditches and canals to reduce water seepage losses. These actions will eliminate 53 percent of seepage and reduce the District's diversion from the Rogue River by approximately 8,300 acre feet of water annually.

Deschutes Basin

Tumalo Irrigation District

Deschutes Resource Conservancy

Ochoco Irrigation District

The Tumalo Irrigation District has been piping canals and replacing other water management structures to achieve conservation measures districtwide. Public Law 106–496 authorized $2.5 million for the current portion of the work to be accomplished. The district requests $882,500 as the final portion of the authorized funds.

In the 2002 budget Congress appropriated $300,000 but the Bureau of Reclamation reduced the amount to $275,000. In the 2003 budget Congress appropriated $1,300,000 but Reclamation reduced that amount to $750,000. As this work is already in the engineering and construction process, the shortfall is delaying the project and the $882,500 is needed to complete the conservation package.

The Ochoco Irrigation District (Prineville, Oregon) has worked with the Bureau of Reclamation, along with the North Unit Irrigation District (Madras, Oregon) for the better part of a decade to determine the use of unallocated water in the district's reservoir. Approximately $200,000 in additional dollars is required to finish the project. Reclamation earlier invested $500,000 in the process, which has not been completed.

The Deschutes Resource Conservancy has requested $2 million for fiscal year 2004. The DRC is a non-profit corporation authorized by Congress to receive technical assistance and financial support from Federal agencies to support conservation and restoration in the Deschutes Basin of Central Oregon, founded by 7 irrigation districts, the Warm Springs Confederated Tribe, and others to maximize collaborative efforts in the basin. Since 1998, the DRC has granted irrigation districts and their water users almost $1 million in funding for piping and water conservation work. The current request includes partial funding of a pilot water banking project to enhance the 8,000 acre feet of leased water developed in 2001 and 2002. Expectations for storage enhancement in 2003 exceed earlier program results.

From the funding request, in addition to the water bank, the DRC hopes to fund pilot water management projects within the districts for $550,000, providing telemetry and monitoring devices, restoring private lands on tributaries in the Ochoco district, providing tailwater management to enhance water quality in other districts, and evaluating the feasibility of generating hydropower within irrigation pipelines.

Umatilla/Columbia Basins

Stanfield Irrigation District

Westland Irrigation District

Hermiston Irrigation District

West Extension Irrigation District

The Umatilla districts draw their water supply from the Umatilla and Columbia Rivers. The districts are in the process of completing boundary changes and seeking supplemental contracts as part of the conclusion of the boundary process. This process has been on going for a decade. The districts are not proposing new legislation or funding but appreciate legislative oversight to get this project completed. If the Bureau of Reclamation cannot accommodate these needs within its existing budget, then additional funding should be provided to expedite the conclusion of this long on-going need.

Eastern Basins

Burnt, Malheur, Owyhee and Powder River Basins Water Optimization Study

The irrigation districts in these basins continue to seek support for this optimization study to seek alternatives for more effective water management through conservation projects and enhancement of water supply. This project has been identified by the Bureau of Reclamation as a regional need.

Klamath Basin

The Klamath Project districts continue to require support of their Water Bank proposal, fishscreen funding and other projects within Reclamation's budget for the Mid-Pacific Division.

In addition to those needs, the Enterprise Irrigation District in the Klamath Basin has specific needs for funding two small projects totaling a Federal request of $98,179. To eliminate water losses and improve water management and control, the district requires $64,916 for a repair and enhancement of a particular lateral in its system. The district will be providing its portion of the cost share in addition to that amount. Another portion of the system can be repaired and upgraded by provision of $33,263. The district will provide additional cost share funds.

Thank you for the opportunity to provide testimony regarding the 2004 Federal budget. While we support existing proposals, we feel that given the record-setting droughts we have suffered in the past few years and in anticipation of another drought this year, we need to support an increased budget to stabilize the Nation's water supply for the many needs it must meet. Providing a stable water supply feeds the economy locally and at the national level.

PREPARED STATEMENT OF THE NATIONAL URBAN AGRICULTURE COUNCIL

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, DC. 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 Water and Related Resources budget of the Bureau of Reclamation by $150 million above the administration's request in fiscal year 2004. 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 $1,120,000 for fiscal year 2004. NUAC believes and would ask that Congress consider, that given the ongoing and likely future potential for droughts throughout our country, a budget of $10 million be included in this program for fiscal year 2004. 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 $3,265,000 for the program for fiscal year 2004. 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 $6,639,000 for this program for fiscal year 2004. 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 $1,908,000 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, $267,000 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 $12,680,000 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.

WESTERN WATER INITIATIVE

We note with some interest the new Western Water Initiative that is proposed for fiscal year 2004 for $11 million. The Budget documents do not give a lot of detail in terms of how this initiative is going to actually work. We believe it is important for the Bureau to report on an annual basis what they have done with the money, who has received the funding and the expected results from the funding that is provided. We believe it is important to put additional funding into water management and conservation, as well as the science and technology program.

An issue that we have with the Initiative is that it was developed without any input from the stakeholders in the Reclamation program. We spent considerable time and resources being involved in the Strategic Plan development of the Bureau and the Department of the Interior. This Initiative is being proposed and a direction being set that could have been more fully developed and targeted if an opportunity had been provided for such involvement. It raises the question of why this funding was not directly incorporated into the existing program and how it will be integrated into those programs' missions.

Thank you for the opportunity to provide testimony for the record on these programs.

PREPARED STATEMENT OF THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT (CAWCD)

Mr. Chairman, the Central Arizona Water Conservation District (CAWCD) is pleased to offer the following testimony regarding the fiscal year 2004 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 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 in 1985. The CAP is now delivering its full normal year entitlement of 1.5 million acre-feet and Arizona is utilizing its full Colorado River apportionment of 2.8 million acre-feet.

CAWCD was created in 1971 to contract 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. CAWCD also operates and maintains the project. 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 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 and represent roughly 80 percent of the water users and taxpayers of the State of Arizona.

Project repayment is provided for through a 1988 Master Repayment Contract between CAWCD and the United States. Project repayment began in 1994 for Stage 1 and in 1997 for Stage 2. To date, CAWCD has repaid $685 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 2002, when it became apparent that these activities would not be completed by the May 2003 deadline, CAWCD initiated discussions with representatives of the Department of the Interior to extend the terms of the repayment stipulation. The Department of the Interior has now agreed to extend the terms of the repayment stipulation to May 2012 which should allow the United States sufficient time to complete the necessary activities.

CENTRAL ARIZONA PROJECT

CAP construction activities are not yet complete. In its fiscal year 2004 budget request, Reclamation seeks $34,087,000 for the CAP.

CAP Indian Distribution Systems.—$23,048,000 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. Most of the CAP non-Indian distribution systems were completed over 10 years ago; however, many of the Indian systems remain incomplete. CAWCD supports full funding for this important program.

CAP Biological Opinion Costs.—$6,787,000 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.

Environmental Activities at New Waddell Dam.—Reclamation is again requesting funds ($115,000) to complete a reservoir limnology follow-up study at Lake Pleasant, continue Fish and Wildlife Coordination Act activities, and support non-contract costs (Reclamation staff costs). According to Reclamation, this is the last environmental impact statement commitment for New Waddell Dam. Reclamation has carried this funding request in its budget justification documents for the past 5 years with no apparent progress toward its completion. CAWCD would urge Reclamation

to expedite the completion of this study and close out its environmental program at New Waddell Dam.

Environmental Activities at Modified Roosevelt Dam.—Reclamation is again requesting funds ($2,027,000) to complete environmental activities at Modified Roosevelt Dam. This includes Endangered Species Act compliance for the southwestern willow flycatcher and support for Reclamation's non-contract costs. As is the case with New Waddell Dam, these activities have been ongoing for at least 5 years with no apparent end in sight. While CAWCD supports Reclamation's activities to comply with the Endangered Species Act at Modified Roosevelt Dam, CAWCD would also urge Reclamation to expedite the completion of these activities and close out its environmental program at Modified Roosevelt Dam.

Tucson Reliability Division.—Reclamation is requesting $390,000 to continue coordination and design elements for the water supply reliability features of the Tucson Reliability Division, also known as Tucson Terminal Storage. The budget justification documents indicate that these funds will be used to complete the planning report, environmental impact statement, and designs for the reservoir. CAWCD is not aware of any Reclamation decisions to actually construct reliability features in the Tucson area. The repayment stipulation requires that, prior to construction of any such feature, CAWCD must be consulted regarding the development of these features and the associated repayment obligation. While CAWCD supports the continuation of planning efforts to identify acceptable reliability features for the Tucson area, we expect to be consulted as planning activities proceed.

Recreational Trails.—CAWCD notes that Reclamation is requesting $702,000 for the development of recreational trails along portions of the Hayden Rhodes Aqueduct in Phoenix and Scottsdale. An additional $600,000 is requested for the development of recreational trails along portions of the Tucson Aqueduct in Pima County. $439,000 is identified to support Reclamation's non-contract costs associated with various land management activities throughout the CAP service area. CAWCD continues to experience significant land management conflicts at the CAP interface with private property owners. These conflicts might be remedied through the development of an appropriate trails system. CAWCD strongly supports Reclamation's activities in this area.

LOWER COLORADO RIVER OPERATIONS—MSCP

In its fiscal year 2004 budget request, Reclamation also seeks $13,822,000 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 $13,822,000 sought, $2,769,000 is for administration of the Colorado River, $1,821,000 is for water contract administration and decree accounting, and $7,748,000 is for fish and wildlife management and development. The fish and wildlife management and development program includes $5,094,000 for the MSCP; an additional $4,000,000 will be contributed by non-Federal entities.

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. Once reinstated, the interim surplus guidelines would allow the Secretary of the Interior to declare limited Colorado River surpluses through 2016 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. CAWCD strongly supports Reclamation's budget request for development and implementation of the MSCP.

COLORADO RIVER BASIN SALINITY CONTROL PROJECT—TITLE I

In its fiscal year 2004 budget request, Reclamation is requesting $11,250,000 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 (over 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 for CAP water users. The Colorado River system is now in its fourth consecutive year of below normal runoff, and water levels in Lake Powell and Lake Mead are at their lowest levels in 30 years. In fact, water year 2002 was the lowest runoff year in recorded history on the Colorado River. Reclamation's operation of the YDP would conserve an additional 100,000 to 120,000 acre feet per year of Colorado River water for use by the lower basin States. This amount is roughly equal to the City of Phoenix's full annual entitlement to CAP water.

Reclamation acknowledges that the House of Representatives Report accompanying the fiscal year 1995 Energy and Water Development Appropriations bill directed Reclamation to maintain the YDP in such a manner as to be capable of operating at one-third capacity with a 1-year notice of funding. While the Plant was operated at one-third capacity for a few months in 1992, it has not been operational at any time since that test operation. Even though Congress has annually appropriated several million dollars for Reclamation to maintain and rehabilitate the YDP, Reclamation now states in a draft report recently provided to CAWCD and other interested parties that it would require $11 million for specific rehabilitation and modernization costs and 24 to 30 months to bring the YDP to operational readiness at one-third capacity. An additional $15 million and an additional 12 to 24 months would be needed to make the Plant fully operational. We request that Reclamation be directed to bring the Plant to a state of readiness as soon as possible. We believe that Reclamation can achieve one-third operational capacity in 24 months within the funding limits currently requested if it directs those monies toward that goal.

The $11,225,000 fiscal year 2004 budget request contains several activities that could and should be stopped and those expenditures directed toward making the plant operational using up-to-date technology that will enhance both plant capacity and efficiency as well as reduce operating cost:

—$751,000 of the request is listed as Water and Energy Management and Development. It is further described as technology research for lower cost operation of the YDP. All of this amount could be dedicated to making the plant operational.

—$1,773,000 is listed as Facility Operations. While much of these activities are directed toward Title I features other than the YDP, part of the expenditures are for Pilot system operation and research and testing of the Water Quality Improvement Center. Some of these expenditures could be redirected to making the plant operations.

—$5,524,000 is listed as Facilities Maintenance and Rehabilitation and is further described as "continuous efforts to ensure the YDP can operate for treaty and other Federal requirements." Based on the activities described, essentially all of these dollars could and should be directed to making the YDP operational.

—$3,242,000 is described as being needed to continue a long term program to bank water, to continue design deficiency corrections, and to continue the YDP permitting and environmental compliance process. There is no ongoing program to bank water. Any water banking program would involve the Interstate Water Banking program in Arizona. No such program is planned in Arizona for YDP purposes. The other two activities in this category already contribute to making the YDP operational; therefore, all of these funds could and should be directed toward making the plant operational.

A Reclamation analysis of Title I expenditure in 2001 indicates less than $2,500,000 was spent for maintenance of facilities or activities other than the YDP. That information and the analysis of the $11,250,000 fiscal year 2004 funding requests demonstrates that Reclamation could direct at least $8,000,000 of its fiscal year 2004 funding request toward making the YDP operational.

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.

LETTER FROM THE TUMALO IRRIGATION DISTRICT

MARCH 28, 2003.

Honorable PETE V. DOMENICI,
Chair, Committee on Appropriations, Subcommittee on Energy and Water, SD–156 Dirksen Senate Office Building, Washington, DC 20510.

DEAR CHAIRMAN DOMENICI: The Tumalo Irrigation District (TID) in Bend, Oregon respectfully requests your support for inclusion of $882,000 in the fiscal year 2004 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. This amount would complete the Bureau's share of the project construction funding.

The TID is proposing to continue and complete in this 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 of their share. We are concerned that no funding for the project was requested by the administration in their Fiscal Year 2004 Budget for the Bureau of Reclamation. Our request for $882,000 for fiscal year 2004 would allow us to complete the project in this 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.

Sincerely,

ELMER MCDANIELS,
Manager.

PREPARED STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM

BUREAU OF RECLAMATION—FISCAL YEAR 2004 APPROPRIATION

Colorado River Basin Salinity Control Forum's Recommendation:
—Title II 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 Title II 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 2004 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 for fiscal year 2004 is $9,198,000 for this program. 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 about $12 million. In recent years, 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 U.S. 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 river 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 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.

Some of the most cost effective salinity control opportunities occur when the USBR can improve irrigation delivery systems at the same time that the USDA's program is working with landowners (irrigators) to improve the on-farm irrigation systems. Through the newly authorized USDA EQIP program, adequate on-farm funds appear to be available and adequate USBR funds are needed to maximize the effectiveness of the effort.

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 responded 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 cost share 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 7-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 3 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 2002 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 higher salt levels in the water will be more 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 utilization of proposals from project proponents as well as 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 recommitted its support to the revised program when it enacted

Public Law 106–459. The Basin States' cost sharing up-front 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 most recently 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 accomplished, 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 2004 BUDGET REQUEST

The Fort Peck Assiniboine and Sioux Tribes and Dry Prairie Rural Water respectfully request fiscal year 2004 appropriations for the Bureau of Reclamation from the 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 $14,486,000 as set out below:

	Amount
Missouri River Water Treatment Plant	$10,604,000
Fort Peck Electrical, Meters, Easements	650,000
Culbertson to Medicine Lake	3,618,000
Dry Prairie P Electrical, Meters, Easements	635,000
Total	15,507,000
Federal	14,486,000
Non-Federal	1,021,000

The sponsor Tribes and Dry Prairie greatly appreciate the appropriations from the subcommittee for fiscal year 2003 that have permitted significant progress on the Missouri River intake and the first phase of the Culbertson to Medicine Lake Project.

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, was authorized by Public Law 106–382, October 27, 2000. The request for fiscal year 2004 will begin the construction of the Missouri River water treatment plant, which will require fiscal year 2005 funds for completion. The request will also complete the Culbertson to Medicine Lake Project, which was initiated in fiscal year 2003. The Master Plan on page 2 of the testimony shows the relationship of the fiscal year 2004 request to the funds requested in fiscal year 2003 and the needs in fiscal year 2005.

MASTER PLAN—ASSINIBOINE SIOUX AND DRY PRAIRIE RWS

Segment	Project Cost (Oct. 2002)	Appropriated		Funding Needs			Fiscal Year 2007–Fiscal Year 2012
		Fiscal Year 2002 Funds	Fiscal Year 2003 Funds	2004	2005	2006	
Assiniboine and Sioux RWS:							
Intake	$3,418,000		$3,418,000				$0
Missouri River Water Treatment Plant	19,861,000		464,000	$8,000,000	$11,397,000		0
Poplar to Big Muddy	25,583,000		0			$12,792,000	12,791,000
Highway 13 to FP Boundary	10,430,000		0				10,430,000
Poplar to Wolf Point	16,794,000		0				16,794,000
Wolf Point to Porcupine Ck	28,539,000		0				28,539,000
FP OM Buildings	1,050,000		0				1,050,000
Fort Peck Electrical, Meters, Easements	4,414,000		0	490,000	490,000	490,000	2,944,000
Subtotal	110,089,000	$0	3,882,000	8,490,000	11,887,000	13,282,000	72,548,000
Planning, Design, Admin:							
Reclamation Oversight	4,634,000	295,000	154,000	465,000	465,000	465,000	2,790,000
Environmental Mitigation	579,000	0	0	64,000	64,000	64,000	387,000
Administration	7,987,000	503,000	322,000	796,000	796,000	796,000	4,774,000
Easement Acquisition	3,104,000	0	0	345,000	345,000	345,000	2,069,000
Design	8,980,000	2,237,000	500,000	500,000	829,000	911,000	4,003,000
Inspection	8,109,000	0	272,000	594,000	832,000	930,000	5,481,000
Subtotal	33,393,000	3,035,000	1,248,000	2,764,000	3,331,000	3,511,000	19,504,000
Total	143,482,000	3,035,000	5,130,000	11,254,000	15,218,000	16,793,000	92,052,000
Dry Prairie RWS:							
Big Muddy to Plentywood:							
Culbertson to Medicine Lake	4,630,000		2,265,000	2,365,000			0
Remaining	17,289,000		0	0	2,000,000	5,096,000	10,193,000
FP Boundary to Scobey	4,540,000		0	0			4,540,000
Scobey to Plentywood	11,097,000		0	0			11,097,000
Scobey to Opheim	8,962,000		0	0			8,962,000
Porcupine Creek to Glasgow	4,370,000		0	0			4,370,000
Glasgow to Opheim	3,955,000		0	0			3,955,000
DP OM Buildings	525,000		0	0			525,000

MASTER PLAN—ASSINIBOINE SIOUX AND DRY PRAIRIE RWS—Continued

Segment	Project Cost (Oct. 2002)	Appropriated		Funding Needs			Fiscal Year 2007–Fiscal Year 2012
		Fiscal Year 2002 Funds	Fiscal Year 2003 Funds	2004	2005	2006	
Dry Prairie P Electrical, Meters, Easements	3,732,000	.....	0	415,000	415,000	415,000	2,487,000
Subtotal	59,100,000	0	2,265,000	2,780,000	2,415,000	5,511,000	46,129,000
Planning, Design, Admin:							
Reclamation Oversight	2,497,000	85,000	63,000	261,000	261,000	261,000	1,566,000
Environmental Mitigation	313,000	6,000	20,000	32,000	32,000	32,000	191,000
Administration	4,675,000	121,000	132,000	491,000	491,000	491,000	2,949,000
Easement Acquisition	899,000	31,000	26,000	94,000	94,000	94,000	560,000
Design	4,838,000	342,000	100,000	350,000	427,000	427,000	3,192,000
Inspection	4,369,000	.....	170,000	245,000	219,000	386,000	3,349,000
Subtotal	17,591,000	585,000	511,000	1,473,000	1,524,000	1,691,000	11,807,000
Total	76,691,000	585,000	2,776,000	4,253,000	3,939,000	7,202,000	57,936,000
Total	220,173,000	3,620,000	7,906,000	15,507,000	19,157,000	23,995,000	149,988,000
Federal	201,767,000	3,480,000	7,240,000	14,486,000	18,212,000	22,267,000	136,083,000
Non-Federal	18,406,000	140,000	666,000	1,021,000	945,000	1,728,000	13,905,000
GRAND TOTAL	220,173,000	3,620,000	7,906,000	15,507,000	19,157,000	23,995,000	149,988,000

The project also has the capability to build 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 2006. 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 2006. No funds are requested for fiscal year 2004 for this project even though design will be complete.

The Dry Prairie rural water system will finish the facilities necessary to bring water supplies from an existing treatment plant on the Missouri River at Culbertson to Medicine Lake where the existing water treatment is inoperable. The system to be completed in fiscal year 2004 will also provide the capability to connect to Dane Valley residents. The Dane Valley project will rely on fiscal year 2005 and fiscal year 2006 funds to mitigate costs of hauling water so prevalent there. The budget request is consistent with the Master Plan on the previous page as approved by the Bureau of Reclamation.

STATUS OF PROJECT DESIGN

The Final Engineering Report (FER), water conservation plan and Finding of No Significant Impact were completed in fiscal year 2002. The FER was delivered to OMB in May 2002 and was released to the Department of Interior for review and delivery to Congress in March 2003. The requirement to reside with Congress for 90 days will expire at the end of July 2003. Design is nearing completion or is completed for the Missouri River intake and the Culbertson to Medicine Lake Project. Those projects will commence construction in July/August 2003.

Design of the water treatment plant will end in late fiscal year 2003 or early fiscal year 2004. The design of the lagoons at the water treatment plant and the site landscaping will be completed in third-quarter fiscal year 2003, and construction of these preliminary facilities will begin in late fiscal year 2003.

Design of the Poplar to Big Muddy pipeline is well advanced and can be completed to utilize first quarter fiscal year 2004 funds, but the appropriation requirements to undertake this pipeline construction in combination with the water treatment plant were considered too great to include in the funding request. Therefore, construction of this pipeline will depend on the availability of funds not currently identified in fiscal year 2004 or fiscal year 2005 or as programmed in fiscal year 2006 in the master plan presented above. The discussion of this pipeline is intended to demonstrate the capability of the project to use funds prior to fiscal year 2006 if funding were available.

Similarly, the design of the branches that will serve rural residents between Culbertson and Medicine Lake can be concluded in time to utilize fiscal year 2004 or fiscal year 2005 funds, and the discussion is intended to demonstrate capability to use funding if it were available.

LOCAL PROJECT SUPPORT

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.

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 2001 and 2003 Montana Legislatures have provided all requirements of the non-Federal cost share.

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.

NEED FOR WATER QUALITY IMPROVEMENT

The Fort Peck Indian Reservation was designated as an "Enterprise Community" during the previous administration, underscoring the level of poverty and need for economic development in the region. The success of the economic development within the Reservation will be significantly enhanced by the availability of higher quality, safe and more ample municipal, rural and industrial water supplies that this regional project will bring to the Reservation, made more necessary by an extended drought in the region. 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 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 2 to 3 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.

ADMINISTRATION'S BUDGET FOR FISCAL YEAR 2004

The administration's budget for fiscal year 2004 contained serious errors in analysis when it included the Fort Peck Reservation Rural Water System with other rural water projects that were characterized as follows:

". . . many projects are currently developed by local sponsors without agency involvement and submitted to Congress for authorization. Agency involvement is necessary to ensure that all options to efficiently and effectively meet local needs are considered. The lack of agency involvement during project development may result in a project that is not in the local interest . . .".

The Tribes and Dry Prairie worked extremely well and closely with the Bureau of Reclamation prior to and following the authorization of this project in fiscal year 2000. The Bureau of Reclamation reviewed and commented on the Final Engineering Report for the project, and comments were either incorporated into the report or agreement was reached on final presentation. The Commissioner, Regional and Area Offices of the Bureau of Reclamation were consistently in full agreement with the need, scope, total costs, and the ability to pay analysis that supported the Federal and non-Federal cost shares. All of these items were thoroughly and formally reviewed in writing by the Bureau of Reclamation and there were no areas of disagreement or controversy in the final formulation of the project. Bureau of Reclamation testimony during the authorization phase fully supported the project within the Fort Peck Indian Reservation and opposed any Federal participation in the costs of the project outside the Fort Peck Indian Reservation, as a matter of policy, but Congress addressed that issue in Public Law 106–382.

The Bureau of Reclamation collaborated with the Tribes and Dry Prairie to conduct and complete value engineering investigations of the Final Engineering Report (planning), the Culbertson to Medicine Lake pipeline (design), the Poplar to Big Muddy River pipeline (design), the Missouri River intake (design) and (during the week of March 31, 2003) on the regional water treatment plant (design). Each of these considerable efforts has been directed at ways to save construction and future operation, maintenance and replacement costs as planning and design have proceeded. Agreement with Reclamation has been reached in all value engineering sessions on steps to take to save Federal and non-Federal costs in the project.

Cooperative agreements have been developed and executed from the beginning phases to date between the Bureau of Reclamation and the Tribes and between Bureau of Reclamation and Dry Prairie. Those cooperative agreements carefully set out goals, standards and responsibilities of the parties for planning, design and construction. All plans and specifications are subject to levels of review by the Bureau of Reclamation pursuant to the cooperative agreements. The sponsors do not have the power to undertake activities that are not subject to oversight and approval by the Bureau of Reclamation. Each year the Tribes and Dry Prairie are required by the cooperative agreements to develop a work plan setting out the planning, design and construction activities and the allocation of finding to be utilized on each project feature.

Clearly, the Fort Peck Reservation Rural Water System does not fall into the category of concern expressed in the fiscal year 2004 budget by the Bureau of Reclama-

tion. This project has been authorized by Congress with a plan formulated in full cooperation and collaboration with the Bureau of Reclamation, and major project features will be under construction in fiscal year 2003. The project sponsors are disappointed that the fiscal year 2004 budget did not include a significant level of funding for the Fort Peck Reservation Rural Water System in a year in which the overall budget for Reclamation increased by more than 6 percent. The sponsors are similarly disappointed that narrative in the report improperly characterized the planning, design and construction history of this project.

LETTER FROM THE WYOMING WATER ASSOCIATION

Cheyenne, WY, June 2, 2003.

The Honorable PETE V. DOMENICI,
Chairman,

The Honorable HARRY REID,
Ranking Minority Member,
Energy and Water Development Subcommittee, Committee on Appropriations, United States Senate, 129 Dirksen Senate Office Building, Washington, DC 20510.

DEAR CHAIRMAN DOMENICI AND SENATOR REID: The Wyoming Water Association is writing to request your support for an appropriation in fiscal year 2004 of $6,915,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado River Region. The President's recommended budget for fiscal year 2004 includes this line-item amount. The Association respectfully requests the designation of $5,479,000 for the Upper Colorado River Endangered Fish Recovery Program; $851,000 for the San Juan River Basin Recovery Implementation Program, $535,000 for Fish and Wildlife Management and Development and $50,000 for Water and Energy Management and Development.

The objectives of the Wyoming Water Association are to promote the development, conservation, and utilization of the water resources of Wyoming for the benefit of Wyoming people. Since 1932, the Wyoming Water Association has served the interests of Wyoming's water users. With changing and growing demands on Wyoming's limited water resources, complicated by an increasingly complex overlay of Federal laws and regulations, management and development challenges and conflicts continue to become more numerous. The Association maintains an active role in supporting the State of Wyoming's efforts to put Wyoming water to use for Wyoming's citizens.

