

AGING WATER RESOURCE INFRASTRUCTURE

HEARING

BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
OF THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED TENTH CONGRESS
SECOND SESSION

TO

RECEIVE TESTIMONY ON THE INCREASING NUMBER OF ISSUES ASSOCIATED WITH AGING WATER RESOURCE INFRASTRUCTURE THAT IS OPERATED AND MAINTAINED, OR OWNED, BY THE UNITED STATES BUREAU OF RECLAMATION

APRIL 17, 2008



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AGING WATER RESOURCE INFRASTRUCTURE

THURSDAY, APRIL 17, 2008

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room SD-366, Dirksen Senate Office Building, Hon. Tim Johnson presiding.

OPENING STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Senator JOHNSON. The hearing will come to order.

It is a pleasure to welcome everyone here today. This hearing is being conducted as part of the subcommittee's responsibility for oversight of the Bureau of Reclamation. With each passing year, Congress is being asked to address an increasing number of problems associated with the condition of infrastructure owned by the Federal Government as part of the Reclamation program. For that reason, it is time to assess whether the BOR has in place a coordinated effort to help sustain the viability of this infrastructure or whether it will simply walk away from this important Federal investment which helped bring economic activity to much of the arid West.

BOR estimates that it owns 471 dams and dikes, 348 reservoirs, 300-plus conveyance and distribution systems, and a total water storage capacity of 245 million acre-feet. Much of this infrastructure is 50 to 100 years old.

Today, we want to gain a better understanding of the issues associated with this aging infrastructure. Specifically, the committee wants to better understand how BOR is managing its inventory, including ongoing efforts to evaluate the condition of these assets, the range of authorized programs available to assist in maintaining this infrastructure, and the relative responsibility of BOR and its contractors in this effort. Finally, the subcommittee needs to focus on any and all issues having to do with public safety.

This last point is an important one which deserves more scrutiny. The failure to adequately anticipate and respond to deficient infrastructure conditions can seriously impact the lives and property of those in close proximity to BOR's infrastructure. Earlier this year, the Truckee Canal, owned by BOR and operated by the Truckee-Carson Irrigation District, experienced a failure which flooded about 600 homes in Fernley, Nevada. The long-term costs of this incident are still being sorted out, but an obvious question

is whether an up-front investment in inspection and maintenance could have avoided much larger costs associated with the canal's failure. If so, that is a lesson which must not be ignored as it applies elsewhere.

We have an impressive set of witnesses today. Welcome to each of you and thank you for your willingness to provide your insights to the subcommittee.

We are privileged today to have with us Majority Leader Harry Reid to make a statement on a subject that is obviously of great interest to Nevada. I understand that he is pressed for time, so if there is no objection, I will give Senator Reid the opportunity to make his statement preceding other members of the subcommittee.

**STATEMENT OF HON. HARRY REID, U.S. SENATOR
FROM NEVADA**

Senator REID. Mr. Chairman, thank you very much. I appreciate your statement, and I appreciate Senator Tester and Senator Barrasso allowing me to proceed prior to their making statements.

Mr. Chairman, we have with us today a number of Nevadans. Bob Johnson with roots in Lovelock, Nevada, a resident for a long time of Boulder City, Nevada, is going to be with us. Todd Cutler, the Mayor of Fernley, Nevada is also with us. I appreciate their coming all the way back here to—of course, Bob is here all the time, but I appreciate Todd driving all the way.

I do have a few things going here. I am trying to finish our bill. I would say to you I think now there is a unanimous consent agreement that will finish what we are working on by 4:30 or so today. So we will begin tomorrow with no votes.

Anyway, Commissioner Johnson, thank you for being here, and Mayor Cutler, thank you for being here.

Early in the morning on January 5 of this year, residents of Fernley, Nevada—Fernley was a little community that we used to go to all the time campaigning, but when we campaigned here in early years, nobody lived there. But it was close to Reno and we were able to do that. Now it is not known how many people are there, but I would say 25,000 for sure and it is growing every day. There are a lot of things happening in Fernley, and we have had problems with the canal in years past, but in the past it did not really matter because no lived there.

But on January 5 of this year, residents awoke to a freezing flood that destroyed or damaged as many as 600 homes. We were very fortunate no one died. After a few hours and up to 8 feet of water, we were able to assess preliminarily the problems there. The flood happened because of the Truckee Canal, a facility owned by the Bureau of Reclamation, had failed.

Shortly after the flood, a matter of days, I took a helicopter ride to survey the damage to the neighborhoods. Of course, I was disturbed by what I saw. Water is a destroyer. It has such power. This was not just an unfortunate disaster. It was unexpected in the minds of some, but expected because the canal has failed before, as I mentioned. This was the ninth time the Truckee Canal had failed. It is also the second time it failed because of rodents burrowing into the canal's embankments.

The Truckee Canal is more than 100 years old. The first Bureau of Reclamation ever in the history of this country was there, the Newlands Project. The purpose of it was to make the desert blossom like a rose, and it did that. But as we have learned, it created some problems, and we are here today just to talk about some of that.

Like most of Reclamation's facilities, the Federal Government owns this, but a local water district operates it. The Truckee Canal failure also represents the tremendous danger of failing to properly maintain such facilities. Everyone in our country, in the State of Nevada, and residents of Fernley should be able to live without fear that their community could be flooded at any time. People should not have to worry that the Government is letting aging water infrastructure crumble to save money in the short term. Additionally, families near Federal water projects should be informed regularly about the condition of these projects and any imminent threats for collapse or flooding.

The Bureau of Reclamation is, of course, an agency that we in Nevada love. The Bureau of Reclamation is famous for a lot of things, but of course, what we are most proud of and I think everyone should be proud of is the Boulder Hoover Dam. So we know the good that the Bureau of Reclamation has done and will continue to do.

But the Bureau of Reclamation needs some help, and that is what this legislation is all about. We want the Bureau of Reclamation to be proactive and we are providing resources in this legislation to allow them, to cause them to do more inspections of these canals, these levees, and other things under their responsibility. Prevention is better than any cure, and that is what this legislation is all about, to give the resources and direction to inspect and maintain aging water facilities to the Bureau of Reclamation. This legislation, the Aging Water Infrastructure Maintenance Act, would also direct the Bureau to develop standards for aging water facilities so they do not fall into a state of disrepair.

One of the programs we should all be proud of is the dam safety programs that the Bureau has, and they have done some remarkably good work to take care of the dams under their responsibility.

So I join Senators Bingaman, Salazar, and Tester in introducing this bill because we all have witnessed the rapidly deteriorating water structures in western States. In some cases, communities have no choice but to rely on these aging facilities even if funding is not available to properly maintain them. They are trapped. But compared to the tremendous costs of recovering from catastrophes like the Fernley flood, it is much less expensive to keep Federal water facilities in good condition.