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 have as their objective recovering endangered fish species while water development proceeds in compliance with the Endangered Species Act of 1973. They 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.

The requested fiscal year 2004 appropriation will allow construction of fish passage at the Grand Valley Project and Price-Stubb diversion dams on the Colorado River near Grand Junction, Colorado, providing access to an additional 50 miles of historic habitat upstream of these dams. Floodplain restoration activities, including levee removal and obtaining conservation easements will continue at high-priority sites and is especially important for the survival of the razorback sucker species. Screening of existing diversion canals, including those of the Redlands Water and Power Company and Grand Valley Project, will be accomplished with the requested funding. Screens are needed to prevent endangered fish from being drawn out of the river and into the canals and power plant intakes at these facilities. The requested funding for the San Juan River Recovery Program will be used to design a fish passage at the Arizona Public Service weir and initiate floodplain restoration for razorback sucker in that Basin.

Substantial non-Federal cost sharing funds are provided by the four States, power users, and water users in support of these recovery programs. Public Law 106–392, as amended by Public Law 107–375, authorized the Federal Government to provide up to $46 million of cost sharing for these two ongoing recovery programs' remaining capital construction projects. The four participating States are contributing $17 million and $17 million is being contributed from revenues derived from the sale of Colorado River Storage Project (CRSP) hydroelectric power. Additional hatchery

facilities to produce endangered fish for stocking, restoring floodplain habitat and fish passage, regulating and supplying instream habitat flows, installing diversion canal screens to prevent fish entrapment and controlling nonnative fish populations are key components of the capital construction efforts. These facts demonstrate the strong commitment and effective partnerships that are present in both of these successful programs.

The past support and assistance of your subcommittee has greatly facilitated the success of these multi-State, multi-agency programs. The Wyoming Water Association gratefully thanks you for that support and request the subcommittee's assistance relative to fiscal year 2004 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

JOHN W. SHIELDS,
Executive Secretary.

PREPARED STATEMENT OF THE CROW CREEK SIOUX TRIBE

FISCAL YEAR 2004 BUDGET REQUEST

The Crow Creek Sioux Tribe respectfully requests fiscal year 2004 appropriations for the Bureau of Reclamation from the subcommittee on Energy and Water Development. Funds will be used to construct the urgently needed pipeline from Fort Thompson to Stephan. Planning studies for the project (Special Study, environmental assessment, and water conservation plan) back up the request. The project has been supported by the subcommittee since fiscal year 1995.

The amount requested for fiscal year 2004 is $6,824,000 as set out below:

Fort Thompson to Stephan Emergency Project	$5,536,000
Reclamation Oversight	208,000
Environmental Mitigation	42,000
Administration	637,000
Design and Investigations	401,000
Inspection	277,000
Total	6,824,000

PROPOSED ACTIVITIES

The request for funds in fiscal year 2004 is for construction of the urgently needed pipeline system between Fort Thompson and Stephan on the Crow Creek Indian Reservation. Fort 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 14 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 constructed with sufficient capacity to serve rural households along the route and to extend the system in future years to the Big Bend community, all part of the implementation of a comprehensive system on the Reservation. This is not a new project but one that has been in development for more than 8 years with oversight by the Bureau of Reclamation and periodic line-item appropriations by Congress.

EXIGENT CONDITIONS

There is a 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. Efforts last year to drill new wells to replace failing wells of very poor quality were not successful. The new wells also fail to produce an adequate water supply, and there was no improvement of the exceedingly for water quality. The school at Stephan provides for over 200 students. Staff and teachers reside at the school. Reliance for drinking water has been placed on bottled water, and fire protection is inadequate given the current lack of supply.

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 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 population increases documented by 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 what was believed to be a liberal projection made from the 1990 census.

The subcommittee is respectfully requested to carefully consider the Tribe's needs and provide the necessary funding to complete this emergency project.

PROJECT CONSTRUCTION COSTS AND RECOMMENDED PROJECT ALTERNATIVE

Costs of reservation-wide alternatives, including construction contracts and non-contract costs, range from $15,403,000 (Alternatives b, d and e) to $17,853,000 (Alternative a) in October 1998 dollars.

Based on the least cost scenario considering all life-cycle costs and the Tribe's desire for self-determination, the Tribe's preferred project alternative is Alternative a ($17,853,000): 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.

Five alternatives for developing the project were:

—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.

—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.

—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.

—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.

—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 5 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 population of the Crow Creek Indian Reservation in the 2000 census was 2,225 persons: 2,074 Indian persons and 251 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 by non-Indians.

INCOME AND EMPLOYMENT

Median household income in 2000 on the Crow Creek Indian Reservation averaged $12,070 (down from $12,763 in 1990) as contrasted with an average for the State of South Dakota of $35,282 (up from $22,503 in 1990). The Indian labor force on the reservation represented 55.7 percent of the population over 16 years of age, and 21.6 percent were unemployed. Across the State of South Dakota, 68.4 percent of the population was in the labor force, and 3.0 percent were unemployed. Income levels on the reservation are extremely low, and unemployment is extremely high. The percentage of families below poverty level in the 2000 census was 56.5 percent on the Reservation and 9.3 percent in South Dakota. (Note: the reporting is from the Special Study, which is being modified in detail, but not substance.)

PREPARED STATEMENT OF THE JICARILLA APACHE NATION

The Jicarilla Apache Nation respectfully requests $5 to $8 million in the fiscal year 2004 appropriations cycle to begin construction on the water delivery and wastewater infrastructure improvement project authorized by Title VIII of Public Law 107–331, December 13, 2002 (The Jicarilla Apache Reservation Rural Water System Act). This law authorized a $45 million project to repair and replace the dilapidated federally owned water delivery and waste water system that serves the Jicarilla Apache Reservation in north-central New Mexico.

AUTHORIZING LEGISLATION

The Jicarilla Apache Reservation Rural Water System Act was introduced by Representative Tom Udall (D-NM) along with the other New Mexico Congressional Representatives Joe Skeen and Heather Wilson, as original co-sponsors, and including 12 additional co-sponsors. Senators Pete Domenici (R-NM) and Jeff Bingaman (D-NM) supported and guided the legislation through the Senate. The purpose of the Act is to ensure a safe and adequate water supply for the citizens of the Jicarilla Apache Reservation, and authorizes the Department of the Interior, through the Bureau of Reclamation (BoR), and the Nation to plan, design and construct a safe and adequate water system utilizing Public Law 93–638 contracting authority. The Act requires the Secretary of the Department of the Interior to enter a Public Law 93–628 contract with the Nation with the ultimate goal of the Nation assuming title and responsibility of operating and maintaining the system. The Act authorizes appropriations in the amount of $45,000,000 for the construction of the water system.

BACKGROUND

The existing water and wastewater facilities on the Jicarilla Apache Reservation are held in trust by the United States Department of the Interior and operated by

the Bureau of Indian Affairs (BIA) Jicarilla Agency staff. The initial water supply system was erected in the early 1900's in the community of Dulce primarily to serve the BIA operations and facilities. The source of the community's water supply is the Navajo River located about a mile from Dulce.

Over the years, random and ad hoc connections and expansions have been made to the system, and without adequate upkeep and substantial improvements, it has deteriorated and become over utilized. The public water system does not adequately and safely serve the existing and future growth needs of the Nation. Moreover, the system's deteriorated state created serious public health problems. Jicarilla members are experiencing high incidences of internal organ diseases affecting the liver, kidneys and stomach. The diseases are suspected to be related to the poor condition of the drinking water distribution system and inadequate treatment of wastewater. The resulting pollution released from non-compliant sewage ponds has creating public health hazards for families and communities within and well beyond the Nation's borders.

The Nation has delayed important community improvement efforts, including the construction of much needed housing and the replacement of deteriorating public healthcare facilities and tribal administrative offices due to the lack of a modern waste water treatment facility.

In the 1990's, the Nation began assessing the feasibility of assuming ownership and operation of the systems and commissioned studies to assess their condition. The findings indicated it would cost $25 million to bring the systems into compliance with Federal water quality standards. This investment did not, however, include community expansion needs.

These dire conditions escalated in October of 1998, when the drinking water diversion system on the Navajo River failed leaving the community without water for 6 days. With no funding from BIA or other Federal programs, the Nation was compelled to expend $5 million on an emergency basis to replace the water treatment plant and associated facilities in 1999.

LEGISLATIVE APPROACH

The magnitude of the infrastructure issues couple with the BIA's inability to comprehensively address the scope of the problems associated with their systems left the Tribal leadership with no alternative but to take the lead to resolve these issues. The Nation approached the BoR and learned that legislation would be needed to authorize BoR to conduct a Feasibility Study to determine the most feasible method of developing a safe and adequate municipal, rural, and industrial water supply for the Jicarilla Apache Reservation. The Nation working with the New Mexico Congressional Delegation pursued such legislation, and on July 10, 2000, the President signed into law Public Law 106–243 which directed the Secretary of the Interior to work in cooperation with the Jicarilla Apache Nation in conducting the Feasibility Study. The statute also authorized $200,000 for the completion of the study.

In September 2001, BoR, in cooperation with the Nation completed the feasibility study and report, entitled "Municipal Water and Wastewater Systems Improvement, Jicarilla Apache Nation, Dulce, New Mexico, Planning Report/Environmental Assessment." The report recommended that none of the older existing pipelines be salvaged due to age and size and that an estimated $35 million was needed to adequately replace existing deteriorated facilities and to build a new conventional wastewater treatment plant to treat water to Federal discharge standards, eliminate the serious odor problem permeating the community, and enhance the community's water supply. The report recommended an additional $10 million to address environmental and public health needs and to meet long-term growth and economic development needs of the Jicarilla Apache Nation, for a total project cost of $45 million.

TRIBAL CONTRIBUTIONS TO THE PROJECT

After discovering the Federal programs and funding sources were limited to solve even the immediate capacity problems and public health concerns, the Nation was compelled to fund several projects beginning in 1998.

Projects	Tribal Funding
Studies and Engineering	$450,000
Water Treatment Plant	2,730,000
Water Storage and Distribution	2,240,000
Mundo Development Infrastructure (completed by 2003)	2,250,000

Projects	Tribal Funding
Wastewater Design and Initial Construction	6,000,000
Total Tribal Investment	14,670,000

On a percentage basis, this investment would amount to nearly 25 percent of total project costs, if what the Nation has already funded ($14.6 million) is added to the Federal portion being requested ($45 million). The Nation recently committed an additional $6 million to begin construction on the new wastewater treatment plant because the current situation is so extreme and requires immediate action. The total project cost is broken listed below:

Replace existing water system facilities	$18,500,000
Replace existing waste water system facilities	18,640,000
Total to replace existing water/wastewater systems	35,140,000
Provide wastewater facilities to areas not served	2,800,000
Total to replace existing water/wastewater facilities for all existing development	35,140,000
Water system facilities to the expansion area (known as ''Mundo Ranch'')	3,550,000
Wastewater system facilities to the Mundo ranch	3,550,000
Total for water/wastewater facilities for Mundo ranch	7,100,000
TOTAL PROJECT COST	45,040,000

Moreover, the Nation is making the commitment to assume title to the facilities and to operate these facilities in perpetuity once constructed to Federal standards. This is a significant Federal benefit as it alleviates the Federal liability in the operation of a substandard system and shifts the costs of operations, maintenance and replacement of these facilities to the Nation. It is estimated by the O,M&R portion of the report, that it will cost approximately $750,000 per year to adequately operate and maintain these facilities. The Federal investment would be protected under tribal management as BIA funding for this purpose has been significantly cut over the years resulting in the current conditions that exist today. The present value of this cost over a 50-year project life at a 6 percent financing rate is $12 million.

CURRENT STATUS

In addition to the funding for the Feasibility Report, Senator Domenici was instrumental in securing $2.5 million for final design work and to prepare for the initiation of construction. Accordingly, the Nation has entered into a Self-Determination Act (Public Law 93–638) Construction Assistance Agreement on September 2002 with the Bureau of Reclamation. As of April 15, 2003, the Nation has met all conditions and requirements of this Agreement and has prepared final plans and specifications to construct approximately $2.3 million in water and wastewater infrastructure critical to its needs. Advertisement for bids is scheduled for April 30th and construction is scheduled to begin June 15. Completion of this phase will coincide with completion of a wastewater treatment facility currently under construction with tribal funds scheduled for operations in January 2004.

USE OF APPROPRIATIONS IN FISCAL YEAR 2004

The Nation is prepared to begin final design work for the next phase of construction upon notification of funding availability. A design-build approach will be utilized to expedite construction and the Nation has management capacity for up to $10 million for fiscal year 2004. Features that would be constructed are the raw water pumping station and related pipeline, water distribution and wastewater collection facilities in the southwest portion of the community and similar features at the Mundo Ranch development. These components were thoroughly studied and assessed in the Feasibility Report and would be constructed accordingly.

CONCLUSION

By authorizing this project, Congress provided a mechanism for the United States to meet its trust responsibility to the Nation by providing adequate water and wastewater infrastructure to protect and advance the health, safety and welfare of the Jicarilla people. The Nation, in cooperation with Reclamation and with the assistance of Congress, has demonstrated the poor condition that these facilities are in and have exposed the risk facing the Bureau of Indian Affairs as it continues to operate these facilities in their current condition. The Nation has demonstrated our

resolve in improving conditions for our people by investing nearly $15 million in infrastructure of our own financial resources even though we believe strongly that the United States has failed in providing these services as part of its trust responsibility to the Nation.

In sum, the Jicarilla Apache Nation is suffering premature deaths, community members are subject to continuing health hazards, and community development is blocked by the Department of the Interior's failure to maintain and modernize the public water system that it established and undertook to operate on the Reservation. Interior has asked the Jicarilla Apache Nation to take over the operation of the public water system, and as a Tribal Government we are willing to take over the operation of a safe and sound public water system. But before we will take over the operation, Interior must fix the health hazard that it has created. Therefore, we respectfully request the Committee to appropriate $5 to $8 million in fiscal year 2004 to begin construction of this project.

PREPARED STATEMENT OF THE MID-DAKOTA PROJECT

First let me thank the Subcommittee for the opportunity to testify in support of the fiscal year 2004 appropriations for the Mid-Dakota Rural Water Project and for the Subcommittee's support both past and present.

The Mid-Dakota Project is requesting $23.869 million in Federal appropriations for fiscal year 2004. As with our past submissions to this subcommittee, Mid-Dakota's fiscal year 2004 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.

TENTATIVE FISCAL YEAR 2004 CONSTRUCTION SCHEDULE [1]

The proposed construction would provide service to an estimated 14,000 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 pipeline infrastructure to move forward with many more rural and community connections in the future.

MID-DAKOTA RURAL WATER SYSTEM STATEMENT OF CAPABILITIES—FISCAL YEAR 2004 (OCTOBER 2003 THROUGH SEPTEMBER 2004)

	Construction	Inspection Percent of Construction	Engineering and Legal	Subtotals
100—Source and Intake (percent)		12	10	
200—Water Treatment (percent)		0	0	
Huron—Constructed MD Facilities	$150,000			$150,000
Huron—Improvements & Assistance	$100,000			$100,000
Subtotals				$250,000
300—Main Transmission Pipeline (percent)		8	8	
Pumping Stations	$1,384,547	$110,764	$110,764	$1,606,075
3–3D Cathodic Protection System	$142,800	$11,424	$11,424	$165,648
Increase Collins Slough BPS	$884,660	$6,773	$6,773	$98,206
Subtotals	$1,612,007	$128,961	$128,961	$1,869,928
400—Distribution Pipeline (percent)		6	6	
Highmore East	$1,232,480	$73,949	$73,949	$1,380,378
Wolsey	$7,737,224	$464,233	$464,233	$8,665,691
Staum Dam	$1,833,409	$110,005	$110,005	$2,053,418
Redfield East	$376,839	$22,610	$22,610	$422,060
Improve West Canning Service Area	$207,050	$12,423	$12,423	$231,896

[1] Project 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 2004 (OCTOBER 2003 THROUGH SEPTEMBER 2004)—Continued

	Construction	Inspection Percent of Construction	Engineering and Legal	Subtotals
Subtotals	$11,387,002	$683,220	$683,220	$12,753,442
500—Water Storage (percent)		12	6	
Wolsey	$2,050,000	$246,000	$123,000	$2,419,000
Staum Dam	$510,000	$61,200	$30,600	$601,800
Pearl Creek	$510,000	$61,200	$30,600	$601,800
Redfield	$430,000	$51,600	$25,800	$507,400
Huron-Water Storage Tank Cost Share	$600,000			$600,000
Subtotals	$4,100,000	$420,000	$210,000	$4,730,000
SCADA and Controls (percent)		12		
Controls and SCADA System	$509,925	$40,794	$40,794	$591,513
Subtotals	$509,925	$40,794	$40,794	$591,513
	$17,858,934	$1,272,975	$1,062,975	$20,194,883
Administration and General as a percent of Construction—3.0 percent				$535,768
Bur. of Rec. oversight as a percent of Construction—3.0 percent				$535,768
Contingencies as a Percent of Construction				$1,785,893
TOTAL RURAL WATER SYSTEM CAPABILITIES—FISCAL YEAR 2004				$23,052,313
WETLAND ENHANCEMENT COMPONENT REQUEST—FISCAL YEAR 2004				$817,117
TOTAL RURAL WATER AND WETLAND CAPABILITY—FISCAL YEAR 2004				$23,869,430

IMPACTS OF FISCAL YEAR 2004 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 $23.869 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 2004 construction schedule. Further, reduced appropriations have the effect of adding more cost to the amount needed for completion of the Project.

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 (1989 dollars) 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 dollars). A breakdown of Project cost ceilings are as follows:

PROJECT COST CEILINGS (FISCAL YEAR 2004)

Federal Ceiling	$140,279,000
State Ceiling	9,670,000
Subtotal Rural Water System	149,949,000
Wetland Enhancement Component	2,756,000
Total Project Cost Ceiling	152,705,000

The total authorized indexed cost of the project is approximately $152.705 million (fiscal year 2004). All Federal funding considered, the Government has provided 80 percent of its commitment ($114.135[2] million of $143.035 million) to provide construction funding for the Project. When considering the Federal and State combined awards, the project is approximately 81 percent complete, in terms of financial commitments.

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	.....	.....	2.000	2.000	1.500	.....	1.500
1995	22.367	.....	.....	8.000	4.000	3.600	.....	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	.....	9.398
2002	30.684	10.040	15.040	15.540	15.040	13.611	0.861	14.472
2003	29.360	10.040	17.040	17.900	17.900	.....	.....	.....
2004	23.869	2.040	.....	.....	.....	.....	.....	.....
Totals[3]	.....	58.160	104.120	112.480	112.480	87.591	8.684	96.275

[3] Includes Congressional appropriations for the operation and maintenance of the ''Wetland Enhancement'' Component of the Project.

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.

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 23 project components and are into construction on eight 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[4]	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	0.220	0.215	0.215	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	2.383	(0.317)	(12)
3–3B	Main Pipeline—Wolsey, SD	4.291	3.928	(6)	(7)	(7)
3–3C	Main Pipeline—Huron, SD	2.938	2.629	(6)	(7)	(7)
4–1A/B (1–5)	Distribution System—West	9.345	9.983	10.731	[5] 1.386	15
4–1A/B (6)	Distribution System—North West	8.333	8.329	9.028	[5] 0.695	8
4–2 (1)	Distribution System—Central	4.727	4.717	4.700	(0.027)	(0.5)
4–2 (2)	Distribution System—South Central	2.763	2.835	3.000	[5] 0.237	9
4–2 (4–5)	Distribution System—Central	5.753	4.952	5.135	(0.620)	(11)

[2] Includes $17.860 million appropriated in fiscal year 2003, but does not include Agency "underfinancing".

SUMMARIZATION OF CONSTRUCTION—Continued

[In Millions of dollars]

Cont. No.	Description	Cont. Budget [4]	Cont. Bid Award	Final Cont. Price	Over (Under) Budget	Percent Over (Under) Budget
4–2A (4)	Distribution System—Central	1.042	991	1.186	[5] 0.140	13
4–2AP (2–3)	Distribution System—Central	10.340	9.824	([6])	([7])	([7])
4–2 AV (2–3)	Distribution System Vaults—Central	668	557	([6])	([7])	([7])
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
5–2 (3)	Water Storage Tank—Collin's Slough	254	393	410	0.160	63
5–2A (1)	Water Storage Tank—Ames	300	378	([6])	([7])	([7])
5–2A (2)	Water Storage Tank—Cottonwood Lake	800	696	([6])	([7])	([7])
5–2A (3)	Water Storage Tank—Wessington Springs	515	491	([6])	([7])	([7])
6–1	SCADA & Controls	([7])	([7])	([6])	([7])	([7])
	Totals	99.247	91.59	75.472	(3.911)	(4)

[4] Contract budget is determined by Mid-Dakota's estimate for the contract at the time of bidding.
[5] A significant portion of cost increases are attributable to the placement of additional users as construction proceeds.
[6] In progress.
[7] Not applicable.

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 $3.91 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.

Additionally, Mid-Dakota is keeping in close contact with the City of Huron, SD (population 11,893) regarding potentially serious EPA water quality violations anticipated with the implementation of the Safe Drinking Water Act (SDWA) enhanced surface water rules. 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 Mid-Dakota will be in a position to connect to Huron in time to remedy the potential EPA non-compliance issue faced by Huron.

CLOSING

Mid-Dakota is very aware of the tough 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 PERKINS COUNTY RURAL WATER SYSTEM, INC.

PROJECT HISTORY

History of this project goes back to 1977 when a group of farmers in Perkins County were contacted by Southwest Pipeline Project in North Dakota if they would be interested in obtaining water to serve Perkins County. At that time, approxi-

mately 100 farms and ranches and the Towns of Lemmon and Bison were interested, so Perkins County was included in their feasibility study.

In November of 1992, Southwest Water Pipeline Project had grown to the point that Perkins County was contacted about receiving water from the project and to be included in the engineering design work. A committee of interested landowners and representatives from the two incorporated towns were organized through the Perkins County Conservation District. From this committee, nine directors volunteered to serve on a board to study the feasibility of rural water for the county. In March of 1993, Perkins County Rural Water System, Inc. was organized as a non-profit corporation. Two grants were obtained from the South Dakota Department of Environment and Natural Resources for $50,000 each to do a feasibility study. At the same time, the Directors were able to acquire good intention fees from rural landowners, State land, Federal land, and the two towns totaling $28,500 to cost share the State money on a 80–20 share basis.

A feasibility study was conducted for Perkins County Rural Water by KBM, Inc. of Grand Forks, North Dakota and the Alliance of Rapid City, South Dakota in 1994. In the 1995–1996 South Dakota legislature, we obtained State authorization and appropriations of $1 million. This money was used to up-size the pipe in North Dakota for our capacity and for administration cost of Perkins County Rural Water. We have signed a contract with the North Dakota State Water Commission to deliver 400 gpm to the border. We have signed contracts with both towns to be the sole supplier for their water systems. We have had a very good response from the rural farmers and ranchers in that 50 to 60 percent have signed and paid for water contracts delivered to their farmstead. We have also signed a contract with the Grand River Grazing Association that grazes cattle on U.S. Forest Service land.

In the fall of 1999, we received Federal authorization with the 106th Congress for a 75 percent grant of $20 million. Due to the fact it is indexed back to 1995, that amount has grown to $28 million. In 2002, we received our first appropriation of $3.2 million. Appropriations for 2003 were passed out of committee in February in the amount of $4.3 million. With the appropriations for 2002 and 2003, we will be able to hookup approximately 45 rural users, install a seven pump station and hookup at the border to start delivering water to our customers. Our request for 2004 is $5.0 million. With this money, we will be able to deliver water to both towns and put them on line the fall of 2004. These hookups are very essential to our corporation since they will be our two largest customers and will provide quality water for the first time for either municipality.

PROJECT LOCATION AND DESCRIPTION

Perkins County Rural Water System, Inc. (PCRWS) would provide potable water to approximately 300 farms and ranches and two towns, Lemmon and Bison, in Perkins County, South Dakota. The system will 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 550 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 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 administrated through the South Dakota Department of Environment and Natural Resources. The consumers of PCRWS, plus a loan from 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 6 million gallons per day to 12 million gallons per day and has also turned management over to Southwest Water Authority within the last 2 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. By buying treated water from an existing water system, the towns can save money and still comply with the rules and regulations set by the Safe Drinking Water Act and the State of South Dakota.

PERMITS AND ENVIRONMENTAL REQUIREMENTS

Final report of Class I Cultural Resources Research and Survey Design Plan has been completed. Presently the draft of the Environmental Assessment has been completed and a Finding of No Significant Impact (FONSI) was issued and signed on February 3, 2003. The Final Engineering Report along with the Environmental Assessment are currently in Office of Management and Budget and will be distributed to Congress in a few weeks. Utility permits to occupy State and county rights of way have been acquired and right of entry from private landowners for the first two phases are also being obtained. Special use permits will be required for any part of the line that crosses U.S. Department of Agriculture, U.S. Forest Service land and will be issued shortly.

PROPOSED CONSTRUCTION SCHEDULE

Construction of the PCRWS will be delayed till the summer of 2003 after reports and assessments have been approved by the Bureau of Reclamation. Work on the Lodgepole project is on going and construction hopefully will be started and finished this year. Construction in the City of Lemmon and the Town of Bison is also planned for this summer. Construction of the entire project is dependent on federal funding levels per year, but the project could be completed in 5–6 years.

Maps showing the construction phases and the total project plus project costs follow. Table 1 shows the total project construction costs, table 2 shows final O&M costs for the total system.

WORK PLAN FOR FISCAL YEAR 2004

Perkins County Rural Water System, Inc. (PCRWS) budget is broke down into three parts which includes Administration, Construction, and Non-Project. Administration includes the day to day operation of the System, Construction is broke down into several items of construction for 2003, and Non-Project is the money spent on Federal lobbying.

Administration budget includes:

—Income including BOR grant funds, water sales, interest.

—Expenses include: Office administration; Utilities for both office and pumps (O&M budget will be drafted later); Payroll including all of the Office Managers wages, and 48.5 percent of General Managers wages; Water purchases for the last 3 months of 2003 for people hooked up by fall; Office equipment for office use.

Construction budget includes:

—Income totally from BOR (based on $1.9 million carryover and $4.3 million appropriations).

—Expenses including: Advertising for bids, easements, construction schedules; Legal fees for contracts, bid openings; Engineering for plans and specs, bids, contracts, inspections; Construction fees include:

—a. Lemmon infrastructure @ $720,000.00,

—b. Bison infrastructure @ $50,000.00,

—c. Combination of Phase I and II includes (page 79 in the FER):

—1. Rural pipeline (Lodgepole) consisting of all sizes, approximately 70 miles;

—2. Border vault;

—3. Pumping Station #1;

—4. Three phase transmission line;

—5. Partial mainline to Bison;

—d. North Dakota State Water Commission Payment.

—Wages for construction will include all of O&M Manager's and 48.5 percent of General Manager's.

Non-Project budget includes:

—Income from hook-up fees and building rental fees.

—Expenses include directors and managers costs for work and travel to Washington, DC.

Also included is a worksheet containing the breakdown of items included in the three budgets.

The work plan for Perkins County Rural Water is as follows:

Administration

Income will include water sales for the fourth quarter, October thru December ($16,600), interest income ($40,000), hookup fees ($7,400) and $7,500 from Bureau of Reclamation. Advertising, Legal fees, Insurance, Accounting Fees, Mileage Reimbursement, Meals, Dues and Fees, Office supplies, Repairs, and Telephone is based on past budgets and will total to $25,250.00. Utilities, for the pumps, are based on electricity needed to pump water for 3 months for a price of $3,000.00. Depreciation is figured on equipment inventory, building, and vehicle for a total of $4,000.00 (not included is depreciation of pipeline, etc.). Payroll for this budget includes all of the Office Manager's wages and benefits ($22,712.82), and 48.5 percent of General Managers ($42,391.20×48.5 percent = $20,559.73). Water purchases are based on water sold for last quarter of 2003 for rural hookups plus Bison. Office equipment consists of copier ($5,000.00), computer for telemetry and O&M management ($3,000.00), software including Arc View, Telemetry, misc. ($4,000.00) for a total of $12,000.00. Building includes heat, electric, taxes and insurance ($3,000.00, vehicle includes tax and license, maintenance ($2,750.00) and a contingency of ($8,820.00).

Construction

Construction income will come totally from the BOR at $5,732,500.

All office items including advertising, legal fees, office supplies, and telephone is a percentage of the total that we believe will be used strictly for construction, amounts to $13,000. Engineering is based on an estimate from KBM, Inc of $180,000 for 2003. The use tax is the 4 percent State tax applied to the engineering fees and will be $7,200 based on $180,000. Wages are calculated using 100 percent of the O&M Manager and 48.5 percent of the General Manager's salary. Contingency is 4 percent of the total.

Construction is broke down in the following table:

Payment to NDSWC	$946,000
Lemmon Infrastructure	720,000
Bison Infrastructure	50,000
Border Vault	100,000
Three Phase Transmission Line	225,000
Pumping Station #1	500,000
Lodgepole Distribution	1,800,000
Partial Main Transmission Line to Bison	907,700
TOTAL	5,248,700

Non-Project

Non-project is money that is used for lobbying for funds from the Federal Government. Income for this budget will not come from the BOR. Income will include $12,000 from hookup fees and $2,400 from rental fees in the System's building.

Office budget will be mileage reimbursement ($500), office supplies, ($500), and telephone ($100). Meeting expenses for both the directors and manager is money spent on time in Washington, DC ($11,000). This includes the possibility of three trips to Washington for up to three directors plus the manager. Three percent of the manager's wages have been allocated for this item equaling $1,300. Contingency is set at $1,100 (7 percent).

Conclusion

It is anticipated that the work proposed in this document will require 12 months to complete. This time frame could lengthen considerably, dependent upon future appropriations from the U.S. Federal Government to the project.

A full budget is included at the end of the report broke down in the three categories. Also included are the phase projections through 2007.

LETTER FROM THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Los Angeles, California, March 27, 2003.

The Honorable PETE V. DOMENICI,
Chairman, Committee on Appropriations, Subcommittee on Energy and Water Development, U.S. Senate, Washington, DC 20510.

DEAR CHAIRMAN DOMENICI: The Metropolitan Water District of Southern California (Metropolitan) 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 2004 budgets for your Subcommittee's hearing record.

Metropolitan strongly recommends your approval of a Reclamation fiscal year 2004 budget that includes $30 million in funding for the CALFED Bay-Delta Program. In addition, Metropolitan 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 (Salinity Control Program). We request that Congress appropriate $17.5 million for implementation of the Title II—Basinwide Program, an increase of $8.302 million from the President's request to ensure water quality protection for this important source of water supply to Arizona, California, and Nevada. We support funding of the Grand Valley and the Paradox Valley Units of the Title II, Salinity Control Program at the President's requests of $752,000 and $2.102 million, respectively. In addition, we support funding of the Colorado River Water Quality Improvement Program at the President's request of $450,000. High salinity from the Colorado River continues to cause significant impacts to residential, industrial and agricultural water users. Furthermore, high salinity adversely affects the region's progressive water recycling programs, and is contributing to an adverse salt buildup through infiltration into Southern California's irreplaceable groundwater basins. The Salinity Control Program has proven to be a very cost-effective approach to help mitigate the impacts of higher salinity.

In addition, we support funding of the Title I, Salinity Control Program at the President's request of $11.25 million to maintain the Yuma Desalting Plant (Plant) and the saline water Bypass Drain, and ensure that Mexican Treaty salinity requirements are maintained. Although the Colorado and Gila Rivers experienced above-normal runoff during the 1980's and 1990's, storage in the Colorado River system reservoirs has now dropped to a 30-year low. With declining reservoir levels, operation of the Plant is needed to reduce the amount of drainage water that is bypassed and not credited toward Mexico's Treaty entitlement delivery. As such, it is essential that Plant design deficiencies be corrected promptly as a step toward its efficient operation.

Further, we also ask that you support the reauthorization of the Water Desalination Act of 1996 [Public Law 104–298, Section 8], which Metropolitan supported in the fiscal year 2003 budget process, as well as increasing the President's fiscal year 2004 budget request from $775,000 to $4 million. Federal support of desalination is vital to realizing technological advances leading to reduced costs, improved efficiency and cost-effectiveness in order for this resource to become an important water supply program for many regions of the United States.

Metropolitan also requests your support for Reclamation's Endangered Species Recovery Implementation program at the President's request of $13.371 million. This activity develops and implements projects for the stewardship of endangered, threatened, proposed, and candidate species that are resident or migratory to habitats within the Colorado River Basin as well as other regions of the western United States. In addition, Metropolitan urges your support for the Lower Colorado River Operations Program at the President's request of $13.822 million. This program includes:

—Protection of endangered species, ecological restoration, and riparian restoration research along the lower Colorado River,
—Development of the cost-shared Arizona-California-Nevada/federal Lower Colorado River Multi-Species Conservation Program to provide future Endangered Species Act compliance, and
—Implementation of the Secretary of the Interior's responsibilities for administering federal laws and court decrees related to operation of Reclamation's reservoirs.

California has developed a Colorado River Water Use Plan (California Plan) to provide a framework for the agencies that 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. 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 for improved river operations and water deliveries. Reclamation funding of $6.9 million is needed in fiscal year 2004 in order to complete the environmental impact analysis and, if a decision is made to move forward, the initial stage of project design. Reclamation has been funding this work under the Colorado River Front Work and Levee System. As such, Metropolitan requests that the Subcommittee augment Reclamation's funding for this activity.

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. Additionally, Title XVI allows Reclamation to conduct much needed water recycling and desalination research programs, as well as, studies of potential water recycling projects. Funding in the fiscal year 2004 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. Metropolitan urges your full support for the $12.7 million for Title XVI.

Metropolitan desires your support for the funding level of $6 million, necessary for the Soil and Water Remediation-Moab Project associated with radioactive uranium mill tailings in Moab, Utah. The President's Fiscal Year 2004 Budget includes $2 million for maintenance of the Moab Tailings Project which would be used for site maintenance and completion of the Environmental Impact Statement (EIS) process. These funds would maintain the status quo, but they are not sufficient for continued work to remove surface and groundwater contamination and implement a reclamation plan. The President's Fiscal Year 2004 Budget proposal is not designed to conduct the necessary remediation work. The Colorado River adjacent to the site has been negatively affected from site-related contamination, mostly due to ground water discharge. This Project is essential for protecting the quality of Colorado River water. In addition to the $2 million in the President's Budget, Metropolitan supports an additional $4 million, as requested by Governor Leavitt of Utah, to accomplish the following: operation and maintenance of the interim groundwater pump and treat system; completion of groundwater studies; completion of site stabilization projects; and initiating design and onsite work for remediation.

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. Metropolitan 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 2004 budget includes numerous programs in the Corps' South Pacific Division, which includes California. Several ecosystem restora-

tion 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. Metropolitan urges Congress to fully support these Corps programs as the fiscal year 2004 Federal appropriations process moves forward.

We look forward to working with you and your Subcommittee. Please contact Metropolitan's Legislative Representative in Washington, DC, if we can answer any questions or provide additional information.

Very truly yours,

RONALD R. GASTELUM,
Chief Executive Officer.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA RECOMMENDATIONS FOR FISCAL YEAR 2004 APPROPRIATIONS

Appropriations Bill	President's Budget	MWD Recommendation
U.S. Bureau of Reclamation:		
California Bay-Delta Ecosystem Restoration	$15,000,000	$30,000,000
Colorado River Front Work and Levee System, Water Management Reservoirs near the All-American Canal	155,000	6,900,000
Colorado River Basin Salinity Control Program—Title II:		
Basinwide Program	9,198,000	17,500,000
Grand Valley Unit	752,000	752,000
Paradox Valley Unit	2,102,000	2,102,000
Colorado River Basin Salinity Control Program—Title I	11,250,000	11,250,000
Colorado River Water Quality Improvement Program	450,000	450,000
Desalination Research and Development Program	775,000	4,000,000
Endangered Species Recovery Implementation	13,371,000	13,371,000
Lower Colorado River Operations Program	13,822,000	13,822,000
Title XVI Water Reclamation and Reuse Program	12,700,000	12,700,000
Water Conservation Field Services Program	[1] 500,000	[1] 500,000
Department of Energy: Removal of Radioactive Tailings in Moab, Utah	2,000,000	6,000,000
U.S. Army Corps of Engineers: South Pacific Division	.....	([2])

[1] For Metropolitan Water District.
[2] Support Corps programs.

DEPARTMENT OF ENERGY

PREPARED STATEMENT OF BOB LAWRENCE & ASSOCIATES, INC.

HIGH TEMPERATURE SUPERCONDUCTIVITY R&D

Mr. Chairman and Members of the subcommittee. My name is Bob Lawrence, I am President of Bob Lawrence and Associates, Inc., of Alexandria, Virginia. I appreciate the opportunity to present this testimony, today, on the important subject of Superconductivity. I am here to request an appropriation of $49 million for the Department of Energy program for fiscal year 2004.

Background

Of all the technologies which are emerging today, Superconductivity is arguably one of the most promising in terms of dramatic, potential enhancements to American infrastructure and national benefits. Laboratory results are now moving into government-industry partnerships aimed at accelerating superconducting products into the electrical marketplace with concurrent, dramatic, energy efficiency and environmental improvements.

Superconductivity is the property of a material to conduct unusually large quantities of electrical current with virtually no resistance. Since the middle of the century, researchers have known that certain ceramic materials show superconductive properties when they approach a temperature near absolute zero, or the temperature of liquid hydrogen and liquid helium. Practical applications of these materials are difficult, however, since they are characteristically very costly to make, very brittle in nature, and prohibitively expensive to cool to the required, very low temperature.

In 1986, a new class of ceramic materials was discovered which showed superconductive properties at temperatures up to 34K. Since that time, improvements have produced superconducting materials at the temperature of liquid nitrogen, or 72K. These "high temperature" superconductive (HTS) materials have generated great excitement since the projected costs of applications have dropped by orders of magnitude, and first viable products appear to be within reach.

THE PROGRAM

Today, a number of HTS-based pieces of electrical equipment are at the prototype stage with capable manufacturing entities intimately involved. Early candidates for commercial products include Transformers, Electric Motors, Generators, Fault Current Limiters, and underground Power Cables. Later in the commercialization process, replacements for overhead transmission lines are also foreseen; however, this will not be an early application. To enhance and accelerate the prospects for early commercialization of HTS products, the Department of Energy has developed a vertically integrated program in which product oriented teams are focused on the development and implementation of HTS equipment. Under the title of the Superconductivity Partnership Initiative (SPI), these vertically integrated teams typically each consist of an electric utility, a system manufacturer, an HTS wire supplier, and one or more national laboratories. Supporting these vertical teams is a Second Generation Wire Initiative, in which development teams are exploiting research breakthroughs at Los Alamos, Argonne, and Oak Ridge National labs that promise unprecedented current-carrying capabilities in high-temperature superconducting wires. Since superconducting wire is the main component of all superconducting cables, products and systems, the price drop projected by the Second Generation technology is highly significant and important to successful commercialization.

Transformer development is being carried out by the team of Waukesha Electric Systems, Intermagnetics General Corporation, Rochester Gas and Electric, Rensselaer Polytechnic Institute, and the Oak Ridge National Laboratory. This team has conducted a series of reference designs concentrating mostly on a 30-MVA, 138-kV/13.8kV transformer which is representative of a class expected to capture about half of all U.S. power transformer sales in the next two decades. According to industry experts, Japan and Europe are somewhat ahead of the United States in transformer development.

The United States HTS electric motor team is headed by Reliance Electric with American Superconductor Corp as the HTS coil supplier and manufacturer. Also on this team are Centerior Energy (a utility company) and Sandia National Laboratory. "In February 1996, Reliance Electric successfully tested a four-pole, 1,800 rpm synchronous motor using HTS windings operating at 27-K at a continuous 150kW output. The coils . . . achieved currents of 100A . . . , 25 percent over the initial goal of 80 A." This program has now been extended to "develop a pre-commercial prototype of a 3.7MW HTS motor". The demonstration of this motor will be an important milestone in the commercialization process, since it will provide a measure of efficiency, reliability, and projected costs and benefits.

Generator efforts in the United States have recently begun with a team headed by General Electric. The efforts here, again, appear to be behind those in Japan. In Japan, funds expended on HTS design, development, and demonstration exceed those in the United States. This Japanese, heavily funded effort involves 16 member organizations with representation from the electric utilities, manufacturers of electric power equipment, research organizations, manufacturers of HTS wire and tape, refrigeration and cryogenic suppliers, and independent research institutes.

Fault Current Limiters represent a new class of electric utility equipment with many attractive properties. This type of equipment may, in fact, be a market leader, since its properties appear to provide substantial potential cost savings to electric utilities as well as containing power outages. This type of equipment is only possible using superconducting technology.

Exciting developments have taken place in the field of underground HTS cables for transmission and distribution. In the United States, two teams are pursuing two different technical concepts, but each team is led by a powerhouse electrical cable manufacturer; Pirelli North America, and Southwire Co. First design cables are now under test in practical applications. Worldwide, about 10 superconducting electric power cable demonstrations are now underway, in various stages of completion.

The Benefits

Dramatic cost and energy savings are projected when the candidate systems and products from superconducting technology are fully implemented, with incremental benefits accruing from the time of technology readiness and commercial introduction to the time of full market penetration. When fully implemented into the electric gen-

eration and utilization sectors of our economy, superconducting technology is expected to save $8 billion per year in retail value of presently lost electricity, lost due to transmission and distribution. An additional $8 billion per year can be saved with the installation of superconductive transformers and electric motors. Yet another $1 billion or so can be saved by full implementation of HTS generators. This totals fully implemented benefits of $17 billion per year from full implementation of HTS technology in presently envisioned equipment. Oak Ridge National Laboratory (ORNL) experts and studies carried out by Energetics, Inc. indicate that HTS underground cable savings would be in the range of 125,000 kWhr per mile, per year. At the present average rate of 6.89 cents per kWhr, this corresponds to retail level monetary savings of $8,612.50 per mile per year. These savings will flow directly into reductions in taxpayer electric bills, under a competitive electricity delivery environment.

National Security

Above ground transmission lines are vulnerable to terrorist attack, as well as severe weather. High Temperature Superconductivity would allow transmission lines to be placed underground with very large capacity increases per cross section. This also allows for a more environmentally effective use of the surface land. Higher national security and better environmental posture: a good combination.

There are Defense applications of this technology, enabling in nature, applying to directed energy weapons. Exact applications are sensitive in nature, but it is important to note that the benefits from success in this technology will apply to many cross sections of the American economy and infrastructure.

In conclusion, Mr. Chairman, I thank you for the opportunity to present this testimony. Major efforts in this technology are now underway in China, South Korea, Japan, and a number of European countries, as well as the United States. It is very important that we make every effort to be ahead of the rest of the world in this technology, and for that reason, I ask that the Committee provide an appropriation of $49 million for the Superconductivity R&D program for fiscal year 2004.

ELECTRIC TRANSMISSION RELIABILITY AND TECHNOLOGY NEEDS

I am here, today, to request an appropriation of $18 million for fiscal year 2003 for Transmission Reliability, a subject area found within the Electric Energy Systems program of the Department of Energy. Within that amount, I request that you designate $4 million to continue the Aluminum Matrix Composite Conductor program which was started in fiscal year 2002. This program has the promise of evolving a new family of transmission line conductors which will carry twice the capacity of today's conductors, greatly reducing the need for new transmission rights-of-way. This will be, clearly, of tremendous benefit to our Nation.

Since 1974, our country has confronted a series of alerts and crises involving energy. In the early pursuit of alleviating these crises, natural gas, coal, and electricity were examined as possible alternatives to oil. However, in the ensuing years, there has been a natural gas crisis, a natural gas bubble, another tightening of natural gas supply, wide swings in the prices of oil-based products, and now, a strong reminder in the electrical sector that our Nation's electricity generation and delivery system is in desperate need of upgrading and repair. Moreover, a new approach to planning for future electric generation and, most importantly, the delivery system, is critical.

Numerous recent articles and reports describe the situation from a variety of perspectives. Clearly, there is no "National Grid" to accept and deliver electricity. Rather, our present system evolved from a patchwork of local systems designed to accept local generation and provide it to local customers from a regulated, wholly owned, vertically integrated structure. Today, the national thrust is to move this system into a configuration wherein merchant power generators sell to a variety of widely situated customers on a competitive basis, and the power is delivered through a reliable and affordable transmission/distribution network. How this situation will ultimately evolve remains conjecture; however, it is certain to involve a confluence of legislation, regulations, technology advances, and societal changes before it is all over.

The Nation's present patchwork system clearly requires upgrading with a more global design based on a new system of planning and financing. The U.S. electricity industry is in the midst of a transition from a structure dominated by vertically integrated utilities regulated primarily at the State level to one dominated by competitive markets. In part because of the complexities of this transition, planning and construction of new transmission facilities are lagging behind the need for such grid expansion.

Electricity, when transmitted, flows over all available paths to reach the customer and it cannot be easily directed in one particular way. Major problems are occurring as new merchant power plants are being built, but increased transmission capacity is not being installed. In 2000, normalized capacity was 17 percent lower relative to demand than it had been a decade earlier, and the projection for 2009 shows a further decline of another 12 percent.

Upgrades: Replacements, Additions, and Siting

Transmission rights-of-way are rarely abandoned. Rather, existing conductors are replaced, often with wires capable of handling larger power flows, or towers and conductors are replaced. Due to the problems associated with constructing new transmission lines, it is important to examine the possible options for increasing the transmission capability on present sites and making maximum use of existing transmission systems through upgrades. When feasible, upgrades are an attractive alternative, because the costs and lead times are less than those for constructing new transmission lines.

The most obvious but most expensive method for alleviating the thermal constraints on a line is to replace the lines with larger ones (conductors) through "restringing" or to add one or more lines, forming "bundled" lines. This approach requires consideration of the tower structures that support power lines.

Other typical cost estimates for restringing transmission lines with larger conductors are:

—60 kV line, to 397.5 kcmil: $40,000 per mile,

—115 kV line, to 715.5 kcmil: $80,000 per mile,

—230 kV line, to 1,113 kcmil: $120,000 per mile.

"Long-distance power transmission can be essential in a deregulated system, by increasing competitive offers for customers," said Ken Rose, senior economist with the National Regulatory Research Institute in Columbus, Ohio. From suburbs to farms, the giant towers and the drooping lines they support are loathed and opposed. "It's easier to site a generation plant than to build a 20-mile transmission line through people's backyards," said Mike Calimano, vice president for operations of the New York Independent System Operator, the State's power grid manager. "We haven't built any [transmission lines] from Canada or the West since 1978, and that was a war," said Minnesota State Attorney General Mike Hatch. "We had highway patrols trying to keep the peace. It was awful then," and will be again as new power-line projects go forward, he warned.

The long-distance transmission lines, strung on 150-foot-tall steel towers spaced at quarter-mile intervals, face particularly strong local opposition. Citizen protests have also stalled plans to build power plants, but outrage soars when it comes to the high-voltage wires.

Aluminum Matrix Composite Conductor Technology

This advanced transmission line conductor is expected to carry twice as much electricity, per line, as present conductors, allowing for transmission upgrades without needing additional land rights-of-way. The program was begun in fiscal year 2002 with $4 million, and is structured to be a 3-year effort at $4 million per year. Substantial cost sharing from both industry and utilities is occurring. Continued funding would allow industry, Oak Ridge National Laboratory, and the Department of Energy to develop and demonstrate a new class of overhead conductors through laboratory tests and field trials. Under the proposed program, medium and large size constructions of composite conductors will be developed and tested in preparation for the field trials. Accessories tailored for each conductor construction will also be developed and tested. The testing will include a low-voltage outdoor test span operated by ORNL that can continuously cycle a 1,200-foot multispan line to high-temperature operation.

Multi-year field trials will demonstrate medium and large size conductor performance under different conditions, such as various voltages, mechanical loading conditions, and operating conditions. WAPA will host the first field trial in fiscal year 2002 under this program. Field trials require performance monitoring, which spans more than 1 year. A number of the proposed laboratory tests require months to carry out. Thus it is important that the proposed program be viewed with respect to the overall multi-year plan.

Objectives of the Program in 2003 and 2004

The level of effort in fiscal year 2003 will be of slightly less magnitude than the effort that was executed in fiscal year 2002 due to a funding level of $3 million in fiscal year 2003 as opposed to the $4 million in fiscal year 2002.

The technical objectives in fiscal year 2003 and fiscal year 2004 are a continuation of 2002 activities as follows:

—Monitor the WAPA field trial with the 795 kcmil ACCR over a minimum of 1 year, and preferably 2 years.
—Complete the laboratory testing of the 1272 kcmil and 598 kcmil/TW ACCR. The testing is aimed at understanding and modeling the conductor mechanical and electrical performance.
—Complete the thermal cycling of 795 kcmil ACCR at ORNL. Install and test the 1272 kcmil and 598/TW conductors on the ORNL test line. The objective of this task is to evaluate the performance of 795, 1272 and 598/TW and accessories in operation at elevated temperature. The test can simulate in 3 months the emergency current conditions that would be expected over 40 years of operation.
—Install and monitor the 1272 kcmil in a new field trial with a utility to be determined. The objective of this field test is to demonstrate the installation, operation, and reliability of 1272 family of conductors for use on 230kV–500kV applications.
—Install and monitor the 598 kcmil/TW with in a field trial with a utility to be determined. The objective of this field test is to demonstrate the installation, operation, and reliability of high efficiency composite conductors.
—Evaluate system network impacts of conductor upgrades.
—Establish national perspective regarding potential of new conductors.
—Draft industry standards necessary for commercial introduction.

At this point in time, a comprehensive study has been completed by the Department of Energy on the National Transmission Grid System. The Study was completed in December 2001. Since that time, the Office of Management and Budget has refused to fund the results and objectives of the study, even though it is comprehensive in nature and could form the basis for Congress to appropriate needed funds to fix our Nation's critical grid problems. This action is unfortunate, and clearly not in the Nation's best interest.

We ask the subcommittee to restore Transmission Reliability program to the funding level that it had in fiscal year 2002—$18 million.

COST/BENEFITS OF GEOTHERMAL ENERGY R&D

I and my firm, have been working with the Department of Energy's Geothermal program since 1990, and during the past 13 years, we have seen many positive changes in the program which are helpful to the industry and to our country as a whole. I come before you, today, to request $37 million for the program for fiscal year 2004, of which, $4 million would be applied to the GeoPowering the West portion of the Program.

Geothermal electric generation, at 16 billion Kw/hrs per year, is the largest contributor to delivered electricity from Renewables except for Hydro generation. For the past several years, the Geothermal Technology program has been held back at budget levels below $30 million. This has been harmful to the industry which is dependent upon the technology evolving from the DOE programs to develop new and ever more difficult resources. During the fiscal year 2003 appropriations process, the Senate funded the Geothermal program at $37 million. Although the Conference only funded the program at $30 million, it was certainly a step in the right direction. It is consummately in the national interest to increase the funding level of this program to $37 million annually to accelerate increased geothermal use for energy purposes.

At $37 million, last year's Senate level, it gives the Geothermal program the chance to move forward with industry on several fronts. The $7 million additional will actually be closer to $14 million additional, since it is expected to draw an equal amount of industry cost sharing. At the $37 million level, strong programs can move ahead addressing Enhanced Geothermal Systems, where tertiary treated waste water is injected deep into the earth to provide additional needed water to undersaturated geothermal resources. The GeoPowering the West program, addressing 19 Western States, can be strengthened. And most importantly, Cost-Shared Exploratory Drilling, Reservoir Definition, and New Resource Exploration can move forward in areas where it has slowed to nearly a stop. Even at $37 million, the Geothermal program will be the lowest funded of all Renewables, even though the program has been the most successful based on present generation annual levels.

Overview

Cost-shared Department of Energy investments in geothermal energy R&D, starting in the 1970's, have made possible the establishment of the geothermal industry in the United States. Today that industry generates over 16 billion kilowatt-hours per year in the United States, alone. The total, retail value of this electricity exceeds $1 billion per year. The Industry:

—returns over $41 million annually to the Treasury in royalty and production payments for geothermal development on Federal lands;
—supplies the total electric-power needs of about 4 million people in the United States, including over 7 percent of the electricity in California, about 10 percent of the power in Northern Nevada, and about 25 percent of the electricity for the Island of Hawaii (the Big Island);
—employs some 30,000 U.S. workers;
—displaces emissions of at least 16 million tons of carbon dioxide, 20,000 tons of sulfur dioxide, 41,000 tons of nitrogen oxides, and 1,300 tons of particulate matter every year, compared with production of the same amount of electricity from a State-of-the-Art coal-fired plant;
—has installed geothermal projects worth $3.0 billion overseas, mostly in the Philippines and Indonesia.

Near Term Potential

The geothermal industry, with appropriate government R&D support, can provide an additional 600 Megawatts of power in about 18 months. This power will come from:

—Use of tertiary treated wastewater injection (Enhanced Geothermal Systems): 200 MW.
—Implementation of new technologies into old plants, well field upgrades, and turbine replacements: 400 MW.

In addition, direct use increases, through the GeoPowering the West initiative, will provide an additional, near term, 100MW of use for heating, cooling, industrial drying, agricultural applications, and recreational purposes.

This is an additional 700MW of clean, renewable, geothermal energy available within 2 years with appropriate government funding and support, right in the heart of the Western States that presently have the most critical power problems.