Since 1988, the Bureau has been out of the construction business and has been working to get out of the operations and maintenance business. But the Bureau cannot completely abandon its legacy, the 178 major water projects it has designed and built. Our legislation allows Reclamation to push forward with this mission, continue to deliver water to communities and farmers, and also ensure that the 673 facilities that make up Reclamation's water projects are in good condition.

Let me say to all you people from the States that have a lot of green things, we in Nevada do not, and that is why I am trying to stop from coughing. Hay fever this time of the year is very difficult for some of us.

Many of the 673 facilities that make up Reclamation's water projects are in good condition. That is why I indicated we want to make sure they stay that way. But many of these facilities are more than 50 years old. Some facilities are 90, and as I have indicated, with the Newlands Project, more than 100 years old. They require close attention regardless of who operates them, and sometimes they may require costs of repairs to make sure they safely serve the people that rely so heavily upon them.

It is clear that the Bureau must improve its practices, and I would like to recognize that they have taken on their own some important initial steps. The Bureau recently began surveying some of the roughly 8,000 miles of canals it owns. This is a good step in the right direction. It is appropriate for the owner of these facilities to take action after the Fernley situation.

So this legislation will make sure that the Bureau's inspections are complete and performed regularly.

I would also like to recognize the Bureau's rapid response to the canal's failure. Reclamation staff worked hard, together with local officials, to stop the flooding and to repair the canal. I think the Bureau understands how important the Truckee Canal is to Fernley, but they need the resources and authority to better maintain that facility and others. I am confident better stewardship of such facilities can protect communities and save us from costly disasters in the long run.

Again, Mr. Chairman, thank you very much for holding this hearing and I am hopeful and confident that we can work together to make prevention a priority when it comes to our Nation's aging water infrastructure.

Senator JOHNSON. Senator Reid, thank you again for providing your views on the aging infrastructure issue. We look forward to taking a closer look at the legislation you mentioned.

Senator REID. Could I be excused, Mr. Chairman?

Senator JOHNSON. You may be excused.

Senator Corker.

Senator CORKER. I want to thank Senator Reid for coming, and since we have four stacked votes at 3 o'clock and I know that we have witnesses, just like the one we just had that have a lot of personal experience, Mr. Chairman, my statement, if it is OK, I would like to have entered into the record. From my standpoint, I would just prefer to move along because of the scheduling issues we have.

Senator JOHNSON. We can now hear from other Senators if they would like to make an opening statement. While we do that, let us also have our first witness come up and take a seat at the witness table. I encourage you all to be brief.

Senator Tester.

**STATEMENT OF HON. JON TESTER, U.S. SENATOR
FROM MONTANA**

Senator TESTER. Thank you, Mr. Chairman. I appreciate Senator Corker's remarks. I will be very, very brief.

I want to welcome Randy Reed, who is Co-Chair of the St. Mary's Rehabilitation Working Group, one of our witnesses here today. Randy is a fellow farmer from north central Montana and I really appreciate the time he has taken not only in working on the St. Mary's Rehabilitation project—and the time has been extensive—but also to come here to tell us about the kind of challenges he faces.

I will just say this. I think this is a matter of priorities, and I can tell you that the water infrastructure in my neck of the woods in the State of Montana, I think in the West overall, as Senator Reid pointed out, is worn out. Some of it is beyond repair. We need to really make this a priority for this country or we are going to be in trouble for generations to come from an economic standpoint and a crop production standpoint.

With that, Mr. Chairman, I would just ask that my entire statement be a part of the record.

Senator JOHNSON. It will.

Senator JOHNSON. Senator Barrasso.

**STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR
FROM WYOMING**

Senator BARRASSO. Thank you very much, Mr. Chairman. I appreciate all of you being here today.

I too will be brief, Mr. Chairman, but I would like to have all of my remarks introduced as part of the record because, Mr. Chairman, earlier today I introduced a bill called the Water Essential Storage to Enhance Regions in Need Act, and if you kind of go through all of that, that is called the WESTERN Act, S. 2873. This legislation provides an enhanced appeals process where States would have a number of opportunities, Mr. Chairman, to challenge the Army Corps, whereas Wyoming where water is vital, our experience has been that the Army Corps has repeatedly either disagreed or altered our purpose of need of important water projects for the State. So I am bringing this legislation to give the States more opportunity and more authority in dealing with things that we certainly in the West know are critical to our State's future.

So with that, thank you, Mr. Chairman.

Senator JOHNSON. Senator Craig.

**STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR
FROM IDAHO**

Senator CRAIG. Mr. Chairman, let me give you a brief experience that I think will indicate why I and others in the West, like Senator Tester and Senator Barrasso, have already talked about the need for this kind of legislation.

Above Boise is a very large Reclamation project, three large reservoirs, three dams that irrigate the Boise Valley and one of the most fertile agricultural valleys in the country. It is an aging Reclamation project.

A couple of years ago, it was important to replace the head gates at Arrow Rock Dam, and I set about trying to figure out, with the irrigation district, how to get that done. What I found out was the Bureau of Reclamation had no capacity to deal with it anymore. Water users were going to be asked to pay up front for the whole

project, in many cases resulting in assessments that would be three to four times the amount of the assessment already being paid by the irrigators and the users of that water.

What did I do? I had to write special legislation specific to a project, and I did so and spread it over a 15-year period.

We need some kind of program in place that will take care of these kinds of projects and needs. Passing special legislation for each and every project out in the West that is aging and in need of repair just simply does not make good legislative or policy sense.

I think what Senator Reid and my colleague from Wyoming are talking about relates in how we get this back under control in a way that is realistic for the users, and certainly for that agencies involved, it becomes critically important.

Because we had power involved in this, I had to deal with the Federal Energy Regulatory Commission on and on. It became very complicated. We got it done, but it took several years to do it at a time when it should have been on a list. There should be priorities and we should be moving ahead with the appropriate funding to meet these kinds of needs.

Thank you.

Senator JOHNSON. Senator Salazar.

**STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR
FROM COLORADO**

Senator SALAZAR. Thank you very much, Chairman Johnson. It is, indeed, a pleasure and a heart-felt sense of gratitude to see you at the helm steering the committee here on the Subcommittee on Water and Power.

I know we are short on time and so I will submit my entire statement for the record. I will only have two quick comments.

First, I am proud to be a cosponsor of the legislation with Senator Reid and Senator Tester of Senate 2842, the Aging Water Infrastructure and Maintenance Act. I hope that we are able to move forward with that issue because the aging infrastructure needs of the Bureau of Reclamation I think are apparent to all of us who come from the West and we know that water is, in fact, the lifeblood of our communities.

Secondly, in my written statement there is significant reference to the Leadville mine drainage tunnel. It is an issue which the Bureau of Reclamation and I have been working on and I am meeting later on in the day with Secretary Kempthorne and I think Commissioner Johnson and others to try to address that issue.

Thank you, Mr. Chairman.

[The prepared statement of Senator Salazar follows:]

PREPARED STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR, FROM CO

Thank you Chairman Bingaman and Ranking Member Domenici for holding today's hearing on the Bureau of Reclamation's aging water infrastructure. Most of the large water infrastructure in the Western states was constructed by the Bureau in the first half of the last century. Many of these projects were engineering feats in their day—and the creative vision and able execution of these dams, canals, drains, and siphons were unquestionably critical to the growth of the West. But today, much of this infrastructure is 50 to 100 years old, and is living on borrowed time.

Over \$20 billion in federal funds was used to construct the Bureau's major water infrastructure projects and the Congressional Research Service has estimated that

the replacement cost to be over \$100 billion. While programs exist to deal with the maintenance of some of the Bureau's major dams, the condition of other Bureau-legacy projects often goes overlooked. In many cases, the Bureau long ago turned over operation and maintenance of non-dam projects to local water authorities. Today these local authorities face daunting rehabilitation or replacement costs.

In southwest Colorado, the Bureau's Jackson Gulch Dam and accompanying Mancos Project canal system are an archetypal example of these challenges. These structures provide supplemental agricultural water for about 8,650 irrigated acres and a domestic water supply for the Mesa Verde National Park. The Mancos Project also delivers water to the more than 500 members of the Mancos Rural Water Company, the Town of Mancos and at least 237 agricultural businesses. Since its construction nearly 60 years ago, the Mancos Project has been maintained by the Mancos Water Conservancy District and inspected by the Bureau, but has outlived its expected life and is now badly in need of rehabilitation. Repairing it is well beyond the financial means of the local authorities. If the canal system were to suffer a catastrophic failure, it could result in Mesa Verde National Park being without water during the peak of their visitation and fire season, the Town of Mancos suffering a severe municipal water shortage, and the possible loss of approximately \$1.5 million of annual crop production.

Rehabilitating these pieces of water infrastructure is a sound investment. Last July this committee held a hearing on my bill, S. 1477, Jackson Gulch Rehabilitation Act of 2007, which would authorize \$6.4 million, subject to appropriations, to pay an 80 percent federal cost-share for rehabilitation of the Jackson Gulch Canal system and related infrastructure. I am hopeful that we can move forward with this legislation and other worthy bills that will ensure that the rural communities that depend on this infrastructure will receive the water they need to thrive.

The deterioration of another piece of Reclamation infrastructure, the Leadville Mine Drainage Tunnel, or LMDT, has received enormous attention in central Colorado recently. Just over 2 miles long, this tunnel was constructed during the 1940s and 1950s by the United States Department of the Interior's Bureau of Mines to drain flooded mines in the Leadville mining district of Lake County in central Colorado. In 1959, the Bureau of Reclamation took full custody of and responsibility for the LMDT to obtain water rights and under the condition that the Bureau would not spend its own funds to maintain or repair the Tunnel. In the early 1990s, however, litigation compelled the Bureau to take responsibility for the quality of the water discharged by the Tunnel.

In 1995, however, a major collapse of a segment of the tunnel was detected. Since that time, mine water has pooled behind the blockage. Today the Environmental Protection Agency estimates that close to one billion gallons of water contaminated with toxic levels of cadmium, zinc, and manganese, has collected. The citizens of Leadville, Lake County, and the area downstream of the LMDT are deeply worried that the building pressure from this voluminous quantity of water will cause the blockage to burst and flood the town, resulting in a public health and environmental disaster. This winter's heavy snowfall has some concerned that spring snowmelt will further balloon the quantity of toxic water and exacerbate the risk.

To be sure, the circumstances surrounding the LMDT are unique. That notwithstanding, the situation is yet another reminder of the potentially dire consequences that communities face in coping with aging federal water infrastructure. The Bureau and EPA must continue to work together to find a long-term solution that will provide a permanent fix for the LMDT.

Reclamation's challenges are also a touchstone for the larger scope of problems that western communities—and frankly, communities across the country—face from deteriorating water infrastructure. My home town of Alamosa recently lived a nightmare: a salmonella outbreak contaminated the city's water system. City officials reported a total of 326 cases, with 90 confirmed, and 13 people hospitalized, including two infants who had to be transferred to Denver Children's Hospital. The entire 49 miles of the water system had to be flushed with concentrated chlorine solution and the city's 10,000 residents went more than two weeks without potable water. The cost of fixing the problem is nearly \$500,000—not to mention the economic blight to local businesses and the untold psychological distress suffered by residents. A preliminary investigation suggests that the cause of the widespread outbreak is directly related to the inadequacies of the town's aged water infrastructure, especially an outmoded ground-level water storage facility. Clean, reliable sources of water simply cannot be taken for granted.

We must do everything we can to address the deteriorating condition of water infrastructure across the West and throughout the nation. Today we are shining a needed spotlight on the Bureau's legacy infrastructure. I am proud to be an original co-sponsor, with Chairman Bingaman and Sen. Tester, of Leader Reid's bill S. 2842,

the Aging Water Infrastructure and Maintenance Act, which will create a formal inspection and comprehensive review program for the Bureau's canals, levees, and other non-dam infrastructure. I hope this hearing will heighten awareness of these critical issues and I look forward to hearing the testimony of our panel today.

Thank you, Mr. Chairman.

Senator JOHNSON. Our first witness will provide the Administration's views. We have with us Commissioner Bob Johnson of the Bureau of Reclamation. Welcome and thank you for being here, Commissioner Johnson.

Before starting, I would like to quickly note that the subcommittee has received additional written testimony on the subject of today's hearing. That testimony, as well as the written submission of all today's witnesses, will be made part of the official hearing record.

Mr. Johnson, please go ahead and summarize your written testimony. Following that, we will have a question and answer period.

**STATEMENT OF HON. ROBERT W. JOHNSON, COMMISSIONER,
BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR**

Mr. JOHNSON. Thank you, Mr. Chairman and members of the subcommittee. I am pleased to be here and provide some perspective on the issue of Reclamation's aging infrastructure and I will try to be brief.

Operating water facilities, whether they are aging or newly complete, brings with it many unknowns and engineering challenges. A recent example of these challenges is the one that Senator Reid just talked about, the Truckee Main Canal and the failure that occurred on January 5 causing damage to 590 homes in the Fernley, Nevada area.

It is important to recognize the extent of damage caused by the failure. Reclamation is sincerely concerned about the impact on property owners. Reclamation, the Truckee-Carson Irrigation District, the city of Fernley, and others were able to collectively respond to the failure and address, as best possible, the immediate needs of homeowners.

In addition to assisting the homeowners, we assembled the expertise necessary to evaluate the conditions under which the flows might safely be resumed and developed a flow regime under which the district could resume restricted and safe diversions within 11 weeks. The limited diversions are now occurring through the Truckee Main Canal.