Longer Term Potential

The long term potential of Geothermal energy in the United States is estimated to be 25,000 MW of electrical generation and an additional 25,000 MW of direct use. To date, the geothermal industry has made use of only the highest grade geothermal resources in the United States. The keys to realizing the enormous potential of geothermal energy are improved technology to tap resources that can not, at present, be economically developed, and cost shared programs with industry for accelerated implementation of the technology. Substantial investments in R&D by the geothermal industry, acting alone, have not happened and are unlikely, because the developers are uniformly financial entities, with small engineering components, which rely on the technology centered at national laboratories and university institutes for project development and engineering.

Technology Needs

Applied R&D is essential to reduce the technical and financial risks of new technology to a level that is acceptable to the private sector and its financial backers. The U.S. geothermal industry has conducted a series of workshops to determine the industry's needs for new technology and has recommended cost-shared R&D programs to DOE based on the highest-priority needs.

The Geothermal Industry supports the Strategic Plan of the DOE Office of Geothermal Technology. The plan calls for increased spending, quickly reaching $50–60 million per year, a geothermal budget level consistent with that recommended by the President's Committee of Advisors on Science and Technology (PCAST) in their 1997 report. Technical needs include:

Drilling.—Geothermal drilling differs dramatically from oil and gas drilling since the necessary production holes are three times as wide as oil and gas production holes, and they must be drilled through hard, volcanic rock rather than sedimentary soils. Also, because of the high temperatures and corrosive nature of geothermal fluids, geothermal drilling is much more difficult and expensive than conventional oil and gas drilling. Each well costs $1 million to $3 million, and an average geothermal field consists of 10 to 100 or more wells. The drilling technology program continues to show cost-saving advancements.

Exploration and Reservoir Technology.—The major challenge facing the industry in exploration and development of geothermal resources is how to remotely detect producing zones deep in the subsurface so that drill holes can be sited and steered to intersect them. No two geothermal reservoirs are alike. Present exploration techniques are not specific enough, and result in too many dry wells, driving up development costs. The industry needs better geological, geochemical, and geophysical techniques, as well as improved computer methods for modeling heat-extraction strategies from geothermal reservoirs.

Energy Conversion.—The efficiency in converting geothermal steam into electricity in the power plant directly affects the cost of power generation. During the past decade, the efficiency of dry- and flash-steam geothermal power plants was improved by 25 percent. It is believed that geothermal power-plant efficiency can be improved by an additional 10–20 percent over the next decade with a modest investment in R&D.

Reclaimed Water Use for Geothermal Enhancement.—Many potential geothermal resources are not utilized due to insufficient water in the hot zones. Reclaimed water, the disposal of which is an expensive problem for many communities, could be used productively, in many cases, to enhance the geothermal resources, making them more economically viable for local use. In the United States, over 300 western communities each have a potentially useable geothermal resource co-located within 5 miles. The technology which will evolve from this effort could be broadly applicable to these communities and their combined energy and wastewater problems.

GeoPowering the West.—This initiative, now in its third year, seeks to develop, as well as provide information and implement those technologies needed to utilize geothermal resources in the over 300 presently identified "co-located" communities in 19 Western States. Studies now underway may increase the number of communities to over 350. The program is creating partnerships with the subject communities to utilize hot geothermal waters for direct use applications such as space conditioning, industrial drying, agricultural applications, and recreational purposes. Additionally, the program will provide technology needed to explore these resources for generation potential. In the short time that this program has been ongoing, it has played a major role in expanding the number of States with geothermal electric generation potential from four to eight, or a doubling of candidate States. This program is singularly important to the expanded geothermal future of our country.

GeoSciences.—Basic research in the GeoSciences needs to continue at national laboratories, universities, and research institutes to expand and advance the knowledge base in this technology area. Funding the GeoSciences ensures a flow of new, capable, engineers and scientists into this important field as well as expanding the basic knowledge base surrounding geothermal resources and geothermal energy. It is important for this program to continue.

Conclusion

The cost shared, cooperative, research, development, and implementation programs of the Department of Energy's Geothermal program should serve as a model for programs whose purpose is to provide and enhance national benefits, while reaping a return on investment for the taxpayer. The $41 million that the industry returns to various governmental entities in royalties and leases exceeds, annually, the amount that the government invests in the future of the technology. Yet, the future of the technology and the expanded industry is closely tied to these programs. Clearly, the Geothermal research and technology development is an outstanding example of a proper, taxpayer investment. $37 million is required for fiscal year 2004.

PREPARED STATEMENT OF THE SOLAR ENERGY INDUSTRIES ASSOCIATION

Mr. Chairman, members of the committee, I would first like to thank you for the opportunity to address the committee regarding the state of the solar energy research programs sponsored by the Federal Government. Our organization, the Solar Energy Industries Association, represents photovoltaic, concentrating solar power, and solar thermal manufacturers, distributors, contractors installers and component suppliers throughout the United States.

These businesses have experienced a recent growth rate that can only be described as blistering. Our most recent production survey data shows that the world photovoltaics market last year increased by approximately 40 percent above 2001 levels. These growth rates are why U.S. photovoltaic production has doubled since 1996, and quadrupled since 1994. Meanwhile, a project is underway to bring an additional 50 MW clean, reliable Concentrating Solar Power online by 2004. This technology alone will be providing more than 400 MW of power in the United States—enough to power more than 100,000 U.S. homes.

Market success is being further recognized at the polls. A USA Today/CNN/Gallup poll released in May 2001 found that 91 percent of Americans support "investments in new sources of energy such as solar, wind and fuel cells," with only 6 percent opposed. Meanwhile, in a Washington Post/ABC News poll from June 2001 on American's desired solutions to our energy problems, the No. 1 choice across America was "develop more solar and wind power." A 2001 Newsweek poll similarly

found 84 percent of Americans favor increased funding for the development of solar and wind power.

This demand is further spurred by increased performance and decreased costs. DOE research continues to bring the cost of solar systems down markedly even as performance improves, fostering the strong growth of a domestic high-tech manufacturing base. However, we're starting to see a very disturbing trend in photovoltaics. The U.S. photovoltaics market reportedly increased 60 percent last year. Total world manufacturing increased nearly 40 percent. However, U.S. manufacturing barely held steady, losing a great deal of market share, to Japan and the European Union, as can be seen below.

Distressingly similar trends can be seen in the concentrating solar power market, where the "power tower" technology originally developed in collaboration with the Department of Energy is now seeing its commercial debut in Spain's "Solar Tres" project, and in the solar hot water market, where Israel and other countries have seized a commanding lead.

In all of these countries, the potential market is no stronger than that in the United States. Government support, however, is much more robust. In the coming years, we fully expect that increasingly relevant, inexpensive, and high-performance solar technologies will continue their exponential rate of sales growth. The only question is whether the United States will fully harness this engine of environmental benefit, energy security, and high-tech jobs growth, or if we will simply yield to the competition of other countries, losing what was once unassailable market dominance to our competitors. This would be a sad echo of what has already happened with the wind turbine market.

Solar energy's benefits to the Nation are far too numerous to list here comprehensively. However, we cannot mention enough that as a long-lived source of perpetually renewable energy, solar enables us to make more of our energy at home, rather than being forced to acquire it overseas or from volatile fuel markets. By its modularity and simplicity, it can provide quick answers to grid congestion or supply inadequacy problems, while sidestepping environmental and NIMBY issues. The high coincidence of solar panels' peak output and daily peak demand cycles makes them a particularly attractive solution for areas that experience load pockets or seasonal demand spikes, avoiding the use of the dirtiest and least efficient conventional generators. Finally, solar will undoubtedly be one of the critical cornerstone technologies of the hydrogen economy, giving us the ability to produce motor fuels when and where we want them, with no emissions of any kind.

The most well known programs within DOE, and those that have received the most consistent support are the photovoltaics research initiatives. However, even these are likely still not realizing their full potential. This is "gold standard" research—a 2001 Peer Review of the DOE Photovoltaic Program concluded that:

"In terms of the programs' 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 deliberate . . . The panel believes this to be a truly outstanding element of the Department of Energy's programs."

SOLAR CELL PRODUCTION, 1988–2002

[MW/year]

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rest of World	3	4	4.7	5	4.6	4.4	5.6	6.35	9.75	9.4	18.7	20.5	23.42	32.62	47.8
Europe	6.7	7.9	10.2	13.4	16.4	16.55	21.7	20.1	18.8	30.4	33.5	40	60.66	86.38	112.75
Japan	12.8	14.2	16.8	19.9	18.8	16.7	16.5	16.4	21.2	35	49	80	128.6	171.22	251.07
United States	11.1	14.1	14.8	17.1	18.1	22.44	25.64	34.75	38.85	51	53.7	60.8	74.97	100.32	100.6
Total	33.6	40.2	46.5	55.4	57.9	60.09	69.44	77.6	88.6	125.8	154.9	201.3	287.65	390.54	512.22

Within these programs, the cost-shared components have been experiencing particular success. The advanced photovoltaics manufacturing, (formerly PVMaT,) Thin Films Partnership, and Building-Integrated PV (BiPV) programs obtain cost-competitive research in coordination with industry, while keeping solar manufacturing in the United States. Manufacturers of solar and related equipment are located in States including California, Maryland, Delaware, Florida, Arizona, New Jersey, Ohio, Michigan, Tennessee, and Massachusetts, employing thousands of workers, all of whom benefit from the increased performance realized from DOE programs.

The advanced photovoltaics manufacturing programs have focused on helping to bringing efficiency and technology to bear on the complex process of manufacturing solar cells, having now brought module-manufacturing costs down by more than 50 percent. These innovations occur in a competitive cost-sharing environment that ensures rapid and cost-effective development and adoption of technologies that would not likely emerge otherwise. It is a critical component to maintaining U.S. technological viability in the face of particularly aggressive and growing German and Japanese research efforts.

The BiPV program has attracted Administration notice, with the Fiscal Year 2003 Congressional Budget Document trumpeting "an exciting and rapidly growing solar application which . . . will help cross the profit threshold that holds the key to significant growth in distributed, grid-connected electricity markets." Meanwhile, the Thin Films Partnership continues to make important discoveries, routinely knocking down their own efficiency records while investigating materials that show the real, near-term potential of cutting module prices by half or more. To support the research needs of the evolving technology and growing industry behind these programs, SEIA requests at least $100 million for the photovoltaics program in total.

Photovoltaics, of course, do not form a functioning system on their own, and we therefore request that the systems and reliability account receive robust funding so that all necessary inverter and balance-of-systems work can be carried out.

A worrisome budget note is the effective closeout of the Concentrating Solar Power (CSP) program. CSP systems currently produce 354 MW of clean, reliable, and relatively inexpensive power in the California desert. Reentering the market with newer, more refined, and more sophisticated technologies, early construction has begun for another 50 MW plant in Nevada, and a 1 MW plant in Arizona. Other project sites are being sought out or are in early negotiations now, and the Western Governor's Association has stated that they support further developing this resource.

A recent "due diligence" review of the CSP program, conducted by third party consultants Sargent and Lundy under the auspices of the National Research Council, found that "CSP technology is a proven technology for energy production, there is a potential market for CSP technology and that significant cost reductions are achievable assuming reasonable deployment of CSP technologies occurs." The Administration's own budget document for 2003 states that:

"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 . . . they are currently the least expensive source of solar electricity. Recent technology advancements . . . (have) revitalized the CSP industry and placed them in a 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."

Given this degree of support, promise, and sheer technological achievement, a closeout budget is simply unjustifiable.

In the recently released fiscal year 2003 omnibus appropriations, Congress instructed the Department to "spend not less than $5,500,000 for the continuation of work on concentrating solar power". This minimum level is wholly inadequate to operate an effective program. The funding roller coaster for these programs has damaged their ability to make long-term investments and to retain top-quality staff. Funding in the range of $25 million would allow the Department of Energy, through the national laboratories at Sandia and NREL, to validate technology and components with industry as well as lowering operations and maintenance costs in a stable environment. Given the growth potential of this industry, and the very strong international interest in these technologies, it seems a small price to pay.

We also note with interest the provision of the current Senate Republican staff draft of the energy bill that provides substantial research support for using Concentrating Solar Power as a source of new hydrogen fuel. The simplest means of funding this account may well be the hydrogen portion of the budget, which should address hydrogen production from renewable resources.

SEIA also strongly supports the Administration's support for Solar Buildings products and projects, including the visionary Zero Energy Buildings Program. The multi-year goal of Zero Energy Buildings (ZEB) is to achieve the requisite technology advances to spur widespread adoption of zero energy residences by 2010 and zero energy commercial buildings by 2015. This would slow and eventually eliminate new buildings' consumption of our finite energy sources. Builders around the country are increasingly developing new construction techniques, utilizing new building materials, and including solar technologies which will achieve zero finite fuel source energy consumption. For these programs we request $8 million in funding.

A different program, formerly filed under the "solar buildings" heading, is Solar Heating and Lighting. Solar water heating technologies are utilized around the world in quantities far exceeding those in the United States. Such systems can significantly reduce the consumption of electricity, and of natural gas, which is increasingly being used to generate electricity, exposing the country both to increasing energy dependence on foreign nations and to the inherent risks of transporting these fuels. Solar water heating technologies are already ubiquitous in many other countries, thereby saving other energy sources for higher value purposes.

Within this program, emphasis will be placed on reducing the cost of solar water heating by using light-weight polymer materials that can replace the heavy copper and glass materials used in today's solar thermal collectors. The goal is to complete R&D on new polymers and manufacturing processes to reduce the cost of solar water heating to 4¢/kWh in 2004. We recommend that this program be funded explicitly at the $5 million level.

We are further concerned that in many cases, the budget for "solar buildings" is frequently confused by the inclusion of non-solar technologies and research programs. These earmarks tend to distract resources and attention from important core research, and we urge that they be reexamined and strictly limited.

With these minor changes to the existing budget, we are confident that the committee can lay the foundations for a solar future where the United States can regain its lead and reap the many benefits of this, the cleanest of all energy sources.

PREPARED STATEMENT OF THE BIOMASS ENERGY RESEARCH ASSOCIATION

This testimony pertains to the fiscal year 2004 appropriation for biomass research, development, and deployment (RD&D) conducted by the Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy (EERE). Separate statements will be submitted in support of biomass RD&D performed under the Interior and Related Agencies Bill by EERE's Office of Industrial Technologies, and on forest biomass production research by the U.S. Department of Agriculture Forest Service (USDAFS).

BERA recommends that for fiscal year 2004, $114,500,000 be appropriated for RD&D under EERE's Biomass and Biorefinery Systems Program, and biomass-related Hydrogen Technology Program.

—$24,000,000 to continue the Bioenergy and Bioproducts Initiative (BBI, Crosscutting RD&D) and $5,000,000 to continue the Regional Biomass Energy Program (RBEP).
—$21,000,000 for R&D under the core programs: Advanced Biomass Technology—Thermochemical Conversion and Bioconversion.
—$26,000,000 for R&D and $32,000,000 for the industry cost-shared scale-up projects under the core programs: Systems Integration and Production (Exclusive of the BBI).
—$6,500,000 for the biomass-related core programs under Hydrogen Technology.

On behalf of BERA's members, I would like to thank you, Mr. Chairman, for the opportunity to present the recommendations of BERA's Board of Directors for the high-priority projects and programs that we strongly urge be continued or started. BERA is a non-profit association based in Washington, DC. It was founded in 1982 by researchers and private organizations that are conducting biomass research. Our objectives are to promote education and research on the production of energy and fuels from virgin and waste biomass that can be economically utilized by the public, and to serve as a source of information on biomass RD&D policies and programs. BERA does not solicit or accept Federal funding for its efforts.

In fiscal year 2003, about 30 percent of the appropriation for EERE's RD&D was provided as earmarked funds. This is less than the 43 percent figure for fiscal year 2002, but EERE's planned objectives for their core programs will be extremely difficult or impossible to achieve because the baseline funding requested and the appropriation were almost the same in fiscal year 2003. The excessive earmarks do

not allow for sufficient funding of the core programs, and several cut-backs have been necessary. BERA respectfully asks the Subcommittee to carefully consider the impacts of earmarks on EERE's RD&D. If they are for projects that are not in DOE's formal request, BERA urges that they be add-ons to the baseline funds rather than deductions.

The original goal of the BBI created as a result of "The Biomass Research and Development Act of 2000," and Title IX of the Farm Bill, was to triple the usage of bioenergy and biobased products. Congress has provided annual funding for the BBI since fiscal year 2000. A strategic plan has been developed by the multi-agency Biomass Research and Development Board (BRDB), co-chaired by the Secretaries of Energy and Agriculture, to achieve this goal. Its achievement is necessary because of environmental, energy security, and projected fuel supply issues, and our increasing dependence on imported oil. We must determine whether practical biomass systems capable of displacing much larger amounts of fossil fuels can be developed. The fossil fuel displaced by waste and virgin biomass in 2000 was 1.55 million BOE per day, approximately 79 percent of which was wood-based. In DOE's funding request, the BBI is included under "Crosscutting Biomass R&D." BERA strongly urges that the BBI be continued in fiscal year 2004 at the funding level recommended by BERA, and that the highest priority be given to development of this program component.

PROGRAM INTEGRATION, COORDINATION, AND MANAGEMENT

For several years, BERA has urged that all biomass-related research funded by DOE should be coordinated and managed at DOE Headquarters so that the program managers are heavily involved in this activity. We are pleased to note that this process, which began in fiscal year 2002, has continued in fiscal year 2003. BERA congratulates DOE on the progress made in restructuring the program and its management. BERA also congratulates DOE and USDA for the new spirit of working together and coordinating the programs of each department to increase the usage of agricultural and forestry biomass for the production of much larger amounts of affordable fuels, electricity, and biomass-derived products than have been realized in the past. These efforts are expected to help facilitate the transition of waste and virgin biomass in the USA into major sources of renewable energy, fuels, and chemicals.

BERA urges that the BBI be incorporated into the overall Federal biomass research program. Without it, the time table for this transition will be stretched out for several decades and possibly never happen except to a very limited extent for niche markets. Large, strategically located, energy plantations are ultimately envisaged in which waste biomass acquisition and virgin biomass production systems are integrated with conversion systems and operated as analogs of petroleum refineries to afford flexible slates of multiple products from multiple feedstocks. Unfortunately, relatively large amounts of capital and inducements are required to get the private sector involved in developing even modest size projects in the field. So to help implement this program, BERA includes the BBI as a line-item in its annual testimony.

BERA also continues to recommend that implementation of the BBI should include identification of each Federal agency that provides funding related to biomass energy development, each agency's programs, and the expenditures by each agency. DOE and the USDA have initiated this process. This is an on-going activity that should be expanded to include other agencies and departments and help fine-tune the critical pathways to program goals. Continual analysis of the information compiled should enable the coordination of all Federally funded biomass energy programs through the BRDB to facilitate new starts focused on high priority targets, and help to avoid duplication of efforts, unnecessary expenditures, and continuation of projects that have been completed or that do not target program goals. Full implementation of the BBI will enhance the value of the Federal expenditures on biomass research to the country in many different ways.

BERA RECOMMENDATIONS

BERA's project recommendations consist of a balanced program of mission-oriented RD&D on conversion research and technology transfer to the private sector. Advanced conversion processes and power generation technologies, alternative liquid transportation fuels, and hydrogen-from-biomass processes are emphasized. Biomass production RD&D for energy uses is ultimately expected to be done by the USDA.

BERA continues to recommend that at least 50 percent of the Federal funds appropriated for biomass research, excluding the funds for scale-up projects, are used to sustain a national biomass science and technology base via sub-contracts for industry and universities. While it is desirable for the national laboratories to coordi-

nate this research, increased support for U.S. scientists and engineers in industry, academe, and research institutes that are unable to fund biomass research will encourage commercialization of emerging technologies and serious consideration of new ideas. It will also help to expand the professional development and expertise of researchers committed to the advancement of biomass technologies.

In its core RD&D, EERE has terminated research in several microbial and thermochemical conversion areas. BERA believes that a balanced program of high-priority research should be sustained and protected, so we continue to recommend both a diversified portfolio of research and an appropriate amount of funding for scale-up without diminishing either EERE's R&D or scale-up programs. BERA's specific dollar allocations are listed in the table on page 3. Additional commentary on each program area is presented on pages 4 and 5. Other mission-oriented biomass RD&D programs are funded through EERE's Office of Industrial Technologies (OIT) under the Interior and Related Agencies Bill. DOE's basic research on biomass energy outside of EERE by the Office of Science, which supports academic research, should be designed to complement EERE's mission-oriented biomass RD&D and the BBI.

ALLOCATION OF APPROPRIATIONS RECOMMENDED BY BERA

BERA recommends that the appropriations for biomass RD&D in fiscal year 2004 be allocated as shown in the accompanying table. BERA's recommendations are generally listed in the same order as DOE's requests for funding under the headings Energy Supply, Biomass Program, Biomass/Biorefinery Systems R&D; and Energy Supply, Hydrogen Technology, Hydrogen/Fuel Cells/Infrastructure Technologies Program. However, several research areas are included that are either new or that BERA recommends be restored to sustain a balanced program. Note that in fiscal year 2004, EERE incorporated several new changes in program names and nomenclature in addition to those made in fiscal year 2003, and zeroed-out or moved some programs between EERE's Offices. Note also that the recommended budget for each scale-up category does not include industry cost-sharing, which is required to be a minimum of 50 percent of each project cost. BERA recommends that funds for the BBI be used mainly for scale-up projects after evaluating the projected contribution of each project to the BBI's goals. New projects should not be started until this is done.

Office of Energy Efficiency and Renewable Energy	Program Area	Recommended Budget	
		For Research	For Scale-Up
Biomass/Biorefinery Systems:			
Advanced Biomass Technology	Thermochemical Conversion:		
	Combustion	$2,000,000	
	Gasification	2,000,000	
	Pyrolysis	2,000,000	
	Liquefaction	2,000,000	
	Bioconversion:		
	Fermentation (Ethanol)	4,000,000	
	Organisms and Enzymes	6,000,000	
	Fermentation (Methane)	1,000,000	
	Chemicals	2,000,000	
Systems Integration/Production	BBI (Crosscutting RD&D)[2]	2,000,000	$22,000,000
	Thermochemical Conversion:		
	Ethanol	3,000,000	4,000,000
	Other Oxygenates/Mixed Alcohols	4,000,000	4,000,000
	Syngas-Based Chemicals, Fuels[3]	2,000,000	4,000,000
	Ash Deposition, Uses, Disposal	1,000,000	
	By-Products, Recovery, Uses	1,000,000	
	Improved Emissions, Controls	2,000,000	
	Wastewater Treatment	2,000,000	
	Hot Gas Clean-Up	1,000,000	
	Small Modular Biopower	0	2,000,000
	Feedstock Infrastructure	2,000,000	
	Bioconversion:		
	Ethanol Scale-Up with Cellulosics	0	8,000,000
	By-Products, Recovery, Uses	1,000,000	
	Improved Emissions, Controls	1,000,000	
	Wastewater Treatment	2,000,000	
	Integrated Biorefinery Development:		

Office of Energy Efficiency and Renewable Energy	Program Area	Recommended Budget	
		For Research	For Scale-Up
	Designs, Economics, Markets	1,000,000	
	Product Slates, Flexibility, Costs	1,000,000	
	Siting, Acquisition, Construction	2,000,000	10,000,000
	Regional Biomass Energy Program[3]	0	5,000,000
Subtotal		49,000,000	59,000,000
Hydrogen Technology[1]	Thermal Processes (Reforming)	500,000	1,000,000
	Photolytic Processes (Algae)	1,000,000	0
	Innovative Conversion Processes	4,000,000	0
Subtotal		5,500,000	1,000,000
Totals		54,500,000	60,000,000
Grand Total		$114,500,000	

[1] BERA's recommendations pertain only to the biomass-based portion of Hydrogen Technology.
[2] BERA's recommendations for the Biomass and Bioproducts Initiative are expected to be used for research and scale-up as indicated, but are not allocated by program area in this table.
[3] The McNeil Gasification Project in Burlington, VT and the Regional Biomass Energy Program have been zeroed-out of EERE's fiscal year 2004 budget. BERA strongly urges that they be restored and continued (see Systems Integration/Production, Thermochemical Conversion, and Regional Biomass Energy Program sections in text).

Advanced Biomass Technology

Thermochemical Conversion.—Continued R&D to develop advanced biomass combustion and gasification methods could have environmental and economic benefits that can lead to significant growth in low-cost power generation from waste biomass and the disposal of certain kinds of high-moisture waste biomass such as biosolids (municipal sewage), which are very costly to treat and dispose of. Most of this research has been phased out by DOE. Research (not scale-up) should be initiated or restored with the goal of developing the next generation of thermochemical biomass conversion processes for power generation and the utilization of high-moisture biomass for combined disposal-power generation applications.

The pyrolysis of biomass, or its thermal decomposition in the absence of oxygen, yields a large number of gaseous, liquid, and solid products. Hardwood feedstocks were used commercially until the 1930's to manufacture fuel gases, solvents, chemicals, fuel oils, and charcoal. Because of the steadily increasing prices of natural gas and petroleum crude oils, a few small-scale commercial biomass pyrolysis systems have recently been installed and operated under conditions that increase product flexibility and selectivity to yield cost-competitive products. BERA recommends that exploratory research on biomass pyrolysis be added to EERE's program to help design advanced processes. All of the basic data compiled during DOE-funded research on biomass pyrolysis in the 1970's and 1980's should be reexamined in this work.

Several thermochemical technologies are available for the liquefaction of biomass feedstocks to afford storable liquid fuels and chemicals. Included among these conversion methods is pyrolysis under certain conditions that maximize the yields of liquid products, the catalytic conversion of syngases from biomass to liquid chemicals such as ethanol and other oxygenates, catalytic hydrogenation of biomass and biomass derivatives such as natural oils for the direct production of liquid fuels, and biomass liquefaction under supercritical conditions of pressure and/or temperature. BERA recommends that thermochemical liquefaction of biomass be added to EERE's program to find and improve innovative conversion methods that have a high probability of leading to cost-effective, storable liquid fuels from biomass.

Bioconversion.—The goal of simultaneous conversion of pentoses and hexoses from low-cost cellulosics to fermentation ethanol at high efficiencies on a commercial scale requires the use of special processes for producing genetically engineered organisms and cellulase systems at acceptable costs and performance. Research should continue to perfect these technologies for incorporation into the overall fermentation process designs to be used in the scale-up program for fermenting cellulosic feedstocks.

Methane fermentation (anaerobic digestion) is unique in that it produces methane, the major component in natural gas, at high concentrations (medium-Btu gas) from a full range of virgin and waste biomass. DOE has terminated most of this research. Research can lead to advanced processes as well as the alleviation of numerous environmental problems encountered during waste treatment and disposal. This research should be restored.