In the aftermath of events of the Truckee Main Canal, Reclamation has initiated a new effort where growth has occurred around canals and where similar conditions may exist that could pose similar risks to life or property. We intend to work with our operating partners to select representative canal reaches in urbanized areas within each of our five regions for special reviews to be conducted this year. We believe this is a first step in identifying any program changes that may be necessary to address concerns about growth near Reclamation canals.

Reclamation has two existing programs in place to ensure the safe operation and maintenance of our infrastructure. First, we have a Safety of Dams program which vigorously inspects Reclamation dams and on defined schedules and identifies actions necessary to ensure continued safe operation of our dams. Our Safety

of Dams program currently has six corrective actions ongoing throughout the West. Our funding request for this program in fiscal year 2009 is \$91 million, which was \$15 million more than was requested in the President's 2008 budget.

The second program is part of our oversight of constructed assets. We initiated a facility review program in 1948 to assess the condition of assets constructed by Reclamation and operated and maintained by our non-Federal operating partners. These activities continue today and in concert with a preventive maintenance philosophy have successfully extended the service life of many of the water and power facilities that Reclamation owns.

West-wide, Reclamation currently estimates that approximately \$3.2 billion will be required to rehabilitate, replace, and modify Reclamation assets under major rehabilitation and replacement programs in the future. I have to emphasize that is a rough estimate. It could vary. This rough estimate includes approximately \$600 million for work that would be done under our Safety of Dams program, anticipated work on our power and water reserved works of about \$1.6 billion, and about \$1 billion for transferred works operated by our partners.

Much of these estimates can be financed directly by our water and power customers and through our Safety of Dams program. However, for some of our partners, the cost share requirements associated with the review and repair activities are simply beyond the means of the beneficiaries to pay.

Title II of the Twenty-First Century Water Works Act authorized loan guarantees for eligible projects. Currently, Reclamation continues to work on developing proposed rules for implementing that program.

Sound and reliable infrastructure is the core of Reclamation's mission. With the support of Congress, our customers, and other stakeholders, Reclamation will continue to work to ensure the integrity and reliability of Federal water and power assets.

This concludes my oral statement, Mr. Chairman. I would be glad to answer questions.

[The prepared statement of Mr. Johnson follows:]

PREPARED STATEMENT OF ROBERT W. JOHNSON, COMMISSIONER, BUREAU OF
RECLAMATION, DEPARTMENT OF THE INTERIOR

Mr. Chairman and members of the subcommittee, I am Robert W. Johnson, Commissioner of the Bureau of Reclamation. I am pleased to provide the Department of the Interior's perspective on Reclamation's asset management strategy as it relates to our aging water and power infrastructure. I will also discuss some of the reinvestment needs we have identified.

Before I start, I would like to note that I have been a Reclamation employee for over 30 years, and am well aware of the challenges we face as a result of our aging infrastructure. Operating water facilities, whether aging or newly complete, brings with it many unknowns and engineering challenges. A recent example of these challenges is provided in the case of the Truckee Main Canal (TMC), near Fernley, Nevada. Early on the morning of January 5, 2008, a portion of the Truckee Canal embankment failed resulting in uncontrolled water releases into residential areas of the City, causing varying damage to 590 homes. The canal, operated and maintained by the Truckee-Carson Irrigation District under a contract with Reclamation, provides water to agricultural and wetland uses in the Fernley and Fallon, Nevada areas. At the location of the breach, the canal, built a hundred years ago, has earthen embankments and is unlined.

After the breach, the District shut down the canal and placed a temporary earthen plug into the breach site to stem flows into the City. Concurrently with designing

a permanent repair for the breach, Reclamation initiated several studies and investigations with the purpose of determining likely contributing factors to the failure, the condition of the remainder of the 31-mile long canal, the risks associated with resuming flows in the canal through the reach above the City, and the conditions under which deliveries might be resumed. The inspection of the remainder of the canal was conducted by teams, including members from the City, the District and the Corps of Engineers. A team of independent experts determined that the most likely contributing factor to the failure was rodent activity.

During March, staged diversions into the canal were resumed beginning at 20% of the maximum canal flow with ramping allowed up to 45% of the maximum flow. Flows above 20% of the maximum are authorized only if the District meets specific requirements, such as development of emergency action, maintenance and facility improvement plans. Flows above 33% are allowed only after a special rodent control program has been carried out. Flows may not exceed approximately 45% of the maximum flow until a permanent fix is in place, such as an impermeable barrier on the city side of the canal protecting the City of Fernley. The staged flow restrictions are the direct result of the studies and investigations undertaken by Reclamation—designed to determine under what circumstances diversions could be resumed under safe and reliable conditions.

It is important to recognize the extent of the damage caused by the failure, but it is also important to recognize that Reclamation was able to assemble the expertise necessary to evaluate the conditions under which flows might safely be resumed and develop a flow regime under which the District could resume restricted diversions within eleven weeks. It took an intensive, concerted effort by Reclamation and the District to achieve this result. The Reclamation contribution involved staff from the area and regional offices, together with staff in Reclamation's Technical Service Center.

The TMC is over 100 years old. Given that Reclamation's first projects were started over 100 years ago, our employees and managing partners have done an incredible job of safely maintaining and protecting our infrastructure. In the aftermath of events on the TMC, Reclamation has initiated a new effort to ascertain where growth has occurred around canals, and where a similar condition may exist that could pose a threat to life or property. We intend to work with our operating partners to select representative canal reaches in urbanized areas within each of our five regions for special reviews to be conducted this year. This process will afford the opportunity to engage interested operating partners in the topics of asset management and addressing our aging infrastructure.

While Reclamation's reach across the West is widespread, our employees take the safety of our facilities and the protection of our customers and surrounding communities very seriously. And, as a result, the vast majority of our infrastructure is in good working order. I am very proud of our record.

In fiscal year 2009, Reclamation's Dam Safety Program plans to have corrective actions underway at six facilities across the west, and is requesting an increase of over \$15 million above the amount appropriated in fiscal 2008 in the Dam Safety Program. Reclamation has also requested funds to study the need for potential corrective actions at other facilities.

Reclamation's mission is to "manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." We are the Nation's largest wholesale water supplier, and the 348 reservoirs we administer have a total storage capacity of 245 million acre-feet of water. We bring water to more than 31 million customers and provide 20 percent of western farmers with water to irrigate 10 million acres of farmland. Reclamation is also the Nation's second largest producer of hydroelectric power, generating more than 40 billion kilowatt-hours of energy each year—equivalent to the energy provided by 80 million barrels of crude oil. In the 100 years since Reclamation's creation, the Federal government has invested almost \$21 billion in original development costs for our facilities. The current cost to replace these assets would be many times that original development cost.

Reclamation's core mission has remained constant since its inception, but the way we accomplish that mission has evolved. Today, we focus primarily on managing and maintaining our facilities to ensure their safe and effective operation while continuing to deliver water and power. In terms of actual operation and maintenance, Reclamation operates about one-third of its facilities, and the other two-thirds (primarily single-purpose irrigation facilities) are operated and maintained by non-Federal operating entities (e.g., water/power districts formed under state laws to provide service to a particular area or set of customers).

Most of Reclamation's major dams, reservoirs, hydroelectric plants, and irrigation systems are 50 or more years old. A central point we would like to make is that

a facility's age by itself is not the sole determinant of its viability—rather, facility condition is the central factor in predicting the long-term functionality and maintenance need of Reclamation assets. As part of Reclamation's oversight of constructed assets, we initiated a Facility Review Program in 1948 to assess the condition of assets constructed by Reclamation and operated and maintained by our non-Federal operating partners. These activities continue today and, in concert with a preventive maintenance philosophy and related oversight initiatives, have successfully extended the service life of many of our water and power facilities beyond original expectations. Reclamation has recently been taking steps to more accurately represent its inventory of assets in the Federal Real Property Profile (FRPP).

Nevertheless, the aging of our infrastructure constantly presents new maintenance, replacement, and modification requirements. Similar to other agencies with aging infrastructure, Reclamation has a fiduciary duty to maintain services to its customers in a cost efficient manner and to meet other expectations, particularly environmental and endangered species management. While Reclamation and over 350 operating partners have for many years operated and maintained the infrastructure, the very nature of the aging process will inevitably lead to increased pressure on budgets and user rates to keep infrastructure service and reliability commensurate with past levels. As such, Reclamation and the operating entities anticipate a steady increase in infrastructure repair needs that will continue to grow over time. As part of Reclamation's asset management strategy, regular operation and maintenance activities under appropriated dollars will be managed in concert with other programs and activities addressed in our strategy to improve efficiency and effectiveness in funding rehabilitation and replacement needs.

Improved technology will also offset many of these costs, as will innovative construction processes like the one occurring on the Joint Federal Project at Folsom Dam near Sacramento. Together with the United States Army Corps of Engineers, Reclamation is undertaking an historic effort to jointly construct features that will address both safety of dams concerns, as well as expand flood protection for the City of Sacramento. Separately, these two projects would cost over \$2 billion and would take 15 years to complete, but by working together to design and construct features consistent with these two distinct activities, Reclamation and the Corps estimate that the joint project should cost half that much and be completed in half the time. Project construction is planned to proceed in phases by Reclamation and the Corps.

Procedurally, Reclamation's Facility Maintenance and Rehabilitation Program identifies, schedules and prioritizes necessary rehabilitation work at reserved works. To fulfill these responsibilities, Reclamation provides designs and studies, purchases equipment and services, and provides the resources to support the overall maintenance and rehabilitation program. Project beneficiaries advance funds for annual O&M work performed by Reclamation.

However, for many other facilities, rehabilitation and replacement needs may exceed available resources and could potentially increase the risk of service interruption or failure, as occurred early this year on the Truckee Main Canal. To fund this work, in cases where operating partners cover a portion of the O&M costs for reserved works, or the entire O&M costs on transferred works, the use of the entity's reserve fund is one of the first places we look for funding. However, these funds may not be contractually required nor sufficient to meet the amount needed for major rehabilitation and replacement work. Thus, long-term financing must often be obtained to fund such work, and arrangements are made with operating entities depending on the circumstances of a given project.

West-wide, Reclamation currently estimates that approximately \$3 billion will be required to rehabilitate, replace, and modify Reclamation assets under major rehabilitation and replacement programs in the future. This figure was derived from a very rough, field-level estimate of conceivable needs, and includes work under our Safety of Dams program, anticipated work on our water and power reserved works, and preliminary estimates for transferred works operated by our customers. From a programmatic perspective, much of this data is insufficiently reliable to serve as a basis for budgeting or long-term planning decisions. A substantial part of projected needs will be financed directly by our water and power customers and the sale of hydroelectricity. Some funds may need to come from appropriations, but the magnitude and timing of such funding needs is unknown. As noted above, those entities which contractually operate transferred works are also required to fund operation, maintenance, rehabilitation, and replacement work at their cost, and this amounts to at least \$800 million of the \$3 billion estimate.

One of the challenges we face is the varying economic strength of our operating partners. For some of these partners, the cost-share requirements associated with the review and repair activities are simply beyond the means of the beneficiaries. The Administration has and will continue to be opposed to projects that are author-

ized without adequate cost controls and built-in accountabilities to ensure that the Federal government is not subject to undue costs. While circumstances for each project in need of review, rehabilitation or repair may be different, in order for projects to be sustainable, the non-Federal sponsors must be responsible for a fair share of project costs and, for facilities that are being operated and maintained by non-Federal entities, these entities must be accountable for maintaining the assets.

Title II of the Twenty-First Century Water Works Act (P.L. 109-451) authorized loan guarantees for eligible projects. Currently, Reclamation is working on the proposed rules for implementing this program.

Sound and reliable infrastructure is the core of Reclamation's mission. With the support of Congress, our customers, and other stakeholders, Reclamation will continue to assure the integrity and reliability of Federal water and power assets.

This concludes my written statement. I would be pleased to answer any questions.

Senator JOHNSON. Mr. Johnson, BOR has informed the residents of Fernley, Nevada on how to file a claim against the United States under the Federal Tort Claims Act. It, therefore, seems reasonable to assume that the Federal Government, as owner of the Truckee Canal, may be liable for some of the damages caused by its failure. Your testimony talks about BOR's maintenance and rehabilitation program, but it is unclear whether this program applies to those facilities operated and maintained by local water users, the so-called "transferred works." Obviously, BOR has a strong interest in ensuring those facilities are adequately maintained.

What are the standards and guidelines that apply to ensure that these "transferred works" are maintain in an adequate condition?

Mr. JOHNSON. Senator, we do have operation and maintenance overview guidelines that lay out standards for maintaining transferred works infrastructure. There are three specific sets of guidelines that we use. One is a joint Corps of Engineers/Reclamation manual on engineering practice. It is Report No. 57 entitled "Management, Operation, and Maintenance of Irrigation and Drainage Systems" that was put together in 1991. The second is we have a comprehensive set of review of maintenance field examination guidelines that we use in the review of the maintenance program that we have. Then we also have a set of standard operating procedures that are established for each of our projects that our customers use in the management of those facilities. So those are the formal guidelines that Reclamation has in place to deal with reviewing maintenance.

Senator JOHNSON. Was BOR aware, through any regular inspections, that there were deficiencies in the condition of the Truckee Canal?

Mr. JOHNSON. We did a maintenance review on the Truckee Canal in calendar year 2006, and in looking at that maintenance review, we identified no deficiencies associated with the reach of the canal where we have failure. There were areas that were identified in that review, but none on that section of the canal. So I guess the short answer would be no, we were not aware. At least, the report does not indicate that we identified any concerns there.