Bioconversion is useful for converting a variety of biomass and derivatives to a wide range of commodity and specialty organic chemicals and polymers. The use of selected microbial populations is in fact the only practical route to certain types of chemicals and polymers. An exploratory program to advance this technology is a natural adjunct to DOE's on-going biomass fermentation program. BERA recommends that part of the research effort under Advanced Biomass Technology focus on this field.

Systems Integration and Production

Biomass and Bioproducts Initiative (Crosscutting RD&D).—See pages 1 and 2 of testimony.

Thermochemical Conversion.—The availability of thermochemical biomass conversion processes for producing ethanol, mixed alcohols, and other oxygenates offers a range of non-microbial options for commercializing biomass liquefaction technologies. This should be one of the key components of EERE's program, but is minimal when compared with the efforts expended on fermentation ethanol over many years. The development of medium-Btu biomass gasification is also a key component for the production of fuels, power, and chemicals. However, funding for the commercial scale demonstration plant in Burlington, VT by DOE was ended in fiscal year 2003. This plant is capable of use as a multi-purpose development site for biomass gasification and related technologies. BERA recommends that both thermochemical liquefaction and gasification RD&D be expanded and continued by EERE. The existing plant in Vermont should be utilized to test advanced gas clean-up methods and advanced power generation systems.

Small Modular Biopower.—Research on the development of small, biomass combustion turbines should be continued to develop advanced designs for small modular systems, and for cogeneration and distributed generation.

Feedstock Infrastructure.—BERA recommends that DOE develop the infrastructure, while the Forest Service of the USDA initiates and continues RD&D on biomass production, particularly woody biomass.

Bioconversion.—As reported last year, DOE's contributions to the costs of several fermentation ethanol plants have either been completed or are winding down. The processes used are conventional and advanced technologies, and a plant using corn stalk feedstocks was planned for the Midwest. BERA recommends that the existing scale-up projects should be completed, the results analyzed, and the technologies confirmed before other scale-up projects are started. Since corn continues to be the main feedstock for U.S. plants, it is vital to commercialize the use of low-cost cellulosic feedstocks to reduce the cost of fermentation ethanol. RD&D should focus on the information needed to facilitate scale-up and make this happen. Although much of it is in-hand now, critical information related to biomass transport, storage, and handling; feedstock characterization, pretreatment and hydrolysis; storage, maintenance, and use of genetically modified organisms and of active cellulase systems for pentose and hexose conversion; nutrient cost reductions, by-product recovery and utilization; and improved emissions, controls, and wastewater treatment, is still needed to design optimum low-cost processes that afford fermentation ethanol at competitive motor fuel prices. NREL's fermentation pilot plant and counter-current pretreatment pilot plant reactor installed in fiscal year 2000 should be fully utilized on a cost-shared basis with DOE's industrial partners to support the scale-up of processes operated with cellulosic feedstocks.

Integrated Biorefinery Development.—This program component is expected to include the activities necessary to select and integrate all unit operations employed in the biorefinery and the biomass acquisition systems. This effort should address plant design, siting, financing, permitting, construction, environmental controls, waste processing and disposal, and sustained plant operations; feedstock selection, transport, storage, and delivery; all waste and emissions issues; and storage and delivery of all salable products. BERA recommends that industrial partners be carefully selected for participation in this cost-shared program at the beginning of each project. This work should be given the highest priority. Most of the funds for the BBI provided by Congress should be used for this effort. Long-range planning is essential to ensure that each project has a high probability of success and lays the groundwork for continued installation of similar systems by the private sector.

Regional Biomass Energy Program.—The RBEP has been a legislatively-mandated model information and outreach program for almost 20 years. There is no other Federal program with the information transfer role, capabilities, leverage, experience, local-level presence, and widespread networks of the RBEP; nor is there a DOE program so closely affiliated with State and regional government organizations. Historically, RBEP's partners have provided between $2 to $4 for every $1 of RBEP funds, making it one of the most cost-effective Federal programs. If DOE terminates this

program, BERA recommends that it be transferred to and operated by the USDA, and that it continue to be managed by the government host organizations: Coalition of Northeast Governors, Southern States Energy Board, Council of Great Lakes Governors, and Western Governors Association, which provide direct links to the governors and legislators of each State.

Hydrogen Technology

Research on the thermal reforming of biomass and on splitting water with algae, which is the equivalent of photolysis, should be continued. In addition, innovative conversion methods such as the use of anaerobic digestion under ambient conditions and catalytic and non-catalytic thermochemical gasification under certain operating conditions that minimize methane formation while maximizing hydrogen formation should be studied. These technologies may lead to low-cost hydrogen production methods.

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

The DOE is the third largest Federal sponsor of basic research and the largest supporter of research in the physical sciences. It supports more than 15,000 Ph.D. scientists, graduate students and post-doctoral researchers in universities and national laboratories. 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.

Last month the Senate Committee on Energy and Natural Resources responded to the President's fiscal year 2004 request, and expressed its concern for DOE's Office of Science budget, and the trend of level or flat funding for programs within it. UCAR endorses the views of the Committee. The President's request for DOE's Office of Science is flat, and has remained level funded for a decade. Funding it at the request of $3.3 billion would be significantly less than the $3.6 billion recommended in H.R. 34, the Energy and Science Research Investment Act of 2003, a bipartisan bill supported by almost 40 House members.

This request also falls short of the goal of the President's Council of Advisors on Science and Technology (PCAST), which recommended in its October 2002 report that the budget request begins bringing funding for the physical sciences into parity with that of the life sciences.

In order to achieve parity, DOE's Office of Science should be funded at $3.6 billion, a level that will critically augment and reinvigorate the work of researchers throughout the Nation.

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. The BER program is of particular importance to the work of the atmospheric sciences community. Specifically, the Climate Change Research Program is dedicated to advancing very important climate work, including climate modeling, the at-

mospheric radiation measurement program, global change research, meteorological research. It also supports a mentoring program for a 4-year graduate and undergraduate program for minority students pursuing careers in the atmospheric and related sciences. The request for this program is decreased almost 6 percent from the fiscal year 2003 enacted level of $530 million. In following the recommendation made above for the Office of Science, it is critical BER's allocation be increased by 9 percent, for a total of $577.7 million.

CLIMATE CHANGE RESEARCH INITIATIVE (CCRI)

In fiscal year 2004, BER will continue to contribute to the Administration's Climate Change Research Initiative (CCRI) to deliver information useful to policy makers. The BER contribution to the CCRI will primarily be through focused research on the carbon cycle to further understand carbon dioxide emissions in relation to the North American carbon sink. BER will also contribute to the CCRI in other areas, including climate change modeling, atmospheric composition, and regional impacts of climate change. To make significant headway in these areas, it is very important the Committee support the fiscal year 2004 request for CCRI, of $25.3 million.

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 multiagency effort to develop the Coupled Parallel Climate Model (PCM) and its successor, the Community Climate System Model (version 2.0). The fiscal year 2004 request for ASCR is disappointing to the community, providing it with a 0.5 percent increase. In order to regain our international leadership in advanced computing, it is essential the Committee to provide a 9 percent increase for ASCR and fund it at $188 million.

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 2004 budget of the Department of Energy. We understand and appreciate that the Nation is undergoing significant budget pressures at this time, but a strong Nation in the future depends on the investments we make in science and technology today.

PREPARED STATEMENT OF THE NUCLEAR ENERGY INSTITUTE

On behalf of the nuclear energy industry, thank you for your support of nuclear technology-related programs in the Energy Department and your oversight of the Nuclear Regulatory Commission (NRC) for fiscal year 2003.

The Nuclear Energy Institute is responsible for developing policy for the U.S. nuclear industry. NEI's 270 corporate and other members represent a broad spectrum of interests, including every U.S. energy company that operates a nuclear power plant. NEI's membership also includes nuclear fuel cycle companies, suppliers, engineering and consulting firms, national research laboratories, manufacturers of radiopharmaceuticals, universities, labor unions and law firms.

America's 103 nuclear power plants are the safest, most efficient and reliable in the world. Nuclear energy is the largest source of emission-free electricity generation in the United States. Nuclear power plants in 31 States provide electricity for one of every five homes and businesses in the Nation, and the industry again last year reached record levels for efficiency and electricity production. It is essential that Congress adopt policies that foster the further development of this vital part of our Nation's energy mix—and fulfill existing Federal obligations, such as the commitment to manage used nuclear fuel.

My statement for the record addresses three key points: (1) Congress should reclassify the Nuclear Waste Fund, reorienting it to its original purpose and ensuring adequate funding for the Yucca Mountain repository project; (2) research and development (R&D) on advanced nuclear technology should continue to maintain America's leadership role in commercial nuclear technologies; and (3) the Nuclear Regu-

latory Commission's (NRC) budget and staffing should be reassessed in light of current trends.

I also will discuss briefly several important programs supported by the nuclear energy industry, including research into the health effects of low-level radiation.

CONGRESS SHOULD RECLASSIFY THE NUCLEAR WASTE FUND

National policy clearly establishes the Federal Government's responsibility for deep geologic disposal of used nuclear fuel and the by-products of defense-related activities. In 1982, the Nuclear Waste Policy Act codified Federal policy for developing a repository for long-term stewardship of used nuclear fuel.

President Bush last year approved Yucca Mountain as the site to develop a Federal repository and the decision was overwhelmingly upheld by the 107th Congress. I commend this committee for its leadership in supporting the Yucca Mountain resolution and the President's request for funding the program. The next step is for the Department of Energy (DOE) to submit an application to the Nuclear Regulatory Commission by December 2004 for a license to construct the repository.

It is imperative that DOE meet its milestones for licensing, so the repository can be built and operating by 2010. This is consistent with our Nation's longstanding policy for responsible management of used nuclear fuel. It also honors the Federal Government's commitment to consumers—who, since 1983, have committed more than $22 billion for used nuclear fuel disposal. The Nuclear Waste Fund has a balance of more than $13 billion and is growing at a rate of about $1 billion annually, including interest. The funds collected from consumers of electricity from nuclear power plants specifically for used fuel management must be available for repository construction and operation.

FUND TREATMENT DIVERTS CONSUMER MONEY FROM ORIGINAL INTENT

The Nuclear Waste Fund was established in 1982 as a separate account in the Federal treasury. However, congressional efforts to control deficit spending in the 1980's and 1990's changed the status of the fund. Appropriations from the fund, but not the receipts, were placed under a discretionary spending cap. The result is that the Nuclear Waste Fund is subject to appropriations caps and "pay-as-you-go" budget rules, even though the fund is self-financed. These rules expire on September 30, but the President's fiscal year 2004 budget proposed that they be continued for 2 more years.

By the current approach, Congress must fund the used fuel programs within the confines of the discretionary spending allocation for the Energy and Waster Development Appropriations bill. As a result, Yucca Mountain funding consistently has been reduced below the level of receipts to provide increased funding in other, unrelated areas, despite the fact that receipts into the fund are specifically earmarked for the used nuclear fuel disposal program. In short, Congress's current budgetary process is taking consumer contributions to the Nuclear Waste Fund for use in funding unrelated programs.

The industry urges Congress to reclassify the Nuclear Waste Fund this year to prevent future funding shortfalls for Yucca Mountain. This will help ensure that the government does not further delay meeting its legal obligation to remove used nuclear fuel from commercial nuclear plant sites. And it is the right thing to do with Americans' money.

INDUSTRY SUPPORTS PROPOSAL TO ADJUST SPENDING CAP

The nuclear energy industry supports the administration's proposal to adjust the fund's discretionary spending cap. We have attached a policy brief that examines this issue. We encourage the committee to support the proposal. A more permanent solution is needed to ensure that funds collected for the waste program are allocated directly to the project based on annual project funding requirements and with continued congressional oversight.

The industry strongly supports DOE's fiscal year 2004 funding request of $591 million for the Office of Civilian Radioactive Waste Management. We do not believe that the program will be able to meet the important milestone for submitting a license application to the NRC absent this level of funding for the program.

We strongly urge restoration of funds not appropriated in fiscal year 2003 so that the program recovers from reductions in scientific study and licensing activities at the lower funding level of $460 million. Increased funding is necessary for DOE to file a license application to the NRC in 2004. In additional, funding for other critical activities—such as transportation planning—is essential to DOE's ability to achieve the major milestones in the program.

Although the repository program is the foundation of our national policy for managing used nuclear fuel, the nuclear industry also recognizes the value in researching emerging technology for used fuel treatment and management. Such farsighted R&D programs would allow our Nation to remain the world leader in nuclear technologies. However, technologies like transmutation—the conversion of used nuclear fuel into less toxic materials—still require a Federal repository for disposal of the radioactive by-products generated from the process.

RESEARCH AND DEVELOPMENT MUST FOSTER NUCLEAR ENERGY

Nuclear energy is a secure, domestic source of electricity and plays a vital role in meeting national Clean Air Act requirements and voluntary greenhouse gas reduction programs. Last year, the industry's average capacity factor—a measure of efficiency—was 91.5 percent, and 103 reactors generated a record 778 billion kilowatt-hours of electricity. Production costs are low and stable over many years.

Nuclear energy is important today, and it will be even more important in the future, given rising electricity demand and the nexus between energy and environmental policy. For its part, the nuclear industry will continue to increase the amount of electricity generated by nuclear power by relicensing reactors, continuing to improve efficiency and implementing new technology to uprate, or boost the output from, current reactors.

But in the near future, new nuclear power plants will be needed.

The Energy Information Administration projects that demand for electricity will increase about 1.9 percent annually over the next two decades. To meet this increased demand, and replace outmoded fossil fuel-fired power plants, the United States will need to add more than 327,000 megawatts of capacity—the equivalent of 36 mid-size (500-megawatt) power plants every year between now and 2020.[1] Some of the new plants must be emission-free nuclear reactors.

As other nations pursue new or expanded nuclear programs, continued R&D also is important for the United States to maintain energy diversity—one of the strengths of our electricity infrastructure—to expand nuclear energy's environmental benefits to our Nation, and to remain the world leader in applying this technology. U.S. leadership is necessary to ensure reliable operations and a significant export market for U.S. products. The industry supports increased fiscal year 2004 funding for DOE nuclear energy R&D programs, especially the Nuclear Energy Technologies (NET) program, which promotes the development of new nuclear energy systems. Within this program, DOE includes Nuclear Power 2010, which will foster the construction and operation of new nuclear power plants by 2010 as one option to increase domestic electricity supply. Already, three companies have identified plant sites for potential new plants and are seeking to validate the NRC's early site permitting process.

The nuclear energy industry urges the committee to approve at least $60 million for the NET program. Within the NET program, $35 million should be earmarked for the Nuclear Power 2010 effort and $20 million for R&D needed to bring innovative reactor concepts, known as Generation IV reactors, to the marketplace. NEI urges your support for a demonstration project for using new reactor designs at a national laboratory within the scope of the Generation IV reactor program. The industry also supports the National Climate Change Technology Initiative at $5 million.

The Nuclear Energy Research Initiative (NERI)—which seeks to expand America's nuclear energy program for the 21st century—fills a vital need identified in a 1997 report by the President's Council of Advisors on Science and Technology (PCAST). PCAST recommended a competitive peer-reviewed R&D program to address potential barriers to increased nuclear energy use and to maintain America's nuclear science and technology leadership. PCAST also recommended an international cooperative program within NERI.

The nuclear energy industry urges the committee to approve at least $32 million in fiscal year 2004 for the NERI program. Within that amount, NEI recommends $5 million for International NERI. Although current funding has been sufficient to continue projects initiated in previous fiscal years, DOE's fiscal year 2004 request reduces funding by half, thus restricting any new R&D projects.

PCAST also recommended another R&D initiative—the Nuclear Energy Plant Optimization (NEPO) program—to generate more low-cost energy from America's existing nuclear power plants.

[1] One-point-nine percent annual increase for 18 years (2003–2020) equals 327,300 megawatts increased demand equals about 18,000 megawatts per year equals 36 500-megawatt power plants per year.

The nuclear energy industry encourages the committee to allocate $10 million for the NEPO program, which seeks to improve already high efficiency and reliability at U.S. nuclear power plants. This public-private partnership is helping to facilitate America's economic growth and improving our Nation's air quality. NEPO received $5 million in fiscal year 2003—$5 million less than the PCAST recommendation. DOE has proposed no funding for the program in fiscal year 2004.

The industry also requests $26.5 million for DOE's University Support Program, which supports vital research and educational programs in nuclear science at the Nation's colleges and universities. With nuclear plant relicensing and plans for new plants, demand for highly educated and trained professionals will continue.

NEI encourages the committee to consider a new $2 million program within the Office of Nuclear Energy to support universities that have undergraduate and graduate programs in health physics. The industry's most recent survey of human resources revealed that health physics professionals are declining in numbers and the need will become acute in the next few years when many will retire. This critical resource will be necessary to support the industry, government programs at DOE sites and national laboratories, NRC activities and homeland security programs to respond to potential dirty bomb threats.

The administration has proposed including nuclear energy in the hydrogen fuel initiative. We believe hydrogen offers significant promise as a future energy technology. Nuclear energy is the best available technology for the large-scale production of hydrogen using electrolysis. A DOE program supporting both concepts should be supported in fiscal year 2004 at $12 million.

NRC'S BUDGET AND STAFFING SHOULD BE REASSESSED IN LIGHT OF CURRENT TRENDS

Our Nation's focus on security has led to significant security enhancements at nuclear power plants. It is appropriate at this time for the NRC to review its budget and resource allocations in light of current demands and other resources available. For example, the NRC currently is budgeted for about 200 staff in its Nuclear Security and Incident Response organization. A significant portion of their work overlaps with responsibilities of the new Department of Homeland Security (DHS)—particularly in the areas of threat and vulnerability assessment. The NRC should carefully review its organizational structure as the DHS assumes a greater role in securing the Nation's energy infrastructure. This review should be completed before additional funding is authorized for NRC security-related activities.

Since September 11, 2001, the nuclear energy industry has remained at a heightened level of alert. The defense-in-depth inherent in the robust design of our plants has been reassessed and augmented. During the past 18 months, our industry has invested an additional $370 million in security-related improvements, including fortified perimeter security; improved background checks; and tighter access control at our plants. As part of this effort, the nuclear energy industry has added about one-third more security officers, for a total of 7,000 well-trained, armed security officers at our 67 nuclear power plant sites. The industry will continue to make these investments and improvements to enhance private industry's best security program.

Our Nation's 103 nuclear power reactors are operating at very high levels of safety and reliability. In fact, nearly 75 percent of the reactors have the NRC's highest safety performance indicator in all categories, and most of the others have only a single indicator in the next lower level. The excellent safety record of U.S. nuclear power plants lays the groundwork for refining regulatory oversight based on performance and safety insights. Additionally, insights from the reactor oversight process indicate that several major regulations for power reactors are not providing a significant safety value. A disciplined review of the regulations should be undertaken to eliminate or modify outdated requirements.

The industry commends the Appropriations Committee for reducing the nuclear industry user fee assessments for NRC activities that are unrelated to regulation of the industry. The proportion of the NRC's budget derived from user fees will continue to decrease by 2 percent each year through 2005. In that year, licensees will support 90 percent of the NRC's budget, which will not include activities that are not directly related to regulating the industry.

In addition, the industry supports an evaluation reviewing the scope and content of inspection programs; eliminating research efforts of questionable value, such as studies of human performance and organizational effectiveness; and streamlining the differing professional opinion process to improve its effectiveness, while minimizing its impact on issue resolution and the use of management resources.

INDUSTRY SUPPORT FOR ADDITIONAL ACTIVITIES

Nuclear Nonproliferation.—The industry supports the disposal of excess weapons grade nuclear materials through the use of mixed-oxide fuel in reactors in the United States and Russia.

Low-Dose Radiation Health Effects Research.—The industry strongly supports continued funding for the DOE's low-dose radiation research program. This program will provide a better understanding of low-dose radiation effects to ensure that public and private resources are applied in a manner that protects public health and safety without imposing unacceptable risks or unreasonable costs on society.

Nuclear Research Facilities.—The industry is concerned with the declining number of nuclear research facilities. We urge the committee to request that DOE provide it with a long-term plan for using existing nuclear research facilities as well as for the development of new research facilities.

Uranium Facility Decontamination and Decommissioning.—The industry fully supports cleanup of the gaseous diffusion plants at Paducah, KY; Portsmouth, OH; and Oak Ridge, TN. Each year, commercial nuclear power plants contribute more than $150 million to the government-managed uranium enrichment plant Decontamination and Decommissioning Fund. NEI urges the committee to ensure that these monies are spent on decontamination and decommissioning activities at these facilities. Other important environmental, safety and/or health activities at these facilities should be paid for out of general revenues.

International Nuclear Safety Program and Nuclear Energy Agency.—NEI supports the funding requested for the international nuclear safety programs of both the DOE and NRC. They are programs aimed at improving the safe commercial use of nuclear energy worldwide.

Medical Isotopes Infrastructure.—The nuclear industry supports the administration's program for the production of medical and research isotopes.

PREPARED STATEMENT OF THE AMERICAN CHEMICAL SOCIETY

The American Chemical Society (ACS) would like to thank Chairman Pete Domenici and Ranking Member Harry Reid for the opportunity to submit testimony for the record on the Energy and Water Development Appropriations bill for fiscal year 2004.

ACS is a non-profit scientific and educational organization, chartered by Congress, representing more than 160,000 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.

As Congress and the administration seek to bolster the economy, economists agree that investments in basic research boost long-term economic growth more than other areas of Federal spending. These investments foster the new technologies and trained scientific workforce that drive the Nation's public health, defense, energy security, and environmental progress. Although industry funds the bulk of national R&D, the Federal Government provides 60 percent of basic research funding and, remarkably, 40 percent of patents cite Federal research as their source. Yet Federal research in the physical sciences and engineering has been cut in half since 1970 as a percentage of GDP. Fortunately, the President's top science and technology advisory council, the House and Senate Appropriations Committees, and the Hart-Rudman Commission on National Security have all recognized the need to boost investment in physical sciences and engineering research. This investment has never been more important given its central role in advancing the Nation's economic, energy, and homeland security.

ACS BUDGET RECOMMENDATIONS

Current Federal efforts to advance energy efficiency, production, and new energy sources while reducing air pollution and other environmental impacts will demand increased investment in long-term energy research. By supporting people, research, and world-class science and engineering facilities, the Department of Energy's Office of Science expands the frontiers of science in areas critical to DOE's energy, environment, and national security missions. Unfortunately, the administration's budget request would continue the shrinking investment in basic energy research at DOE in recent years, which must be reversed to meet these national goals. ACS recommends a budget of $3.6 billion for DOE's Office of Science in fiscal year 2004, a 10 percent increase over fiscal year 2003.

Increases will help reverse the declining Federal support for the physical sciences and to encourage more students to pursue degrees in these fields. The Office of Science is the largest Federal supporter of research in the physical sciences, funding almost 40 percent of research in these fields. In view of the emphasis placed on the physical sciences in the fiscal year 2004 budget, ACS is disappointed that this vital office did not receive adequate support.

The Office of Science fosters the new discoveries and technical talent that will continue to be essential to advances in coal, hydrogen, biomass, genomics, and many other technology areas. Additional funds should be directed to increase the number of grants, especially in core energy programs, and to improve research facilities. The Office is the primary source of Federal support in many research areas essential to our energy security and economy, such as catalysis, carbon cycle research, photovoltaics, combustion, and advanced computing. Increased investment is also important given the declining private support for long-term energy research.

INCREASE GRANTS IN CORE PROGRAMS

ACS recommends that increases for the Office of Science be directed to advancing core energy research across disciplines, which enables DOE to respond rapidly to new challenges. For example, DOE capitalized on long-term atmospheric chemistry research, particularly in aerosols, and quickly developed a single anthrax-bacterium detector. DOE must strengthen its ability to attract scientists and train the next generation of scientists and engineers by increasing the number of grants in its core programs without reducing their size and duration. Current appropriations allow the DOE Office of Science to fund only 10 percent of the unsolicited, peer-reviewed proposals it receives annually. This rate is considerably lower than those of other agencies and amounts to lost opportunities for both significant discoveries and the education of the next generation of scientists and engineers.

Within the Office of Science, ACS particularly supports the Basic Energy Sciences and Biological and Environmental Research programs. As the cornerstone of the Office, the Basic Energy Sciences (BES) program supports an array of long-term basic research to improve energy production and use and reduce the environmental impact of those activities. The BES program manages almost all of DOE's scientific user-facilities, and provides leading support for nanotechnology and advanced computing research—two priority research areas that will have important implications for energy efficiency and security. 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 is also 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 advance pollution prevention and climate change research.

DOE AND THE SCIENTIFIC WORKFORCE

As the largest supporter of research in the physical sciences, DOE can greatly affect the training and number of scientists in industry, government and academia. Inadequate investment in any research field constricts the supply of trained scientists and engineers who apply research and develop new technology. For instance, declining support for nuclear science and engineering will greatly affect the nuclear sector as a majority of today's nuclear scientists and engineers near retirement. Another example is the synergistic relationship between the need for radiochemists and NIH's ability to conduct clinical trials. Advances in diagnosis and treatment in nuclear medicine are dependent on the synthesis of highly specific radiopharmaceuticals that target biological processes in normal and diseased tissues. The Office of Science, through BER supported research, occupies a critical place in the field of radiopharmaceutical research. The NIH relies on the Office of Science's basic research to enable clinical trials.

Another way for DOE to help attract students and retain talented scientists and engineers is to renew its investment in scientific infrastructure. The Office of Science effectively operates one of the most extensive and remarkable collection of scientific user facilities in the world, which provide tools for the research of more than 15,000 scientists funded by DOE, other Federal agencies, and industry. Many facilities are in poor condition or have outmoded instrumentation. Additional funding would allow for increased operating time, upgrades, instrumentation, and technical support. More complete utilization of DOE's facilities would increase the return on investment and maximize their scientific contributions and educational value.

National laboratories also play an important role in providing research and training opportunities to enhance the university curriculum. ACS supports the initial plan by DOE to utilize its national laboratories to help mentor and train science teachers. Students at all levels clearly learn better when their teachers have a deep understanding of the subject, and the first-rate multidisciplinary research and scientific professionals at the national laboratories certainly could be a rich resource for science and math teachers. We are concerned, however, that increases for this new initiative will come at the expense of more fundamental programs and thus urge that new funding be provided. ACS also urges stronger coordination among agencies with significant K–12 math and science programs in order to maximize the Federal investment in this area.

PREPARED STATEMENT OF SOUTHEASTERN FEDERAL POWER CUSTOMERS, INC.

Mr. Chairman and Members of the subcommittee, on behalf of the Southeastern Federal Power Customers' ("SeFPC"), I am pleased to provide testimony in reference to the administration's fiscal year 2004 budget request for the Department of Energy and related Federal Power Marketing Administrations ("PMAs"). My testimony will focus primarily on the budget request for the Southeastern Power Administration ("SEPA"). Among other issues, we wish to emphasize that the proposed changes in SEPA's Puchased Power and Wheeling ("PP&W") budget would have a negative impact on Federal preference power customers throughout the Southeast.