Senator JOHNSON. As I understand it, BOR takes the position that project contractors are financially responsible for a pro-rata portion of the operation and maintenance costs associated with project facilities and that such costs must be paid in the year in which they are incurred. It is unclear, though, to what extent major rehabilitation projects and replacement of project works are

the responsibility of project contractors and the requisite repayment period that applies.

Can you clarify the relative responsibilities of BOR and its contractors with respect to the financial aspects of major rehabilitation and replacement of project works?

Mr. JOHNSON. As a general rule, on projects that are transferred to other entities for operation and maintenance, the cost of that operation and maintenance—and I use that term pretty broadly because when we say operation and maintenance, we mean that also includes the replacement of facilities as replacement and improvements are needed. But in most cases, the arrangements that we have call for those costs to be the responsibility of the water users or the entity that is performing the operation on the facility.

There are some cases where there are multi-purpose features, some of which have Federal roles or involvement, like a flood control or a recreation facility where we have some costs that are allocated to those purposes, and under those circumstances, the United States would pay an allocated share of any costs associated with operation and maintenance, including any rehabilitation and betterment costs.

But for the most part, they are treated as reimbursable. They are treated as O&M costs, and under our law and policy, they are generally required to be repaid in the year that the costs are incurred.

Senator JOHNSON. My time has expired.

Senator CORKER.

Senator CORKER. Mr. Chairman, I know that again we have a number of witnesses and we have committee members that are actually from the western part of our country that are involved in bills. I am going to defer to them, and if we have time, I will ask my questions afterwards. But I know these gentlemen have specific interests they would like to talk to the Honorable Mr. Johnson about.

Senator JOHNSON. Senator Tester.

Senator TESTER. Thank you, Mr. Chairman.

Thank you for being here. I appreciate your statement.

Just a couple questions and if you do not know the answer, that is fine. But I think Reclamation has estimated rebuilding the St. Mary's project, which is, I am sure you are aware of, about \$130 million. That is correct?

Mr. JOHNSON. Yes, sir.

Senator TESTER. It has been the administration's position that this cost should be wholly covered by non-Federal partners. Is that correct? What I am talking about is the information I got is the Administration wants the farmers to pay for the project.

Mr. JOHNSON. We have done a lot of studies. In fact, that project is the first project I visited when I became Commissioner of Reclamation. It is an example of the projects that I talked about in my testimony. We do have some projects like I think the St. Mary's project and the Milk River project where there are rehabilitation and betterment needs that exceed the ability of the water users to pay those costs.

Unfortunately, under the legal framework that we have, those are O&M costs and they are required to be repaid in the year that they are incurred. So the answer is yes, we have looked to the

water users to pay that, and the answer is also yes, that is a very tall order for the water users—

Senator TESTER. So what you are saying is it is required by statute that they pay for it? Is it required by rules that the BOR has adopted?

Mr. JOHNSON. I think both.

Senator TESTER. All right, that is fine.

I will ask some of these questions to Randy Reed when he testifies because he is on the ground.

But it would indicate to me that this project is, if my memory serves me right, right at 100 years old. It was put in about 100 years ago, almost to the year, as I recall. There has been some maintenance on it, but after 100 years, the thing is worn out. Hell, it was probably worn out 40 years ago, if truth be known.

Who is responsible to plan for this kind of stuff? Is it the irrigators' responsibility to plan to set aside \$130 million for something like this, or is this a lack of planning on the BOR's part?

Mr. JOHNSON. You know, it varies. I mean, if you look at our projects west-wide, we have partnered with a lot of our entities on modifying and improving those projects over time. In areas where we have a lot of urban growth that has occurred, a lot of economic development that has occurred, we can sit down and jointly plan, and the local entities have the financial wherewithal and they have been able to pretty much do it on their own.

Senator TESTER. This is not one of those areas.

Mr. JOHNSON. Right, and this is not one of those areas.

We have worked with the district to do some planning. We have developed the cost estimate that you have talked about. We have allocated some money to do the studies. But the problem that we have always come up against is the inability of the district to pay.

Senator TESTER. To cut right to the chase, what do I need to do to allow you to pick up a substantial portion of the rehabilitation?

Mr. JOHNSON. There would have to be, I think, legislation giving us the authority and making it non-reimbursable and also then the appropriations to carry it out.

Senator TESTER. Would you support that? Would you support a piece of legislation like that?

Mr. JOHNSON. I would have to look at the specific legislation. I am really not in a position to take any views on legislation or prospective legislation today.

Senator TESTER. But if I were to have one of my staff members work with one of your staff members and we were able to come up with something that would allow the BOR to pay a substantial part of this, you would take a look at it, because from a fairness standpoint, as you said earlier, this is something that probably should be done.

Mr. JOHNSON. We would be more than happy to work with you.

Senator TESTER. Good. Last question and I will make this very, very quick. You mentioned Reclamation will need about \$3 billion to rehabilitate your assets. What is the timeframe on that?

Mr. JOHNSON. That would be extended over a fairly long period of time. We do not have any specific schedule for when that might occur.

Senator TESTER. Any idea? Are we talking 5 years, 10 years, 20 years?

Mr. JOHNSON. Probably more like 20 years. That is probably over an extended period.

Senator TESTER. Your budget this year was decreased by 20 percent. Can you even meet the needs for this 1 year with that budget decrease?

Mr. JOHNSON. Some of that can be funded outside of Federal appropriations. There is a pretty good chunk of that maintenance and betterment that would be funded by our power revenues where we have revolving funds that have power revenues come into them. I do not have the numbers broken down. We think probably somewhere around \$600 million of that, I think as I mentioned, is under the Safety of Dams program. We probably have adequate funding levels currently under our Safety of Dams program to address that over time. So I think we do have adequate funding there.

We probably do have adequate funding from non-appropriated sources to address our powerplants and the aging infrastructure and replacement of facilities that will have to occur there.

Where we get into these issues is projects that are similar to St. Mary's where we do not have adequate funding and where we have some of the financial repayment issues that make it difficult to move ahead.

Senator TESTER. Thanks, Bob.

Thanks, Mr. Chairman.

Senator JOHNSON. Senator Corker, a follow-up question.

Senator CORKER. I just want to follow up—a point of personal privilege here—on Senator Tester's comments because I think he has hit at the essence of what the rest of us that are not affected, if you will, in the Senate will have to weigh. I mean, he obviously wants to work with you and your staff on a bill to cause the Federal Government to pay for this. Those of us who do not have a parochial interest then have to make the—I notice he is laughing heavily. I hope the camera will catch that.

Senator TESTER. We all eat.

Senator CORKER. The fact is then there is a value decision, and that is, what is the appropriate role of the Federal Government in this? You did not want to answer as to whether you would support his legislation or not, very wisely.

But what would be the kind of things you would weigh to keep us from moving—we keep talking about moral hazards right now as it relates to economic stimulus and that kind of thing. But to keep it in the middle of the road, what kind of things would you weigh as to what role the Federal Government should play in these projects that they are addressing? I mean, obviously, there are other groups around the country that have similar arrangements that then might be here doing the same thing. Is that correct?

Mr. JOHNSON. I suppose that it is possible. That is a tough question especially as it relates to the Reclamation program because historically Reclamation's purpose was to help develop the western United States, the 17 western States. We did a pretty good job of that. We built about \$22 billion in facilities over 100 years that are probably worth \$90 billion or \$100 billion today. We still own most of those facilities. In most cases, we have had a lot of economic

growth and good economies, and those projects have been able to sustain themselves without a lot of Federal assistance.

There is this small group of projects—I do not think there is a whole lot of them out there—like St. Mary’s that are agricultural oriented projects who have limited abilities to pay, but there are local economies that are dependent on those projects. The irrigation component and the farming component is a very significant thing for that local economy that relies on that water supply and those projects.

Now, what role should the Government have in coming in and maintaining those projects and bearing the cost of maintaining those projects on a long-term basis is a complicated question. There are those who would say, well, there ought to be some fairly strict economic criteria, and if they cannot pay, they cannot pay, and it is not worth spending the money for them. But, gee whiz, there is a significant investment there. There is a pretty valuable facility there, and there is a rural economy that is an important way of life for a lot of people. So how does that play into the decision-making? I am rambling a little bit, but I think it is a complicated question.

Senator CORKER. For those of us who are outside of this particular area and that are not directly affected, I hope that you will provide guidance and counseling to all of us to help us value this appropriately.

Thank you, Mr. Chairman.

Senator JOHNSON. Senator Barrasso.

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

Mr. Johnson, to allow you to ramble a little bit more if you would like, certainly in Wyoming there is the Bureau of Reclamation’s Midvale Irrigation District in Riverton, Wyoming. The State has been studying this and found about \$100 million in maintenance repairs that are going to be needed. The State only spends about a tenth of that amount each year on repairs to all districts. You know what the repairs are: the canals, the sub-canals, things that divert the needed water to farmers and to ranchers.

It is a well-run irrigation district. They are doing their best. The assessments people are paying are already there and high, but still \$100 million in repairs is needed. The district cannot afford it. The State cannot afford it. I am not sure where the money is coming from.

In your comments—and I was taking notes—I think you said you were going to have this special review of facilities near urban areas. As I look at Montana and South Dakota and Idaho and Wyoming, we wondered if you had misspoken and you meant rural areas when you said that. But I would be interested in your comments both in terms of the focus on urban areas and what we can do at a place like what we are dealing with in Wyoming.

Mr. JOHNSON. The existing operation and maintenance review program that we have would still apply, and that would apply in rural areas.

You know, I think part of the thinking that we have had is the standard for operation and maintenance may be different in an area that is urbanized than the standard of operation and maintenance that you might have in a rural area. Let me explain that.

In Truckee-Carson Canal, that canal is 100 years old. When it was originally built, it ran through the desert and maybe a few alfalfa fields. If the canal failed, it did not have a significant impact. You went and fixed the canal and you put the water back in, and it was not much of an issue. But now, within just the last 10 years, we have had all this growth on that canal, and now if that canal fails, it has a real significant impact on property.

So we may have a different standard that is required for canals that are in urban areas. So we are trying to take a fresh look at that. Where we do have canals in urban areas, is there a higher standard of maintenance? What are the safety/property concerns that we have below those canals? So that is what I am referring to.

We are certainly not abandoning the review of maintenance that we have for our existing canals that are in rural areas and agricultural areas.

Senator BARRASSO. Does it appear to you that we really are reaching a major funding shortfall looking at this into the future?

Mr. JOHNSON. There is certainly a significant number of facilities that are in need of repair, and there is I think funding limitations in some of these areas, and I think St. Mary's is probably the best example. But there are a lot of areas where we are doing really good. I mean, where we have these affluent areas and we have power revenues to use, we are doing a pretty good job of maintaining the infrastructure, and there are funding sources there to deal with those issues. It is these other more rural types of projects that were built years ago where I think we really have the issue.

Senator BARRASSO. Thank you and I would hope you would take a look at this WESTERN Act that I have introduced today to see if there are some ways to give the States a little more control and input into decisions that people who live there think are in the best interest of the State and our local economies. Thank you.

Thank you, Mr. Chairman.

Senator JOHNSON. Senator Craig.

Senator CRAIG. Mr. Chairman, if I could ramble for a few moments. I was just visiting with Senator Corker. The South is beginning to experience a lack of water infrastructure that is producing some real complications. They may some day be looking for a need for additional off-main stem storage.

What Senator Tester and what Senator Barrasso are talking about, and what I have experienced in Idaho does bring up what is a realistic need that we cannot effectively address inside the current policy structure.

Bob Johnson just gave us a brief outline of what the Bureau did in its job profile for the last 100 years, and what it created was phenomenal wealth in the West in most areas. Many of these projects today are very wealthy, be they urban or rural. They have a different capacity today to do things that they did not have 100 or 50 or 80 years ago.

I have spent a good deal of time in the last several years, Chairman Johnson, looking at the need in the West particularly through a 501(c)(3) not-for-profit entity in Idaho called the Center for the New West. Out of that, we have drawn some interesting conclusions, and that is there is a need for policy change here. Although

it ought not be absolute because, frankly, we just do not have that much money compared to the needs of the system for updating and/or expanding. We are going to want to expand in certain areas with the urbanization, the growth, and the populating of the West.

But the reality is the West is a much richer place today than it was, and so we should not ask the taxpayer in Tennessee to bear the burden of all of Montana's bill or Idaho's bill or anybody else's for that matter.

These projects also have a fine reputation of paying themselves out. They pay their bills and they pay them on time. What we have learned and believe is that there is a way of creating a leveraging system, both private and public, that gets us our money often times out of the marketplace that works in a way that you can get long-term financing at a level that an irrigation district or a water district can afford. But we have not put the structure in place, and we ought to be doing it sooner rather than later.

Why I say that, we did it in the energy bill. I did it early on working with Wall Street in a couple of other projects. But there is a way today, to gain the guarantee of Government by up-fronting the costs of some of the guarantee or the risk. For instance, if the project were to go down, we would take that to the marketplace and sell it for low-interest money. This would give an irrigation district more flexibility.

More importantly, you do not have to come back here and do what I did for Arrow Rock. You do not have to come back here and write specific legislation for a specific project. It is time we think modern. The Federal Government should not be the payor into an area today exclusively that is very wealthy or, generally speaking, wealthy. It all varies and we could write it in different categories, but there is a different model that we ought to be looking at today to finance the water needs of the West than the old model.