SEPA purchases, transmits, and markets the power generated at Federal reservoirs to municipal systems, rural electric cooperatives, and other wholesale customers throughout the Southeast. The SeFPC has enjoyed a long and successful relationship with SEPA that has greatly benefited the approximately 5.8 million customers that are SeFPC members. As the subcommittee is aware SEPA markets the energy and capacity that is generated from the Federal reservoir projects in the Southeast. The SeFPC represents some 238 rural cooperatives and municipally owned electric systems in the States of Alabama, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Florida, Virginia, and West Virginia, which purchase power from SEPA. In some cases, SEPA supplies as much as 25 percent of the power and 10 percent of the energy needs of SeFPC customers.

ADMINISTRATION'S PROPOSAL TO PHASE OUT PURCHASED POWER AND WHEELING

The administration has proposed significant reductions in PP&W funding for SEPA and the other PMAs in fiscal year 2004 and has recommended the elimination of all Federal funding for PP&W by the end of 2004. The President's proposal would reduce PP&W funding for SEPA by over 55 percent in the upcoming fiscal year, from the current level of $34.5 million to the proposed level of $15 million. This proposal is very troubling to the SeFPC. The failure to fund these important programs under SEPA's jurisdiction could have dire consequences for the Federal power program in the Southeast and Federal preference power generally.

If the President's proposal becomes law, the power supply for the not-for-profit distributors and their customers throughout the Southeast will be severely disrupted. SEPA's customers also will likely lose the benefits of long-term contractual arrangements for transmission and purchased power. Because SEPA does not own its own transmission lines, the loss of PP&W appropriations will force us to arrange our own transmission services, including delivery services from SEPA projects. Also, elimination of SEPA's purchased power funds will force us to buy our power from sources other than SEPA at higher prices, which will be passed directly to our customers.

It is important to note that the President's proposal would yield no cost savings for the Federal Government. The use of PP&W revenues is a discretionary function with no budgetary impact. PP&W funds are repaid annually by preference customers.

Thank you in advance for considering our comments on the President's proposed fiscal year 2004 budget for SEPA.

PREPARED STATEMENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

ABOUT THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History (AMNH) is one of the Nation's preeminent institutions for scientific research and public education. Since its founding in 1869, the Museum has pursued its mission to "discover, interpret, and dissemi-

nate—through scientific research and education—knowledge about human cultures, the natural world, and the universe." It is renowned for its exhibitions and collections of more than 32 million specimens and cultural artifacts. With nearly 4 million annual visitors—approximately half of them children—its audience is one of the largest and most diverse of any museum in the country. Museum scientists conduct groundbreaking research in fields ranging from all branches of zoology, comparative genomics, and bioinformatics to earth, space, and environmental sciences and biodiversity conservation. Their work forms the basis for all the Museum's activities that seek to explain complex issues and help people to understand the events and processes that created and continue to shape the Earth, life and civilization on this planet, and the universe beyond.

Today more than 200 Museum scientists with internationally recognized expertise, led by 46 curators, conduct laboratory and collections-based research programs as well as fieldwork and training. Scientists in five divisions (Anthropology; Earth, Planetary, and Space Sciences; Invertebrate Zoology; Paleontology; and Vertebrate Zoology) are sequencing DNA and creating new computational tools to retrace the evolutionary tree, documenting changes in the environment, making new discoveries in the fossil record, and describing human culture in all its variety. The Museum also conducts graduate training programs in conjunction with a host of distinguished universities, supports doctoral and postdoctoral scientists with highly competitive research fellowships, and offers talented undergraduates an opportunity to work with Museum scientists.

The AMNH collections of some 32 million natural specimens and cultural artifacts are a major scientific resource for Museum scientists as well as for more than 250 national and international visiting scientists each year. They often include endangered and extinct species as well as many of the only known "type specimens," or examples of species by which all other finds are compared. Within the collections are many spectacular individual collections, including the world's most comprehensive collections of dinosaurs, fossil mammals, Northwest Coast and Siberian cultural artifacts, North American butterflies, spiders, Australian and Chinese amphibians, reptiles, fishes, and one of the world's most important bird collections. The Museum has also established a super-cold storage facility, described below, for collection of tissue samples with preserved DNA for genomics research. Collections such as these are historical libraries of expertly identified and documented examples of species and artifacts, providing an irreplaceable record of life on earth.

Permanent and temporary exhibits—from the Rose Center for Earth and Space to The Genomic Revolution, discussed below—are among the Museum's most potent educational tools, interpreting the work of Museum scientists, highlighting its collections, addressing relevant scientific and cultural issues, and presenting cutting edge content in a way that is accessible to all ages, learning levels, and backgrounds. The Education Department builds these exhibitions, as well as the Museum's unique resources, to offer rich programming dedicated to increasing scientific literacy, to encouraging students to pursue science and museum careers, and to providing a forum for exploring the world's cultures. These programs attract more than 400,000 students and teachers on school visits and more than 5,000 teachers for special professional development opportunities. The Museum is also reaching beyond its walls: through its National Center for Science Literacy, Education, and Technology, launched in 1997 in partnership with NASA, it is exploiting new technologies to bring materials, and programs into homes, schools, museums, and community organizations around the Nation.

SUPPORT FOR DEPARTMENT OF ENERGY SCIENCE MISSION AND GOALS

As one of the world's preeminent science organizations, DOE's primary strategic goals include maintaining a world class scientific research capability and enhancing homeland defense. Its leading science program supports fundamental research in energy, matter, and the basic forces of nature and the advanced computational and networking tools critical to research. The American Museum shares DOE's fundamental commitments to cutting-edge research and technology in support of science and education, and it seeks, in concert with DOE, to leverage complementary resources and to advance our many shared science goals.

Genomic Science

DOE is a leader in genomics research, advanced sequencing technologies, and instrumentation. With the historic completion of the first draft of the human genome, its work on the frontiers of genome science continues, including research in energy-related biology, comparative genomics, organisms' responses to biological and environmental cues, and experimental and computational approaches to predictive understanding of microbes and microbial communities. Genomics research remains

critically important to the DOE mission, not only by helping to protect against bioterrorism but also by contributing to the broad goal of developing "a fundamental, comprehensive, and systematic understanding of life."

The American Museum is deeply engaged in genome research closely tied to DOE's mission areas and research priorities. It is home of one of the world's largest natural history collections, a preeminent molecular research program, and singular research resources in frozen tissue samples and cluster computing. In the era of genomics, museum collections have become critical baseline resources for the assessment of genetic diversity of natural populations; studying genomic data in a natural history context makes it possible to more fully understand the impacts of new discoveries in genomics and molecular biology. Genomes of the simplest organisms provide a window into the fundamental mechanics of life, and understanding their natural capabilities can help solve challenges in biodefense, medicine and health care, energy supply, and environmental cleanup.

Frozen Tissue Collection

In support of its molecular program, the Museum has launched an expansion of its collections to include biological tissues and isolated DNA preserved in a super-cold storage facility. Because this collection preserves genetic material and gene products from rare and endangered organisms that may become extinct before science fully exploits their potential, it is an invaluable resource for research in many fields including genetics, comparative genomics, and biodefense. Capable of housing 1 million specimens, it will be the largest super-cold tissue collection of its kind. In the past 2 years, 15,000 specimens not available at any other institute or facility have already accessioned. At the same time, the Museum is pioneering the development of collection and storage protocols for such collections. To maximize use and utility of the facility for researchers worldwide, the Museum is also developing a sophisticated website and online database that includes collection information and digitized images.

Cluster Computing

DOE science programs are committed to "providing extraordinary tools for extraordinary science." The Museum, too, is a leader in developing computational tools, as parallel computing is an essential enabling technology for phylogenetic (evolutionary) analysis and intensive, efficient sampling of a wide array of study organisms. Museum scientists have constructed an in-house 560-processor computing cluster, and are in the process of upgrading it to 128 dual CPU nodes with 2 Gb/sec Myrinet interconnections. It is the fastest parallel computing cluster in an evolutionary biology laboratory and one of the fastest installed in a non-defense environment.

Over the past 9 years, Museum scientists have taken a leadership role in developing and applying new computational approaches to deciphering evolutionary relationships through time and across species; their pioneering efforts in cluster computing, algorithm development, and evolutionary theory have been widely recognized and commended for their broad applicability for biology as a whole. The bioinformatics tools Museum scientists are creating will not only help to generate evolutionary scenarios, but also will inform and make more efficient large genome sequencing efforts. Many of the parallel algorithms and implementations (especially cluster-based) will be applicable in other informatics contexts such as annotation and assembly, breakpoint analysis, and non-genomic areas of evolutionary biology as well as in other disciplines.

Institute of Comparative Genomics

Building on its strengths in comparative genomics, and in concert with the scientific goals of DOE, the Museum has established an Institute for Comparative Genomics so as to contribute its unique resources and expertise to the Nation's genomic research enterprise. Equipped with its molecular labs with DNA sequencers, vast biological collections, researchers with expertise in the methods of comparative biology, and the parallel computing facility and frozen tissue collection described above, the Institute is positioned to be one of the world's premier research facilities for mapping the genome across a comprehensive spectrum of life forms.

The Institute has already established a record of significant research achievements, which include obtaining a patent for innovative approach to analyzing microarray data that will facilitate improved diagnoses of diseases such as cancer and development of drugs to treat such diseases, developing computational techniques to analyze chromosomal sequence data, and winning grants to lead international research teams in assembling the "tree of life." In partnership with the Department of Energy, with the support of a fiscal year 2002 appropriation, Dr. Rob

DeSalle is conducting research that is making notable progress in advancing understanding of bacterial genomics and the evolution of pathogenicity.

These accomplishments are complemented by the Museum's ambitious agenda of genomics-related exhibitions, conferences, and public education programming, including the landmark exhibition, The Genomic Revolution in 2001. The exhibition, attended by approximately 500,000 visitors and now touring nationally, examines the revolution taking place in molecular biology and its impact on modern science and technology, natural history, biodiversity, and our everyday lives. We have also hosted several international conferences on important genomics topics: Sequencing the Human Genome: New Frontiers in Science and Technology, in Fall 2000; Conservation Genetics in the Age of Genomics in Spring 2001; New Directions in Cluster Computing in June 2001; and in 2002, an international meeting to examine current knowledge of life's history, Assembling the Tree of Life: Science, Relevance, and Challenges.

As it moves forward, the Institute, working in cooperation with New York's outstanding biomedical research and educational institutions, is focusing on molecular and microbial systematics, on expanding our understanding of the evolution of life on earth and the evolution of critical organismal form and function through analysis of the genomes of selected microbes and other non-human organisms, and on constructing large genomic databases. Development of Institute activities will entail expanding expertise in microbial systematics and the molecular laboratory program that now trains dozens of graduate students every year; utilizing the latest sequencing technologies; employing parallel computing applications that allow scientists to solve combinatorially complex problems involving large real world datasets; and developing of K–12 curriculum materials, scientific conferences, and public exhibits.

The interests and expertise of DOE and the Museum intersect in particular in these areas of comparative and microbial genomics. One of the goals of DOE's Human Genome Project is to learn about the relevance to humans of nonhuman organisms' DNA sequences. DOE science also targets an area in which the Museum is expanding its expertise—microbial genomics, the study of organisms that have survived and thrived in extreme and inhospitable environments. DOE's Genomes to Life and microbial genome programs are based on the understanding that genomes, especially those of the simplest organisms, provide a window into the fundamental mechanics of life. The Genomes to Life program is also committed to developing the computational tools to integrate data, to understand data, and to model complex biological systems. The Institute's programs in comparative and microbial genomics and computation could provide vital advances in these endeavors and support DOE's biological and environmental research function (the BER account).

We seek $5 million for support of the Institute of Comparative Genomics to partner with DOE and to contribute its unique capacities to advancing shared priority areas of genomic science. The Institute supports DOE's biological and environmental research function (the BER account); and its diverse strengths and unique resources in comparative genomics will help to further DOE's goals for building a scientific research capacity to enable advances and discoveries in DOE science through world-class research. In addition, further development of the Museum's super-cold tissue collection will increase enormously the possibilities for DNA research and provide an invaluable international scientific resource. Our online collection database will ensure public access to genomics information, furthering DOE's own goals for fostering public understanding of human genomics and the fundamental building blocks of life. The Museum intends to support the Institute with funds from non-Federal as well as Federal sources and proposes to use the requested $5 million towards overall costs for the Institute's microbial genomics research program, including expansion and renovation of the molecular laboratories to accommodate additional investigators and students, research instrumentation, and scientific outreach and dissemination (website, online databases).

PREPARED STATEMENT OF THE UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY

The following is the testimony of the University of Medicine and Dentistry of New Jersey (UMDNJ), the largest freestanding public university of the health sciences in the Nation. The University is located on five statewide campuses and contains three medical schools, and schools of dentistry, nursing, health related professions, public health and graduate biomedical sciences. UMDNJ also comprises a University-owned acute care hospital, three core teaching hospitals, an integrated behavioral health care delivery system, a statewide system for managed care and affiliations with more than 200 health care and educational institutions statewide.

We appreciate the opportunity to bring to your attention our priority projects that are consistent with the biomedical research mission of the Department of Energy. These projects are statewide in scope and include collaborations both within the University system and with our affiliates.

Our first priority is the development of the Child Health Institute of New Jersey at the UMDNJ-Robert Wood Johnson Medical School (RWJMS) in New Brunswick. As part of the State's public higher education system, the medical school encompasses 21 basic science and clinical departments and integrates diverse clinical programs conducted at 34 hospital affiliates and numerous ambulatory care sites in the region. RWJMS ranks among the top one-third of medical schools in the Nation in terms of grant support per faculty member. It is home to The Cancer Institute of New Jersey, the only NCI-designated comprehensive cancer center in New Jersey; The Center for Advanced Biotechnology and Medicine; the Environmental and Occupational Health Sciences Institute, one of the leading environmental health programs in the country; and the Child Health Institute of New Jersey.

The mission of the Child Health Institute is to build a comprehensive biomedical research center focused on the health and wellness of children. In this program, medical researchers direct efforts towards the prevention and cure of environmental and genetic diseases of infants and children at molecular and cellular levels.

The Child Health Institute is integral to the long-term plan for the enhancement of research at UMDNJ-RWJMS in developmental genetics, particularly as it relates to disorders that affect a child's development and growth, physically and cognitively. The program will enable the medical school to expand and strengthen basic research efforts with clinical departments at the Robert Wood Johnson University Hospital (RWJUH) and, in particular, those involved with the new Children's Hospital at RWJUH especially Obstetrics, Pediatrics, Neurology, Surgery and Psychiatry. The construction of the Child Health Institute at RWJMS will fill a critical gap through the expansion, by new recruitment, of a intellectual base upon which basic molecular programs in child development and health will build.

At the Child Health Institute, research will serve as the basis for new treatments, therapies and cures for such devastating and debilitating childhood syndromes as asthma, autism, diabetes, muscular dystrophy, birth defects and neuro-developmental disorders. Research will focus on the molecular and genetic mechanisms which direct the development of human form, subsequent growth, and acquisition of function. Broadly, the faculty and students will investigate disorders that occur during the process of development to discover and study the genes contributing to developmental disabilities and childhood diseases; to determine how genes and the environment interact to cause childhood diseases; and to identify the causes and possible avenues of treatment of cognitive disorders broadly found among conditions such as mental retardation, autism and related neurological disorders.

Normal child development is a water dependent process, reflecting water quality, quantity and its "management" by cells and tissues. Access to uncontaminated water is at the base of the tree of life. Pollution of aquatic ecosystems poses a serious threat to the entire ecosystem and studying how a toxin affects embryonic development is central to understanding the risks pollutants represent, whether derived from pesticides, industrial run-off, acid rain or landfills. In multiple ways, the embryo is a sentinel for environmental toxins. Research at the Child Health Institute will focus on molecular mechanisms of early embryonic development, a natural, but vulnerable water-based environment.

The Child Health Institute of New Jersey builds on existing significant strengths in genetic, environmental, and neurosciences research within the UMDNJ-RWJMS and associated joint programs with Rutgers University and other research institutes. For example, the Environmental and Occupational Health Sciences Institute (EOHSI) is a National Institute of Environmental Health Sciences (NIEHS) recognized center of excellence which investigates environmental influences on normal and disordered functions; the Cancer Institute of New Jersey (CINJ), a National Cancer Institute-designated Comprehensive Cancer Center, studies disordered cell growth; and the Center for Advanced Biotechnology and Medicine (CABM) characterizes gene structure and function.

The CHI will act as a magnet for additional growth in research and healthcare program development in New Jersey. The Institute will encompass 150,000 gross square feet and will house more than 40 research laboratories and associated support facilities. Fourteen senior faculty will direct teams of M.D. and Ph.D. researchers, visiting scientists, postdoctoral fellows, graduate students and technicians for a full complement of some 130 employees.

Construction costs for the Institute are estimated to be approximately $72 million; approximately half of this figure is generally associated with local employment. At maturity, the Institute is expected to attract $7 to $9 million dollars of new research

funding annually. The Institute's total annual operating budget is projected to be $10 to $12 million, with total economic impact on the New Brunswick area projected to be many times this amount.

The Child Health Institute has assembled over $40 million to fund its building and programs through a strong partnership among private, corporate and government entitities. The support of the Congress has resulted in more than $6 million in directed appropriations for the CHI over the past 4 years, including appropriations from this committee in fiscal years 2001 and 2002. We respectfully seek $2 million to complement support already received in Federal participation to further advance the development of the Child Health Institute of New Jersey. Requested funding will be utilized for the purchase of analytical equipment, including laser scanning and photon microscopes, mass spectometer, and ventilated rack systems.

Our second priority is the Dean and Betty Gallo Prostate Cancer Center (GPCC), established at the Cancer Institute of New Jersey (CINJ) with the goal of eradicating prostate cancer and improving the lives of men at risk for the disease through research, treatment, education and prevention. The Center was founded in memory of Rep. Dean Gallo, a New Jersey Congressman who died of prostate cancer diagnosed at an advanced stage.

Prostate cancer is a devastating health problem in the Nation and in the State of New Jersey, which continues to experience one of the highest rate of cancer incidence and mortality. Prostate cancer is the most common form of cancer, other than skin cancer, among men in the United States and is second only to lung cancer as a cause of cancer-related death among men. The American Cancer Society estimates that 189,000 new cases of prostate cancer will be diagnosed and approximately 30,200 men will die of the disease in 2002. Statistics released by the Centers for Disease Control in 2002 placed New Jersey fourth in the Nation for the rate or prostate cancer incidence.

The GPCC unites a team of outstanding researchers and clinicians who are committed to high quality basic research, translation of innovative research to the clinic, exceptional patient care, and improving public education and awareness of prostate cancer. GPCC is a center of excellence of the Cancer Institute of New Jersey, which is the only NCI-designated comprehensive cancer center in the State. GPCC efforts are focused in four major areas: (1) Basic, Clinical and Translational Research; (2) Epidemiology and Cancer Control; (3) Comprehensive Patient Care; and (4) Education and Outreach.

Basic, Clinical and Translational Research.—GPCC scientists are investigating the molecular, genetic and environmental factors that are responsible for prostate cancer initiation and progression. Appropriate model systems developed by Dr. Abate-Shen at the GPCC are being utilized to facilitate the design and implementation of novel strategies for prevention and treatment. GPCC is fostering multi-disciplinary efforts that will lead to the effective translation of basic research to improved patient care and novel clinical trials. The translational research program developed at the Gallo Prostate Cancer Center has been recognized at national scientific meetings such as those organized by the American Association for Clinical Research.

Epidemiology and Cancer Control.—Additional research activities of the GPCC seek to understand the etiology of prostate cancer susceptibility and to find effective modalities for prevention of prostate cancer.

Comprehensive Patient Care.—Exceptional patient care is provided through a multi-disciplinary patient care team in the areas of urological oncology, radiation oncology and medical oncology for each patient during all stages of the disease. Currently the Center has fourteen active clinical trials that provide our patients with novel clinical approaches for treating all stages of prostate cancer. Seventy patients were enrolled in clinical trials in 2002.

Education and Outreach.—GPCC is continuing to educate the public throughout the State of New Jersey about the importance of early detection of prostate cancer, particularly in underserved communities where there is a population at high risk for the disease. The Gallo Center has developed an extensive network of partnerships with organizations such as the 100 Black Men of New Jersey, the Men's Health Network, the National Black Leadership Initiative on Cancer, and the Jewish Renaissance Foundation to offer prostate cancer screenings in minority and other underserved communities. The goal is to extend prostate cancer screening services to all 21 New Jersey counties by 2004.

To date, the Gallo Center has raised over $12.2 million in external public and private funding sources (including $3 million in support from this committee) to expand its research, cancer control and public outreach initiatives. The UMDNJ commitment to the overall development of The Cancer Institute of New Jersey and of the Gallo Center total over $83 million. This important funding has enabled us to

establish a world-class program in prostate cancer research that includes publications in prestigious journals such as the New England Journal of Medicine, Genes and Development, Cancer, Cancer Research, and Clinical Cancer Research.

Our fiscal year 2004 initiative is designed to support the further expansion of the Center's basic and clinical research initiatives, public outreach and cancer control efforts in both the Newark and north Jersey region, and the Camden/southern New Jersey region where we can increase the availability of cancer programs to the state's major population regions. Support of $3 million is sought to strengthen the Center's basic and clinical research programs. This additional funding will also allow us to enhance our treatment of patients with prostate cancer through several new clinical trials for patients at all stages of the disease. An additional level of funding support of $3 million is requested to expand the Center's public outreach and screening activities to reach vulnerable populations in the greater Newark and Camden communities and in other locations across the State.

We thank this committee for its strong support of biomedical research and for the University's programs.

PREPARED STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA) is the national service organization representing the interests of over 2,000 municipal and other State and locally owned utilities throughout the United States (all but Hawaii). Collectively, public power utilities deliver electricity to one of every seven electric consumers (about 40 million people), serving some of the Nation's largest cities. However, the vast majority of APPA's members serve communities with populations of 10,000 people or less.

We appreciate the opportunity to submit this statement outlining our fiscal year 2004 funding priorities within the Energy and Water Development Subcommittee's jurisdiction.

RENEWABLE ENERGY PRODUCTION INCENTIVE PROGRAM (REPI)

The Department of Energy's REPI program was created in 1992's Energy Policy Act (EPAct) as a counterpart to the renewable energy production tax credits made available to for-profit utilities. EPAct authorizes the Department of Energy (DOE) to make direct payments to not-for-profit public power systems and rural electric cooperatives at the rate of 1.5 cents per kWh (now closer to 1.7 cents when adjusted for inflation) from electricity generated from solar, wind, geothermal and biomass projects. According to DOE sources, there is a backlog of close to $40 million in requests for REPI funding for 2003. Taking a step in the right direction, Congress appropriated $5 million for REPI for fiscal year 2003, a 25 percent increase over DOE's request of $4 million for fiscal year 2003. Despite Congress' allocation and the demonstrated need, however, DOE has again asked for only $4 million for fiscal year 2004, citing budgetary constraints.

Fully funding REPI is an issue of comparability for 25 percent of the utility sector and the communities these systems serve. For example, in 2000, for-profit utilities and private developers received about $58 million in renewable energy tax credits for wind power alone. The same year, REPI subscribers received only $3.99 million for renewable energy projects of all types. While APPA supports increasing renewable energy use throughout the utility sector, our member utilities simply must receive comparable federally sanctioned incentives to help in that effort.

We believe Congress was committed 10 years ago to removing economic barriers to enable all communities to benefit from the production of more renewable and clean energy. We also believe that Congress is equally committed today—not only to producing more renewable energy, but also to diversifying America's portfolio of fuels, decreasing our reliance on foreign sources of energy, and reducing greenhouse gas emissions. In fact, under a fully funded REPI program, close to 60 million metric tons of carbon equivalent could be reduced through the development existing landfills into landfill-gas-to-energy projects. In order to ensure that these efforts and other renewable energy goals are achievable throughout the electric utility industry, Congress must provide an increase for REPI.

RENEWABLE ENERGY PROGRAMS

As is demonstrated by our strong support for REPI, APPA believes that investing in energy efficiency and renewable energy programs is critical. We urge the subcommittee to support adequate funding to ensure that renewable energy usage continues to increase as part of the portfolio of fuel options available to our Nation's electric utilities.

We appreciate the subcommittee's recognition of the merits of these programs as demonstrated by its passage of a substantial increase over the President's fiscal year 2003 budget request. We encourage your continued support of these vital renewable energy programs.

FEDERAL POWER MARKETING ADMINISTRATIONS (PMAS)

APPA urges the subcommittee to increase the use of receipts for the Purchase Power and Wheeling (PP&W) programs of the Western Area Power Administration (WAPA), the Southeastern Power Administration (SEPA) and the Southwestern Power Administration (SWPA) in fiscal year 2004.

The fiscal year 2004 budget proposes to drastically curtail the abilities of WAPA, SEPA, and SWPA to use receipts—which do not score—to provide these services to customers who cover these costs in their electric bills. Appropriations are no longer needed to initiate PP&W process, however, the subcommittee does establish ceilings on the use of receipts for this important function.

The PP&W program is important because hydroelectric generation and customer use are rarely in exact balance—both vary from hour-to-hour and day-to-day. The PMAs often make purchases in the spot market to "firm" the resource when generation is less than the amount contracted for delivery. And, in low-water years, which have been all too frequent recently, the PMAs often purchase additional power to fulfill their contracts with customers. Wheeling is the charge that the PMAs pay to move electricity over a non-Federal transmission line. It also reduces the need to build additional Federal transmission facilities.

Therefore, we request that the subcommittee authorize the use of receipts in fiscal year 2004 as follows:

—Western Area Power Administration (WAPA): $186.1 million needed—includes $20 million recommended by OMB in the budget plus a $166.1 million authorization in the fiscal year 2004 bill.

—Southeastern Power Administration (SEPA): $34.4 million needed—includes $15 million recommended by OMB plus $19.4 million authorization in the fiscal year 2004 bill.

—Southwestern Power Administration (SWPA): $2.8 million needed—includes $288,000 recommended by OMB plus $2.6 million authorization in the fiscal year 2004 bill.

STORAGE FOR HIGH-LEVEL NUCLEAR WASTE

Since 1982, the Nation's electricity customers have committed $16.5 billion to the Nuclear Waste Fund in order to finance centralized Federal management of spent nuclear fuel used for commercial purposes. We therefore support the administration's efforts to finalize the location of a permanent storage site at Yucca Mountain, Nevada, and we support its request of $591 million for Civilian Radioactive Waste Management in fiscal year 2004 to further this undertaking.

ADVANCED HYDROPOWER TURBINE PROGRAM

APPA supports the administration's budget request of $7.5 million for the Advanced Hydropower Turbine Program for fiscal year 2004. This program is a joint industry-government cost-share effort to develop a hydroelectric turbine that will protect fish and other aquatic habitats while continuing to allow for the production of emissions free hydroelectric power.

During the next 15 years, 220 hydroelectric projects will seek new licenses from the Federal Energy Regulatory Commission (FERC). Publicly owned projects constitute 50 percent of the total capacity that will be up for renewal. Many of these projects were originally licensed over 50 years ago. Newly imposed licensing conditions can cost hydro project owners 10 to 15 percent of power generation. A new, improved turbine could help assure that any environmental conditions imposed at relicensing in the form of new conditioning, fish passages or reduced flows are not accomplished at the expense of emissions-free, renewable energy production. This is particularly important given the increasingly competitive market in which electric utilities operate today. Flow levels will affect the economics of each of these projects and many will be unable to compete if the current trend toward flow reduction continues.

FEDERAL ENERGY REGULATORY COMMISSION (FERC)

The Federal Energy Regulatory Commission (FERC) has requested $199.4 million for fiscal year 2004 for its overall operations. APPA supports this request. The FERC is charged with regulating certain interstate aspects of the natural gas, oil

pipeline, hydropower, and electric utility industries. Such regulation includes issuing licenses and certificates for construction of facilities, approving rates, inspecting dams, implementing compliance and enforcement activities, and providing other services to regulated businesses. These businesses pay fees and charges that cover most of the cost of the government's operations.

NAVAJO ELECTRIFICATION DEMONSTRATION PROGRAM

APPA supports full funding for the Navajo Electrification Demonstration Program at its $15 million authorized funding level for fiscal year 2004 and for each succeeding year of its authorization (through 2006). The purpose of the program is to provide electric power to the estimated 18,000 occupied structures in the Navajo Nation that lack electric power.

The Navajo Nation is served by the Navajo Tribal Utility Authority (NTUA), an APPA member. NTUA provides electric, natural gas, water, wastewater treatment, and photovoltaic services throughout the Navajo Indian Reservations in the States of Arizona, New Mexico and Utah. Fully funding the Navajo Electrification Demonstration Program will significantly improve the quality of life for the people of the Navajo Nation.

NATIONAL CLIMATE CHANGE TECHNOLOGY INITIATIVE

APPA supports the administration's efforts to promote greenhouse gas reductions through voluntary programs and investments in new technologies. We therefore support DOE's request of $15 million for fiscal year 2004 to spur innovation of technologies that will reduce, avoid, or capture greenhouse gas emissions.

PREPARED STATEMENT OF THE UNIVERSITY OF MICHIGAN, UNIVERSITY OF TENNESSEE, UNIVERSITY OF TEXAS, UNIVERSITY OF FLORIDA, AND UNIVERSITY OF NEW MEXICO

RESEARCH, EDUCATION, AND DOE MISSION SUPPORT

The U.S. Department of Energy (DOE) has provided support to the DOE University Research Program in Robotics to pursue long range research leading to the "development and deployment of advanced robotic systems capable of reducing human exposure to hazardous environments, and of performing a broad spectrum of tasks more safely and effectively than utilizing humans."

The DOE University Research Program in Robotics (URPR) has proven highly effective in technology innovation, education, and DOE mission support. The URPR has incorporated mission-oriented university research into DOE, and, through close collaboration with the DOE sites, provides an avenue for developing creative solutions to problems of vital importance to DOE.

The URPR would like to thank the Committee members for their historically strong support of this successful program. Recognizing the shift in national priorities post-9/11/01, the URPR has begun to include new applications as the target for its technology development. Funding was equally split between EM and NNSA during fiscal year 2003. This enabled the completion of dedicated research for specific EM projects while integrating into the NNSA organization.

REQUEST FOR THE COMMITTEE

We request that the Committee include language for the University Research Program in Robotics (URPR) research funds at its historic level of $4.35 million to continue developing safer, less expensive, and more capable robotic technology for NNSA applications.

DEVELOPING ADVANCED ROBOTICS FOR DOE AND THE NATION

Develop Robotic Solutions for Work in Potentially Hazardous Environments

The goal of this program is to invent and utilize state-of-the-art robotic technology in order to remove humans from potentially hazardous environments and expedite remediation efforts considered essential. Established by DOE in fiscal year 1987 to support advanced nuclear reactor concepts, the project was moved to EM to support the higher priority needs in environmental restoration. Reflecting the change in national priorities post-9/11, the URPR began supporting NNSA applications during fiscal year 2003. The project has produced an impressive array of technological innovations, which have been incorporated into robotic solutions being employed across Federal and commercial sectors. This successful program demonstrates efficient technology innovation while educating tomorrow's technologists, inventing our coun-

try's intelligent machine systems technology of the next century, and meeting today's applied research needs for DOE.

The URPR represents a DOE-sponsored consortium of five research universities (Florida, Michigan, New Mexico, Tennessee, and Texas) of long standing, working on the science of remote systems technologies to advance their effectiveness in performing physical tasks in hazardous environments associated with the DOE nuclear sites. The work of these universities is now widely recognized as some of the best in the field (the creation of spin-off companies, deployment requests from FEMA at Ground Zero, wins in national technology competitions, archival journal articles, etc.). Some of the focus technologies include innovative mobile platforms and their semi-autonomous navigation, kinesthetic input to teleoperation systems, simulation-based design and control, manipulation of unwieldy objects, machine vision and scene assessment for world modeling, improved radiation hardening of electronic components, and integration technology to assist in the assessment and deployment of complete solutions in the field. In addition to DOE specific applications, the team is increasingly able to deploy their technology for DOD applications (aircraft carrier weapon's elevator, anti-terrorism systems, submarine operations, etc.), for Homeland Security applications (surveillance and monitoring), for commercial applications (manufacturing, building construction, space) and for human augmentation and training (micro-surgery, rehabilitation of humans, reduction of drudgery). We constantly seek to explore strategic partnerships and utilize existing deployment resources to more rapidly export this technology to the DOE sites that could most benefit from this new technology.

Making the Nation Safer

In the aftermath of the 9/11 tragedy, our Nation has engaged in a long-term war to counter terrorism. The National Research Council recently [2002] published a thorough study of the role of science and technology in countering terrorism entitled Making the Nation Safer. This book represents the collective thoughts of 164 top scientists and engineers focusing on homeland security of the United States. It represents the combined output of the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council. It identifies urgent research opportunities. Of the seven cross-cutting technology challenges identified by the committee, autonomous mobile robotic technologies were highlighted. "Continued development and use of robotic platforms will enable the deployment of mobile sensor networks for threat detection and intelligence collection. Robotic technologies can also assist humans and such activities as ordnance disposal, decontamination, debris removal, and firefighting." Robotic technologies, cited as a "critical long-term research need," are featured throughout the individual chapters that address ways for mitigating our society's vulnerabilities to terrorism and responding to an attack.

Our Nation's technology experts recommend: "Agencies with experience in robotics, such as DARPA, should support research on all elements of robotic systems—including sensors, networks, and data communication and analysis. The aim would be to develop robots to assist in chemical (and biological or radiological) defense, thereby reducing hazards to humans and increasing the capabilities of defensive systems." [Rec. 4.8]

In addition, the report identifies the need to sustain the Nation's scientific and engineering talent base and recommends [Rec. 13.4] a human resource development program to increase training in those fields consistent with the government's long-term priorities for homeland security research. The report exhorts that "expanding the number of American scientists and engineers is particularly important."

And directly related to our work in radiation sensing and imaging is the recommendation [Rec. 2.6] "A focused and coordinated near-term effort should be made by the Department of Energy, through its National Nuclear Security Administration, and by the Department of Defense, through its Defense Threat Reduction Agency, to evaluate and improve the efficacy of special nuclear material detection systems that could be deployed at strategic choke points for homeland defense." And [Rec 2.7] "Research and development support should be provided by the Department of Energy and Department of Defense for improving the technological capabilities of special nuclear material detection systems, especially for detecting highly enriched uranium." Our ongoing URPR research supports these tasks.

In summary, the University Research Program in Robotics is a key player in executing the recommendations for making the Nation safer. We commend the enlightened vision of those who have historically recognized the importance of the URPR and supported this project.

INNOVATION, EDUCATION, AND DOE MISSION SUPPORT

The URPR's strategic mission is to make significant advances in our Nation's robotic and manufacturing technology base while emphasizing: education, technology innovation through basic R&D, and DOE mission support. The URPR has demonstrated that the advantages of operating as a consortium are significant. The institutions of the URPR partition the technical development into manageable sections which allow each university to concentrate within their area of expertise (efficiently maintaining world-class levels of excellence) while relying on their partners to supply supporting concentrations. With full support of the host universities, this effort naturally generated the in-depth human and equipment capital required by the DOE community. Practically, the long-term distributed interaction and planning among these universities in concert with the DOE labs and associated industry allows for effective technology development (with software and equipment compatibility and portability), for a vigorous and full response to application requirements (component technologies, system technologies, deployment issues, etc.), and for the supported application of the technology. Considering the remarkable achievements of URPR over its history, the URPR is in the ideal position to execute its prominent role in education, technology innovation, and DOE mission support.

DOE Mission Contribution—Robotic Technologies

Since its inception, DOE has promoted robotics as a necessary enabling technology to accomplish its mission. The motives for undertaking a comprehensive R&D effort in the application of advanced robotics to tasks in hazardous environments reflect economic considerations, efficiency, and health and safety concerns. The URPR is DOE's only needs-driven research program to develop new remote systems technologies to support the DOE thrust areas. In contrast, DOD, NIH, and NASA continue to prove the benefits of much larger mission-oriented robotics programs. During this difficult time of uncertainty, we need Congressional support to continue this very successful national program in technology innovation for advanced robotic systems.

Program Request for the Committee

During fiscal year 2003, the URPR provided vital contributions to education and research while addressing DOE technology needs. The motivation for this project remains steadfast—removing humans from hazardous environments while enhancing safety, reducing costs, and increasing response effectiveness. The URPR will begin supporting NNSA missions during fiscal year 2004. Thus, the DOE fiscal year 2004 budget submission could not include the URPR and Committee language is needed to continue the technology missions of the URPR at the fiscal year 2002 and fiscal year 2003 level of $4.35 million.

PREPARED STATEMENT OF THE CALIFORNIA GOVERNMENT AND PRIVATE SECTOR COALITION FOR OPERATION CLEAN AIR'S (OCA) SUSTAINABLE INCENTIVE PROGRAM

Mr. Chairman and Members of the Subcommittee, on behalf of the California Government and Private Sector Coalition for Operation Clean Air's (OCA) Sustainable Incentive Program, we are pleased to submit this statement for the record in support of our fiscal year 2004 funding request of $7,000,000 for OCA as part of a Federal match for the $180 million already contributed by California State and local agencies and the private sector for incentive programs. This request consists of $5,000,000 from the Department of Energy (DOE) for biomass incentives, and $2,000,000 from DOE for alternative fuels infrastructure funding.

California's great San Joaquin Valley is in crisis. Home to 3.3 million people, its 25,000 square miles may have the most unhealthy air in the country. Even Los Angeles, long known as the smog capital of the Nation, can boast better air quality by certain standards. While peak concentrations of air pollutants are still greater in Los Angeles, for the past 4 years, the San Joaquin Valley has exceeded Los Angeles in violations of the 8-hour Federal health standard.

A combination of geography, topography, meteorology, extreme population growth, urban sprawl and a NAFTA corridor with two major highways that produce 5 million big-rig miles per day driven by diesel powered trucks, have collided to produce an air basin which over 300,000 people, nearly 10 percent of the population, suffers from chronic breathing disorders. In Fresno County, at the heart of the San Joaquin Valley, more than 16 percent of all children suffer from asthma, a rate substantially higher than any other place in California. The extreme summertime heat works to create smog even though smog-forming gases are less than half the amount in the Los Angeles basin. There is no prevailing wind to flush the natural geologic bathtub

and, as a result, pollutants and particulates stagnate, accumulate and create unhealthy air.

Degradation of human health is not the only consequence of poor quality air. Because the 8-county air pollution control district is designated as a "severe" non-attainment area, a significant number of the Valley's businesses are required to obtain permits and comply with increasingly burdensome regulations imposed by Federal and State law and the Air Pollution Control District, resulting in added cost in compliance, reporting and record keeping. At the same time, the area is burdened by unemployment rates of nearly 20 percent. Encouraging business expansion in or relocation to the San Joaquin Valley to combat unemployment is extremely difficult in the face of such regulatory burdens.

In the fall of 2003 the San Joaquin Valley Air Pollution Control District Board will decide whether to become the first District in the Nation voluntarily to declare itself an "extreme" non-attainment area. That designation, if made, will defer until 2010 the date for attainment of Federal standards of air quality, but will come at a cost of imposing permitting on thousands of more businesses and even further discouraging business expansion or relocation. Unemployment will certainly not be improved.

The San Joaquin Valley is home to the most productive agricultural land in the world. Over 350 crops are produced commercially on 27,000 farms that encompass more than 5 million irrigated acres. While the agricultural industry has made great strides at considerable expense to replace old diesel engines and manage fugitive dust and other emissions, farming cannot help but contribute to the problem. However, it is a $14 billion industry that forms the backbone of the Valley's economy.

Industry alone is not the source of the Valley's poor air. Population growth faster than the rest of the State and nearly the rest of the Nation, in an area without effective mass transit, where cheap land has led to a landscape of suburbia and sprawl, results in excessive over-reliance on the automobile. Trucking has increased dramatically with the increase in population. Other factors such as fireplace burning in the winter, open field agricultural burning because of lack of adequate alternatives, and wild fires resulting from lack of controlled burning in the nearby foothills and mountains all contribute to the problem.

Despite the challenges listed above, much progress has been made. The State has spent nearly $80 million on improvement and compliance programs. Local government and private industry have spent over $100 million on technology and compliance. As specific examples, over one half of the diesel operated irrigation pumps used by agriculture have been replaced with cleaner engines. The City of Tulare has converted its entire fleet of vehicles to natural gas as have several other private fleet operators. A $45 million federally financed comprehensive study of ozone and particulate matter is nearing completion. As a result, the number of 1-hour EPA health standard exceedences has been reduced by 40 percent since 1989.

But much more needs to be done. The District estimates that daily emissions must be reduced by 300 tons to achieve attainment. There is no single or short-term quick fix. The entire Valley is part of the problem and the entire Valley will need to be part of the solution.

Operation Clean Air is a coalition of business, government, health care and environmental groups throughout the 8-county San Joaquin Valley Air Pollution Control District and Mariposa County. Its goal is to clean the Valley's air and increase its economic prosperity. The coalition seeks to catalogue efforts that have produced positive effects and identify those strategies that could produce even greater effects if supported by sufficient resources. At the heart of its efforts will be an array of sustainable, voluntary practices and activities that can and will be undertaken by all of the residents of the San Joaquin Valley, both public and private, to improve air quality.

This unique public-private partnership has invested considerable resources in this project to date, and will continue to do so, but Federal funding is both imperative and justified to help address what is essentially an unfunded Federal mandate.

For fiscal year 2004, our Coalition is seeking funding of $2,000,000 from the Department of Energy (DOE) for the installation and operation of alternative fuels infrastructure throughout the San Joaquin Valley Air Basin. The alternative fuels infrastructure will allow for the accelerated introduction of alternatively fueled vehicles in municipal fleets, public school fleets, and private fleets. The widespread use of lower-emitting motor vehicles will provide significant improvement to air quality in the San Joaquin Valley while furthering the goals of the Department of Energy and the National Energy Policy Act. Development of alternative fuel infrastructure will augment the low-emission vehicle program by providing much needed compressed natural gas (CNG) and liquefied natural gas (CNG) fueling facilities.

For fiscal year 2004, our Coalition is also seeking funding of $5,000,000 to provide financial incentives to reduce open field burning of residual agricultural materials by utilizing biomass-energy power plants to burn this material in a controlled environment. This process will result in multiple benefits to the San Joaquin Valley by reducing air pollution and producing electrical power from a renewable source.

Thank you very much your consideration of our requests.

LETTER FROM THE COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION (CREDA)

Tempe, Arizona, April 10, 2003.

The Honorable PETE DOMENICI,
Chairman, Appropriations Subcommittee on Energy & Water Development, 127 Dirksen Senate Office Building, Washington, DC 20510.

RE: Site Security/Anti-Terrorism Costs

DEAR CHAIRMAN DOMENICI: Please include this letter in the hearing record for the fiscal year 2004 Energy and Water Development Appropriations bill.

As you are aware, following the events of September 11, 2001, the Federal agencies responsible for providing site security and anti-terrorism measures have taken additional steps to ensure the security of Federal hydropower and transmission facilities and the security of the general public. The facilities comprising the Colorado River Storage Project provide a multitude of benefits to millions of residents in the western United States. The security of these Federal generation and delivery facilities is of national concern.

In the fiscal year 2003 Energy and Water Development Appropriations bill, the House and Senate concurred in report language which says that increased security costs in the aftermath of the events of September 11, 2001 are non-reimbursable expenses and should be funded through appropriations. This recognition is consistent with the historic treatment of such costs in crises such as Pearl Harbor.

We understand the President's fiscal year 2004 budget for the U.S. Bureau of Reclamation and the Western Area Power Administration includes additional funding for such anti-terrorism/site security activities. In light of this, the Colorado River Energy Distributors Association (CREDA) requests that the Energy and Water Development Subcommittee including the following in its fiscal year 2004 appropriations bill:

For fiscal year 2004 and each fiscal year thereafter, the increased costs of ensuring security of Reclamation generation and Western Area Power Administration delivery system facilities in the aftermath of the events of September 11, 2001 shall be appropriated, non-reimbursable and nonreturnable.

CREDA is a purchaser of Federal hydropower and transmission services produced and transmitted by the facilities of the Colorado River Storage Project. Our members serve nearly 3 million consumers in six western States. CREDA has passed a resolution advocating that the costs of increased security of these facilities should be non-reimbursable and provided by appropriated funds. In addition, the American Public Power Association (APPA), the National Rural Electric Cooperative Association (NRECA) and National Water Resources Association (NWRA) also have approved or have pending concurring resolutions.

We appreciate your support of statutory language supporting this position.

Sincerely,

LESLIE JAMES,
Executive Director.

PREPARED STATEMENT OF THE SOUTHERN STATES ENERGY BOARD

The Southern States Energy Board (SSEB) is pleased to provide this statement for the record to the House of Representatives Appropriations Subcommittee on Energy and Water Development as it considers fiscal year 2004 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 2004 budget request.

The Board commends Congress for restoring $3,000,000 to the U.S. DOE Regional Biomass Energy Program (RBEP) in the fiscal year 2003 Omnibus Bill. However, SSEB and other regional governors' organizations with existing cooperative agreements to administer RBEP have yet to receive this appropriated funding. SSEB urges the Congress to restore funding for the U.S. DOE Regional Biomass Energy Program and its valuable State-based regional network at $5,000,000 in fiscal year 2004.

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 governors' organizations.

Energy independence is a critical element in the President's Energy Policy and can be significantly enhanced by developing viable domestic alternative energy sources. Just as the Federal energy policy seeks to encourage diverse energy sources, eliminating funding for the RBEP greatly diminishes the States' ability to participate in the development of biomass energy markets.

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. The 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) are recognized nationally for their combined experience related to biomass technologies and policies.

SSEB and other regional governors' organizations hosting regional biomass energy programs are critical partners of DOE for formulating policies and facilitating private sector deployment of advanced energy technologies and practices into target markets.

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 across State borders. Examples include the development of similar State legislative actions, working with the private sector with multi-State locations, and multi-State training and outreach to economize resources.

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 of over $21 million by leveraging State and private funding for technology development and deployment. In 1999, SSEB was selected as the "host organization" for the SERBEP and received funding through a 5-year cooperative agreement.

SSEB is an interstate compact organization with enabling legislation in each member State, covering the 16 States plus Puerto Rico and the U.S. Virgin Islands, all members of the Southern Governors Association. To assure broad based representation, SSEB is governed by a board composed of the governor and a member of the House and Senate from each member State. Over the years of administering the SERBEP, 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.

We urge 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.

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 Has Shown Significant Growth Over the Last 5 Years

Continued Emphasis Needed on Small Wind Systems Used to Power Homes, Farms and Small Businesses

The American Wind Energy Association[1] (AWEA) appreciates this opportunity to provide testimony for the record on the Department of Energy's Fiscal 2004 wind

[1] 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.

energy program budget before the Senate 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 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 would like to commend the DOE wind program for its efforts over the past year to involve the industry in its program planning process. The department has solicited input from AWEA on the direction of its program and been responsive to comments received from the industry. AWEA's fiscal year 2004 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 20 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 electric power 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.

An additional important element of R&D is applied research in the areas of atmospheric physics and aerodynamics. This research can provide knowledge that is essential to achieve the industry's objectives of reducing the cost of wind energy. In addition to help lower the cost of wind power, R&D support is necessary for understanding the integration of wind energy into the Nation's power systems and better understanding the long-term wind resource and costs of operating and maintaining wind power stations. These activities will reduce the perceived risks associated with wind energy developments and thus reduce the cost of capital for project development.

Another activity required to reduce risk is an enhancement of the blade and gearbox testing capabilities at the National Wind Technology Center. The capabilities of the current facilitates are no longer sufficient to test the next generation of wind turbines currently being developed and deployed. The existing facilities have been instrumental in increasing the reliability of wind turbine blades and gearboxes, and thus contributing to the reductions in the cost of energy.

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

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. In fiscal year 2003, the wind program was funded at the same level requested by the Administration, $44 million. The fiscal year 2004 request by the Administration represents a slight drop from the current year budget. We believe that the funding provided by the committee should reflect the important work conducted by the wind program and respectfully request the funding be increased above the request level.

The wind energy program at the Department of Energy has a strong history of success. Over the last 20 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 1.8 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 credit is set to expire again on December 31, 2003. The wind industry is seeking a full long-term extension of the credit, in order to provide for more certainty and stability for the industry. Bipartisan legislation to extend the credit has been introduced in both the House and Senate.

UTILITY-SCALE WIND DEVELOPMENT

In 2002, the generating capacity from wind power grew by 10 percent, with 410 megawatts (MW) of new equipment going into service. At year's end, the installed capacity nationwide totaled 4,685 MW across 27 States, or enough power to serve about 1.3 million average U.S. households.

By mid-2003, installed wind energy capacity in the U.S. is expected to be over of 5,000 MW. Development is planned in a number of States, including New Mexico, California, Iowa and Minnesota. 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.

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 2- to 3-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 continues to grow 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.

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 2004 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 Office of Science supports unique and critical pieces of U.S. research in scientific computation, climate change, geophysics, genomics, and the life sciences. This research is conducted at both the DOE national laboratories and at approximately 250 universities nationwide through peer-reviewed, competitive 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). These partnerships bridge the gap between the physical sciences, the life sciences and computational sciences, allowing science to refine and advance our efforts in deciphering genomes and their critical functions. The Office of Science is a leader in these efforts and promoting multidisciplinary research that seeks to harness the capabilities of microbes and microbial communities to help us to produce energy, clean up waste, and sequester carbon from the atmosphere. Furthermore, 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 remediate environmental problems, and to reduce wastes and pollution.

The Administration's proposed budget for fiscal year 2004 requests $3.3 billion for the Office of Science, an increase of $5 million over fiscal year 2003. 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 2004. Federal investment in these programs today, will help to ensure fundamental research to find solutions to future environmental and energy problems while maintaining U.S. scientific leadership worldwide.

MICROBIAL GENOMICS

The Administration has requested $10 million for fiscal year 2004, which is the same level as in fiscal year 2003. In view of the tremendous potential from microbial genomic sequencing, the ASM recommends that Congress provide $15 million for fiscal year 2004. In 1994, the Office of Biological and Environmental Research developed the Microbial Genomics Program as a compliment to the Human Genome Program. This early leadership in microbial genomics has allowed the program to decipher the genomic sequences of many of the non-pathogenic microorganisms available today. This information provides clues into how we can design biotechnological processes that advance research in a number of disciplines and national priorities, such as biogeochemical cycles, global warming, and alternative energy research. Fundamental microbial research will continue to underpin DOE's research capabilities in other BER and BES programs, including: Genomes to Life; bioremediation research; and carbon sequestration. DOE has also developed, at the Joint Genome Institute (JGI), a highly efficient, centralized sequencing facility that is a unique and valuable resource for serving the Nation's non-medical microbiological researchers.

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 JGI has completed the genomic DNA of several algae important in the ocean's photosynthesis process and in soil bacteria that assimilate carbon dioxide, both important biological processes for carbon dioxide capture from the atmosphere.

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

The ASM strongly supports the Administration's funding of the Genomes to Life (GTL) program at $59 million for fiscal year 2004. The GTL program is ushering in a new biological era—the era of systems biology, which will allow us to understand entire living organisms and their interactions with the environment. This new level of exploration (i.e., systems biology) will empower scientists to pursue completely new approaches to discovery and spur the development of new products or services from microbes and other organisms. With a deeper, genetically based understanding of living organisms, the potential to utilize and refine their functions will allow us to address many of today's challenges in carbon sequestration, energy transformation, and environmental clean up. The Genomes to Life program has just begun to demonstrate the potential application of microorganisms for energy, medicine, agriculture, environment, 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 (e.g., physical and computational), new computational capabilities, new tools, and new interdisciplinary approaches to genomics research.

In fiscal year 2004, the GTL program will increase its emphasis on DNA sequencing of microbes and microbial communities. This sequencing will serve as the core biological data needed to further understand the control and function of molecular machines and microbial communities. The ASM applauds the programs continued focus on microbial communities 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 2004 budget. The ASM endorses the President's proposed $143 million budget, an increase of $6 million over fiscal year 2003. The Society is also supportive of the proposed $19 million budget for the Ecological Processes section for fiscal year 2004, a $5 million increase over fiscal year 2003.

In fiscal year 2003, the Administration launched the Climate Change Research Initiative (CCRI), to study the potential effects of greenhouse gases and aerosol emissions on the climate and the environment. The Climate Change Research Subprogram is DOE's contribution to the cross-agency CCRI and applies DOE's expertise in genomics and computational climate modeling to determine the effects of greenhouse emissions on the global climate. The Climate Change Research subprogram supports four areas of research: Climate and Hydrology, Atmospheric Chemistry and Carbon Cycle, Ecological Processes, and Human Interactions. This research is focused on understanding the physical, chemical, and biological processes affecting the Earth's atmosphere, land, and oceans and how these processes may be changing because of greenhouse emissions.

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 in 2004, will focus on understanding the responses of a simplified terrestrial ecosystem (e.g., higher plants, consumers of plant production, and soil microorganisms) to changes in a key environmental factor, such as, temperature. This research is critical if we are to better understand the changes occurring in our ecosystems from increasing levels of atmospheric radiation absorptive gases.

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 changes.

BASIC ENERGY SCIENCE

The Administration's requested funding for the Office of Basic Energy Sciences (BES) is $1 billion for fiscal year 2004. 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. Biosciences funds an array of microbiological and plant research focused on harvesting and converting energy from cellulose and other products of photosynthesis into renewable resources.

The ASM is supportive of DOE's continued emphasis upon biobased energy research as a key component of the Nation's energy portfolio. In 2004, biosciences will continue to focus on recent successes in its cellulose biosynthesis program, which is funding research into the synthesis of cellulose, the most abundant biomolecule, as a potential biofuel. Other microbiological research (e.g., Molecular Mechanisms of Natural Solar Energy Conversion, $12 million in fiscal year 2004) supported by the program includes fundamental research into the characterization of molecular mechanisms involved in the conversion of solar energy into biomass, biofuels, bioproducts, and other renewable energy resources. Furthermore, the ASM believes continued research into energy-rich plants and microbes be a DOE priority as genomic technologies have given this research area a tremendous new resource for advancing the Agency's bioenergy goals.

The ASM is also supportive of new activities, such as, the Metabolic Regulation of Energy Production program ($19 million for fiscal year 2004), which supports the biological advances needed to complement the chemical nanoscale program within the Office of Science.

BIOREMEDIATION

DOE's bioremediation research is contained in the Natural and Accelerated Bioremediation Program (NABIR). The Administration's proposed budget for the NABIR program is $24.1 million. 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.

In fiscal year 2004, the NABIR program will focus on a number of efforts: Biotransformation (microbiology to elucidate the mechanisms of biotransformation of metals and radionuclides), Community Dynamics and Microbial Ecology (structure and activity of subsurface microbial communities), and Biogeochemical Dynamics (the dynamic relationships among geochemical, geological, hydrological, and microbial processes). 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's 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.

PREPARED STATEMENT OF THE SUN GRANT INITIATIVE

THE NATIONAL NEED FOR BIOENERGY AND BIOPRODUCTS

Energy Security.—As readily accessible domestic sources of petroleum have waned, the United States has steadily increased its reliance on imported oil from other nations. The proportion of imported oil increased from about 30 percent of domestic consumption in 1970 to about 56 percent in 2000. Evidence that world oil supplies will become even more limited in the coming decades suggests that alternative sources of energy and industrial chemicals must be developed as soon as possible. Bioenergy resources can be further developed in ways that complement and augment petroleum energy resources, helping to reduce our dependence on imported oils while helping constrain the costs of energy for American industries and consumers.

Farm Security.—Farmers have been experiencing economic hardships throughout the 1990's and continue today, primarily because of excessive production of core commodity crops. The hardships have flowed throughout rural America and a devastating exodus to urban centers has resulted. Viable alternatives and diversity are needed in agriculture to bolster the Nation's independent farm families. Bioenergy and bioproducts produced on American farms represent an opportunity to both reduce dependence on imported oil while providing a significant source of income to American farmers.

New Industries.—Imported oil is an important feedstock for numerous uses other than energy and transportation fuels. Contemporary plastics, synthetic fibers, lubricants, solvents, paints and numerous other common products depend on petroleum as a feedstock. In the future, agriculture will produce biobased feedstocks for production of these products as well as many other non-food uses. Agriculture will also be integral to manufacturing pharmaceuticals, cosmetics, building materials, biocatalysts, and numerous other biobased products. The development of biobased products will complement, augment, and be integrated with the petroleum industry.

Rural Economic Development.—New biobased industries will benefit not only agricultural producers but will also stimulate economic development in the surrounding rural communities. In many cases, transportation logistics and infrastructure requirements will require that new biobased industries be physically located in rural communities—new capital investments and economic stimulation will stay in the rural community! A biobased economy will revitalize rural America.

Environmental Protection.—The use of renewable bioenergy and the production of many biobased products will have numerous benefits for the environment. The increased use of renewable bioenergy will help reduce greenhouse gases and will help U.S. communities and industries improve air quality while remaining economically

viable and competitive. Products that were once "wastes" can now become resources and ingredients in the development of new bioproducts. In turn, bioproducts can be designed to be biodegradable, further reducing the "waste stream" and reducing the demand for trash disposal land fills.

New Science and Engineering Technologies.—The latest scientific and engineering breakthroughs will be brought to bear on the challenge of moving to a bio-based economy. For example, genomics, nanobiotechology, and new computer modeling technologies will be utilized to improve our technical understanding of plant biochemistry, to develop new enzymatic processes and new materials for bioenergy production and the development of new bioproducts.

THE SUN GRANT INITIATIVE

Land Grant Universities.—Today, land grant universities serve agriculture by implementing research, extension, and educational programs to benefit agricultural producers and consumers, to assist rural families and communities, and to conserve the world's natural resources. Clearly, agriculture will play an important role in providing power, fuels, and biobased products for America. Because of the unique position land grant universities have in science, service and education, it is critical that they are proactively involved in creating the biobased economy. Over the past several years, land grant universities have been working to develop a new model for harnessing the capacities of the distributed agricultural research and education system into a national network that can work in ready partnership with the Federal agencies to help reach national bioenergy goals, which has led to the development of the Sun Grant Initiative.

The Sun Grant Mission.—The mission of the Sun Grant Initiative is to (1) enhance national energy security through development, distribution and implementation of biobased energy technologies, (2) promote diversification and the economic viability of America's agriculture through land grant based research, extension, and education programs in renewable energy and biobased products, and (3) promote opportunities for biobased economic diversification and the development of new biobased industries in rural communities.

Centers of Excellence and a National Network.—A network of five land grant universities are serving as regional Sun Grant Centers of Excellence (Figure 1). The universities include South Dakota State University, Oklahoma State University, the University of Tennessee-Knoxville, Cornell University, and Oregon State University. Federal funds will be shared equally among each of the regions. As Federal funds become available, up to 25 percent of the funds will be utilized at each center to enhance their abilities to develop model research, extension, and educational programs on agriculture-based renewable energy technologies and biobased industries located in rural communities. The balance of the funds in each region will be awarded competitively among all land grant universities in the region, drawing on the expertise of all land grant universities to address national priorities at the regional level.

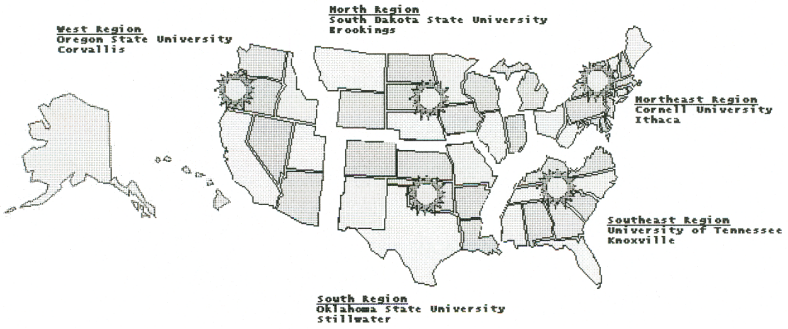

Figure 1. The five founding Sun Grant Centers and their respective regions.

These regional programs will embrace the multi-state, multi-function, multi-disciplinary integrated approach that is at the heart of the land grant method of addressing problems. The centers will interface their activities with DOE research lab-

oratories at Oak Ridge, TN (ORNL, Oak Ridge National Laboratory) and Golden, CO (NREL, National Renewable Energy Laboratory).

National Priorities

The Sun Grant Initiative programs will revitalize rural communities, enhance the Nation's energy security and improve our soil, water, and air. The primary challenges that must be faced include:

—The emergence of agriculturally based bio-industries that can coexist with and complement petroleum based industries.

—Developing biobased industries that improve the environment and protect air, water, soil, and other natural resources.

—Developing biobased industries that diversify American agriculture and complement food production.

—Developing industries that provide opportunities for the growth and prosperity of rural America.

The transition to agriculturally-based bio-industries will create economic opportunities for other sectors of the U.S. economy through creation of high-tech companies and jobs. Through the Sun Grant Initiative, the United States will continue to be a world leader in technology and innovation for future high-tech commerce and trade. We will not only produce biomass feedstocks, we will also lead the world in the technologies and the intellectual property that makes this transition to a biobased economy possible.

Regional Priorities

During the development of the Sun Grant Initiative a series of regional workshops were held with agricultural, industry and community leaders. Priority needs were identified for bioenergy and bioproducts projects within each region. The unique structure of the Sun Grant Initiative will enable the land grant universities to address national issues of concern to the Federal agencies in the context of regional and local needs and circumstances.

RELATION TO THE SUN GRANT INITIATIVE TO FEDERAL AGENCY BIOMASS PROGRAMS

The Biomass Research and Development Act of 2000 established an Interagency Board to coordinate the biomass-related programs within and among Federal departments and agencies. It is co-chaired by the Departments of Energy and Agriculture. Other member agencies include: the Department of Interior, Environmental Protection Agency, National Science Foundation, Office of Science and Technology Policy and the Office of the Federal Environmental Executive. The Act also established an Advisory Committee to advise the Secretaries of Energy and Agriculture and the Interagency Board on the future direction of biomass research and development investments. The Advisory Committee, now in its third year of activity, consists of 31 members from industry, academia, non-profit organizations, and the agricultural and forestry sectors, who are experts in their respective fields. In December of 2002, the Biomass Research and Development Technical Advisory Committee released a science "roadmap" outlining recommended priorities for the development of biomass technologies in the United States. In addition, Section 9008 of the Farm Security and Rural Development Act of 2002 provided for a reauthorization of the funding for the Biomass Research and Development Act of 2000 and provided funding to support biomass production. Building on these several legislative authorities, the Department of Energy and the Natural Resources Conservation Service of the Department of Agriculture are collaborating in the development and implementation of a Biomass Research and Development Initiative to address the priorities identified in the roadmap.

One of the remaining challenges in developing bioenergy and bioproducts technologies is that they have to be developed as a complete system to be cost effective and economically viable. Many new biobased businesses have failed because they only addressed one part of a new biobased economy. In order for farmers to increase production of a needed biofuels feedstock materials they need to be assured of a steady demand. In order for bio-industries to develop a new product, they have to be assured of a steady supply of biobased feedstock materials. The rate limiting cost in developing biobased feedstock is often the cost of shipment; it may be most cost effective to process feedstock within a 50-mile radius of the site where it was grown, which in turn requires a distributed network of bioprocesses or generators. The generators may not break even unless they are also used to co-generate heat or unless they feed energy back into local energy grids. The Sun Grant Initiative provides a means for the Department of Energy and the Department of Agriculture to access the research and education expertise of the land grant university system across the country to develop new technologies and education programs. The structure of the

Sun Grant Initiative will enable the Departments to "put all the pieces" together to create comprehensive regional scale projects that can address multiple real world production needs simultaneously. The Sun Grant Initiative complements and completes the mix of legislative and funding tools that support biomass research and development.

LEGISLATIVE DEVELOPMENTS

Legislation to authorize the Sun Grant Initiative was developed in 2002. The proposed legislative language defines the regional Centers of Excellence and the network of collaborating universities, as well as the mechanism for apportioning and distributing funds described in this testimony. The proposed legislative language will authorize funding for the Sun Grant Initiative at the level of $100 million. There is bi-partisan support for introducing and passing this language in 2003. It is our understanding that there will be communications from leading Senate offices to the Committee indicating support for moving this initiative forward and initiating start-up funding in fiscal year 2004.

FUNDING REQUEST

We request initial start-up funding of $20 million for the Sun Grant Initiative in fiscal year 2004. We suggest that funding be provided through the Energy Efficiency and Renewable Energy programs of the Department of Energy, in order to augment and expand the Department's biomass and bioenergy research and development programs. In order to facilitate coordination and collaboration with the Department of Agriculture, we are also recommending funding of $1 million be provided in fiscal year 2004 through the USDA's Cooperative State Research, Extension and Education Service.

PREPARED STATEMENT OF THE HEALTH PHYSICS SOCIETY (HPS) AND HEALTH PHYSICS PROGRAM DIRECTORS ORGANIZATION (HPPDO)

This written testimony for the record for fiscal year 2004 requests add-on appropriations to the Department of Energy's Office of Nuclear Engineering, Science and Technology (DOE–NE) to address an issue of extreme importance to the safety of our Nation's workers, members of the public, and our environment.

The safety of our Nation's workers, members of the public, and our environment is in jeopardy because of the projected near-term and long-term shortage of sufficient educated radiation safety professionals to protect them. Protection of workers, the public, and the environment is necessary as we use radiation and nuclear technologies to support our Nation's energy, health, and security needs. The national shortage of radiation safety professionals is primarily due to the fact that the Nation's academic research and education programs responsible for radiation safety and health are being terminated. Resolving this shortage in national educational infrastructure has become one of the highest priorities of the professional organizations responsible for the performance and education of radiation safety professionals, i.e., the Health Physics Society (HPS) and the Health Physics Program Directors Organization (HPPDO).

The Committee has expressed strong support for the University Reactor Fuel Assistance and Support program's efforts to provide fellowships, scholarships, and grants to students enrolled in science and engineering programs at U.S. universities, and has expressed concern about the ability of the Nation to respond to the growing demand for trained experts in nuclear science and technology. Accordingly, the Committee has appropriated funds in fiscal year 2002 (Senate Report 107–039) and fiscal year 2003 (Senate Report 107–220) to the DOE–NE for addressing this problem through the University Reactor Fuel Assistance and Support line item. Senate authorization committees have also recognized the seriousness of this problem and introduced provisions to address it through authorization of funds to university programs in bills in the 107th Congress such as S.242, S.472 and H.R.4.

Health Physics is the profession that specializes in radiation safety, an integral and necessary distinct discipline within the nuclear sciences. A recent workforce study by the Nuclear Energy Institute (NEI) has shown that the projected demand for health physicists for both the Government and Industry far surpasses the current ability of the academic programs to meet these employment demands. The fact that this serious problem can potentially impact our national cleanup program, our defense needs, and our nuclear power industry is documented in the NEI study. The NEI study does not address the impact the lack of sufficient qualified radiation safety professionals will have on our Nation's health and homeland security programs.

In a recent letter to the HPS, the DOE stated, "We share your view that an anticipated shortfall in the Nation's supply of radiation safety professionals could have a deleterious effect on the safety of our Nations' workers, the public and the quality of health care." This view has been reinforced in a recent meeting with DOE–NE Director William D. Magwood, IV, in which Director Magwood expressed support for our organizations' submittal of testimony to this Committee to appropriate a $2 million add-on in fiscal year 2004 (fiscal year 2004) to the DOE University Reactor Fuel Assistance and Support line item.

Following is the testimony prepared by the HPPDO and HPS providing details of how an appropriation of approximately $2 million in fiscal year 2004 would be used to start to stem the decline of health physics university academic programs, and to assist in the public's understanding of radiation safety as it is applied to the Nation's energy, health, and security policies.

Requested Funding Levels—$2,067,000 Fiscal Year 2004

Distribution Categories.—Academic Program Support: HP Graduate Fellowship Program, HP Undergraduate Scholarship Program, Health Physics Education & Research (HPER) Grants, HP Minority-Majority Partnerships. Health Physics Society Programs: HPS Grant to support ABET–ASAC Accreditation, HPS Grant to support Science Teacher Workshops.

HP Graduate Fellowships ($780,000 in Fiscal Year 2004).—This program will greatly expand the existing NE/HP fellowship program in DOE–NE and will replace programs lost from DOE–ES&H in 1999. The program will specifically target and recruit students into MS and Ph.D. programs at DOE-approved health physics academic programs. A total of 20 fellows will be targeted for initial 2004–2005 support. In addition to tuition and fees, students will receive a stipend set at $20,000 per year making the program competitive with the NSF Graduate Fellowship Program. All students appointed to the program will be required to participate in a practicum at a DOE site at least once during their fellowship tenure. Applicants must be either U.S. citizens or permanent resident aliens. A proposed DOE-approval list of graduate programs in health physics is given in Appendix A.

HP Undergraduate Scholarships ($64,000 in Fiscal Year 2004).—This program will target the recruitment of 20 undergraduate students into academic programs offering B.S. degrees in health physics or radiological engineering. The award will consist of an annual stipend of $3,000. The program is open to students who will become Sophomores, Juniors, or Seniors by September 2005. The award is limited for the duration of the undergraduate program, typically 36 months for Sophomores, 24 months for Juniors and 12 months for Seniors. A Scholarship appointment will not exceed 36 months. Applicants must be either U.S. citizens or permanent resident aliens. A proposed DOE-approved list of undergraduate programs is given in Appendix A.

Health Physics Education & Research (HPER) Grants ($895,000 in Fiscal Year 2004).—These competitive awards will be provided to universities to (1) support basic and applied research in health physics and radiation protection, (2) assist in the recruitment and retention of junior faculty at academic programs in health physics, and (3) contribute to the strengthening of the academic community's health physics infrastructure. A total of 7 research grants will be initially funded in 2004–2005 at $120,000 per award. Applications must be from DOE-approved graduate programs in health physics (see Appendix A).

Health Physics Minority-Majority University Partnerships ($213,000 in Fiscal Year 2004).—As an extension of the existing MMUP in Nuclear Engineering, DOE–NE would sponsor a program that encourages existing health physics academic programs to establish partnerships with Historically Black Colleges and Universities and other Minority Educational Institutions. These partnerships will include new articulation agreements between these universities, new agreements with DOE facilities for internships and research participation programs, and specialized instruction courses designed to introduce the non-traditional student to the principles of health physics. This program will encourage students from minority institutions to seek advanced degrees in health physics through the offering of undergraduate scholarships and graduate fellowships. At the proposed funding level it is expected that as many as four partnerships would be established. Each partnership would be funded at approximately $100,000 a year and would be renewable up to 3 years.

HPS Grant to Support ABET–ASAC Accreditation ($65,000 in Fiscal Year 2004)—In 2001, the Health Physics Society was granted status as the Cognizant Technical Society for the Health Physics and Radiological Sciences within the Accreditation Board for Engineering and Technology (ABET). Accreditation criteria are thus in place for health physics academic programs to be accredited through ABET's Applied Science Accreditation Commission (ASAC). A DOE–NE grant to the Health

Physics Society is proposed which would support this accreditation effort in two areas:

—*ABET–ASAC Matching Grant Program ($50,000 in Fiscal Year 2004)*.—This program would permit academic programs in health physics to apply for $5,000 matching grants from the Health Physics Society to support their costs for preparation of an accreditation self-study packet and for fees associated with ABET–ASAC accreditation site visits. It is anticipated that this matching grant program will be particularly important for smaller programs that seek to be accredited, but have limited resources for this effort. A total of 10 awards would be available in the 2004–2005 academic year.

—*ABET–ASAC Evaluator Training Program ($15,000 in fiscal year 2004)*.—This program would fund the HPS Academic Education Committee's Subcommittee on Program Accreditation. A total of ten $1,000 travel awards would be available for ABET Evaluators to serve as observers during ABET–ASAC accreditation visits to HP and other programs as part of their evaluator training. An additional $5,000 would be made available to the Subcommittee to sponsor workshops on Self-Study preparation and ABET–ASAC Evaluator training at annual meetings of the Health Physics Society.

HPS Grant to Support the Science-Teacher Workshop Committee ($50,000 in Fiscal Year 2004).—This program would provide a DOE–NE grant to the Health Physics Society to support its efforts in material development, instructor training, advertisement, and execution of Science-Teacher Workshops across the country as organized by regional chapters of the Health Physics Society. The HPS Science-Teacher Workshop Committee would administer the grant through formal proposals from individual HPS Chapters.

APPENDIX A.—GRADUATE AND UNDERGRADUATE PROGRAMS IN HEALTH PHYSICS [1]

Proposed DOE Approval List for HP Fellowships, HPER Grant Award, and HP Scholarships—To Be Replaced with ABET–ASAC List of Programs by 2006

Clemson University.—Dept. of Environmental Eng. and Science, Clemson, South Carolina. Director: Robert Fjeld, Ph.D.

Colorado State University.—Dept. of Environmental and Radiological Health Sciences, Ft. Collins, Colorado. Director: Thomas Borak, Ph.D.

Georgia Institute of Technology.—School of Mechanical Engineering, Atlanta, Georgia. Director: Nolan Hertel, Ph.D.

Idaho State University.—Department of Physics, Pocatello, Idaho. Director: Richard Brey, Ph.D.

Oregon State University.—Department of Nuclear Engineering & Radiation Health Physics, Corvallis, Oregon. Director: David Hamby, Ph.D.

Texas A&M University.—Department of Nuclear Engineering, College Station, Texas. Director: Ian Hamilton, Ph.D.

University of Florida.—Dept. of Nuclear & Radiological Engineering, Gainesville, Florida. Director: Wesley Bolch, Ph.D.

University of Massachusetts at Lowell.—Department of Physics, Lowell, Massachusetts. Director: Clayton French, Ph.D.

University of Michigan.—Department of Nuclear Engineering & Radiological Sciences, Ann Arbor, Michigan. Director: Kim Kearfott, Ph.D.

University of Nevada Las Vegas.—Department of Health Physics, Las Vegas, Nevada. Director: Mark Rudin, Ph.D.

University of Tennessee—Knoxville.—Department of Nuclear Engineering, Knoxville, Tennessee. Director: Larry Miller, Ph.D.

UNDERGRADUATE ONLY PROGRAMS IN HEALTH PHYSICS

(Proposed DOE Approval List for HP Scholarships—To Be Replaced With ABET–ASAC List of Programs by 2006)

Bloomsburg University.—Department of Physics, Bloomsburg, Pennsylvania. Director: Jack Couch, Ph.D.

Francis Marion University.—Dept. of Physics and Astronomy, Florence, South Carolina. Director: Derek Jokisch, Ph.D.

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[1] These programs are currently considered by HPPDO to be "strong" programs as they are supported by more than a single faculty member, have active research programs in radiation protection, have a long history of producing graduates, and have been active in Health Physics Society committees and academic program and accreditation planning.

PREPARED STATEMENT OF THE NAVAJO TRIBAL UTILITY AUTHORITY

In December 2000, Congress enacted Public Law 106–511, §602, the "Navajo Nation Electrification Demonstration Program" (NNEDP). The legislation was modeled on the historic Tennessee Valley Authority legislation of the 1930's. Likewise, the goal of the NNEDP is to extend electrical power to households on the Navajo Nation which currently lack it. In fiscal year 2002 and fiscal year 2003, Congress appropriated $3 million and $2.8 million, respectively. For fiscal year 2004, we are requesting the full $15 million per year authorized in the public law. On behalf of the Navajo Tribal Utility Authority (NTUA) and the Navajo Nation, our Congressman Tom Udall (D-NM) and Congressman Rick Renzi (R-AZ) have submitted the request.

Created in 1959, NTUA provides the vast Navajo Nation with the modern conveniences of electricity, natural gas, water, wastewater treatment services, and, recently, photovoltaic services. Currently, NTUA serves approximately 31,314 electric customers, about 7,017 natural gas customers, 26,580 water customers, and 11,760 wastewater customers throughout the 25,000-square-mile Navajo Nation. The Navajo Nation spreads across northwestern New Mexico, northeastern Arizona, and southeastern Utah. It is roughly the size of West Virginia.

Historically, the Navajo Nation suffers from the lack of access to electricity and other basic infrastructure needs. On March 19, 2003, during a hearing, the Department of Interior noted to the Senate Committee on Indian Affairs that a "huge portion of the Navajo people lack access to any electricity at all." We conservatively estimate that 18,000 homes throughout the Navajo Nation are still without modern utility services.

To successfully implement the NNEDP, we have developed a 5-year strategic plan. In the Construction Phase (Phase One), we focused on Navajo households located near existing power lines so that the greatest number of new customers possible could be connected to electricity with the amount of funding available. In completing Phase One, NTUA has connected 505 Navajo Nation households. NTUA did this by targeting groups of homes and homes near existing power lines. This moved us toward the ultimate goal of NNEDP to ensure that every household on the vast Navajo Nation has access to a reliable and affordable source of electricity by the year 2006. In completing Phase Two (fiscal year 2003), we will spend approximately $2 million for electrical line extensions and $1 million for photovoltaic services.

The impact that NNEDP has had on Navajo families who until now were living without electrical power is tremendous. On June 13, 2002, the home of Lee and Genevieve Horseson of Tonalea, Arizona—located in the rugged, remote country of northeastern Arizona—was the first NNEDP home to receive electricity. The moment was unforgettable for the Horseson family, NTUA, and the Navajo Nation when the lights lit up. What seemed like a distant dream had become an immediate reality for the Horseson family. Since then, many families like the Horsesons, living in different locations across the Navajo Nation, have celebrated being connected with electrical service for the first time.

In another instance, Mrytle Curley, a single mother of six living in Arizona, wrote a letter to NTUA thanking us for choosing her as one of the first beneficiaries of the NNEDP. Navajo citizens like Ms. Curley once thought that electrical service was an impossible dream because they were unable to pay for member extension construction costs. Today, each evening, Ms. Curley and her children sit down to eat dinner and complete school homework together—in adequate light! Each week, as the project unfolds, more and more Navajo families are enjoying the quality of life that other Americans take for granted.

NTUA and the Navajo Nation are committed to successfully implementing and completing the NNDEP. We envision that we will connect a significant number of Navajo homes throughout New Mexico, Arizona, and Utah when we complete the project. Moreover, the electricity service will contribute to improving the economic and social well-being of Navajo people. Again, we respectfully request the House of Representatives Appropriations Subcommittee on Energy and Water fully fund the congressionally authorized appropriations of $15 million for the Navajo Nation Electrification Demonstration Project. With the funding, we will continue to build and upgrade power lines to provide electrical service to Navajo Nation households which currently lack basic electrical service. True to our motto of Building Together for Progress, we are demonstrating that Progress has indeed reached hundreds of homes throughout our beloved Navajo Nation.

Proposed Budget Fiscal Year 2004 Navajo Nation Electrification Demonstration Program

	Amount
Member Extensions: NTUA estimates that 950–1000 new customers are candidates for power line extensions residing on the Navajo Nation and Eastern Navajo Agency for fiscal year 2004. These customers have yet to be serviced due to their inability to pay for member extension construction costs	$10,155,202
Photovoltaic: NTUA estimates that 152 new customers are candidates for PV systems for fiscal year 2004. These customers live in areas too remote to economically justify construction of an electrical distribution line extension. The average cost to for each hybrid PV unit and installation is $15,000	2,291,211
Distribution: To adequately meet current and new customer electrical load needs, NTUA estimates 34 miles of 1-phase to 3-phase line conversion will be needed for fiscal year 2004	1,624,587
Training: NTUA will administer training to staff involving installation and maintenance of hybrid PV units. NTUA will also educate new PV customers on proper usage and management of their PV units	75,000
Project Administration & Support: To undertake the NNEDP, NTUA needs additional staff: Project Manager, Project Coordinator, Inspectors, Office staff, Engineering technicians, Archeologist, and ROW agents. All will be needed to manage the increased workload impacting the organization. The scope of work for extending power distribution lines includes Project Management, Finance and Accounting, Engineering, Construction, Material Management, and Customer Service. Some of the specific items include site surveys, secondary service wiring including the pole, transformer, meters and meter loops, engineering documentation, right-of-way acquisition, archeologist, and procurement of material to build electric distribution lines	854,000
TOTAL	15,000,000

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