The old model did a phenomenal job. It created wealth beyond our wildest imaginations. Now that that wealth is there, let us leverage it by using Government and the private sector to get us our needs. We still need the Bureau. We need the assessment. We need the measurement. We need to make the determinations, both public and private, of what is necessary.

It is something I will be working on when I leave, but it is something that we ought to be collectively thinking about because I think we are all nibbling around the edges. If we are going to sit here in a \$500 billion or \$600 billion deficit budget and think we are going to start adding tens of billions of dollars a year to the Bureau and get these projects done, think again. The vast majority is not with us, and by that I mean the collective majority of the Congress. But it can be, if we work it right and leverage the marketplace. I think that is where we have got to go and what we have to think about.

I only offer that as a suggestion because then it gets to our problems in Montana, Idaho, Wyoming, and the West, where we will need this sooner rather than later.

Thank you, Mr. Chairman.

Bob, thank you.

Senator JOHNSON. Senator Corker, do you have any closing remarks?

Senator CORKER. With all the wisdom that has been shared by my colleagues on this, I will close. I think we actually have some solutions that may work in a more universal way, and I look forward to talking with them outside of this panel regarding that.

But thank you for your testimony and thank you, Mr. Chairman, for this first panel.

Senator JOHNSON. Commissioner Johnson, you are excused.

On our second panel, we have Mayor Todd Cutler of Fernley, Nevada; Major General Charles McGinnis representing the National Research Council of the National Academies; Thomas Donnelly with the National Water Resources Association; Randy Reed with the St. Mary's Rehabilitation Working Group of Montana; and Tony Willardson representing the Western States Water Council.

Mayor Cutler, please start by summarizing your testimony. We will then proceed down the table for each of you to give your statements. We will then proceed with questions from members of the subcommittee. Mayor Cutler?

STATEMENT OF TODD CUTLER, MAYOR, CITY OF FERNLEY, NV

Mr. CUTLER. Mr. Chairman, members of the subcommittee, thank you. I feel very privileged and honored to be here to share the experience of our community. On January 5, we endured something that we would not ever want to happen to anyone, and like I said, I feel very fortunate to be here, to come and discuss and share with you what has transpired.

I am the Mayor of the city of Fernley, which is approximately 30 miles east of Reno on Interstate 80. Our community has the Truckee Canal running through it. This Truckee Canal is a very important facility to our community, especially in its past, as our community used to be a farming/ranching community that has quickly changed over the last 10 years. We had, approximately 10 years ago, 6,000 to 7,000 people, and now we have over 20,000. The Truckee Canal, which is over 100 years old, has been feeding our community and is very important.

It is interesting. I will share with you what transpired on January 5. The devastation that occurred from this canal was tremendous to our community. Yet, we understand the importance of the canal. It helps us with the recharge of our water supply and we know that if we are going to continue to grow, water is everything we must have. So the primary water source for our community and others in the desert communities of Nevada rely on it. Yet, on January 5, at approximately 4:30 in the morning, the canal had a breach, and that had water pouring through an area which used to be farming.

This canal failure, which is the ninth that has occurred within our community, previously, as actually Senator Reid spoke about, the devastation was not there because it was farming area. You would fix the canal and we would move forward. This time what laid in the path of the water was 600 homes, some of which had severe damage. Up toward about 200 had very severe damage, displacing over 100 families and causing us great harm. So in the area, approximately 585 to 600 homes were damaged, 200 of which were severe.

Yet, we consider ourselves very fortunate because we did not have loss of life, which to me is absolutely amazing because this water came running through people's homes and settled, as a matter of fact, up to 8 feet deep. The efforts of our local community, our State, the support of the Federal delegation and also with the declaration of emergency from FEMA, we have had support. Yet, what we are finding, as we get further and further away from the episode January 5, is the recovery effort is enduring and very tough to handle.

We did not lose life, but we truly lost our livelihood. The failure of this canal, this Federal facility, created devastation for many of our families, some that just cannot recover from it. Our residents are looking for support. Our residents are looking for the Federal Government to help compensate them.

We have seen several lawsuits occur, and I anticipate, based on what is happening with some that are struggling to recover, that the lawsuits will actually grow. The people of our community will be expecting someone to take blame. It is interesting. When this first occurred, I said, we do not need to lay blame. We need to determine how we can move forward and move ahead and recover from this situation. Yet, with up to \$100,000 of damage for some and not having enough money to recover, there are some homeowners that are attempting to do the work themselves. Yet, they are out of work now and struggling to make their payments. So they might just lose their home from foreclosure because they were trying to take care of their home.

We have seen FEMA and our local government and our State come up with \$1.5 million-plus to support our community, and it is just not enough. The damage of our city and our homeowners is up in the millions, maybe reaching up toward \$50 million.

I wholeheartedly support the legislation introduced by the Senate Majority Leader, Senator Reid, the Aging Water Infrastructure and Maintenance Act, and I would hope that this would move forward. Thank you.

[The prepared statement of Mr. Cutler follows:]

PREPARED STATEMENT OF TODD CUTLER, MAYOR, FERNLEY, NV

Mr. Chairman, Members of the Subcommittee, thank you for the opportunity to appear before you to discuss the impacts of a failed Bureau of Reclamation facility that has dramatically impacted the community I represent. I am Todd Cutler, Mayor of the City of Fernley, Nevada.

Our City is located 32 miles east of Reno, Nevada along Interstate 80. Our booming community has also grown up next to the Truckee Canal which runs along the west and south side of Fernley. Constructed in 1906 as part of the Newlands Reclamation Project and as one of BOR's first projects, the Truckee Canal is the primary water source to the desert cities and towns of northern Nevada. These communities along with our City rely on the canal's water for irrigation and recharge of our ground water resources. However, on January 5th of this year, the canal that we and others have relied on for current and future water resources quickly turned on us.

At 4:00 am on January 5th, the northern bank of the Truckee Canal failed, sending a wall of water rushing through our community. Our families were awakened on that cold morning by these waters; it filled their homes and quickly destroying what lied in its path. Approximately 585 homes were impacted from the water that flowed from the canal, and approximately 200 homes sustained substantial damage. Many of our homes sat in water of levels up to eight feet deep for several days.

We consider ourselves fortunate to have only suffered property loss. We were very lucky, not a single life was lost during this disaster. The evacuation efforts began

immediately and were quite efficient. I can't say enough about the efforts of our local citizens, our County and State emergency partners and the help that we received from FEMA. President Bush signed the disaster declaration for the Fernley area on January 8th. The people of Fernley are thankful for everyone's efforts and are resilient, hard working, and dedicated to our community. Now we still face perhaps the biggest challenge of this disaster and that is how to repair these homes, replace lost property, and fully restore our City.

Though we may not have lost life, the effected residents lost much of their livelihood. Thousands of man-hours have been expended by our citizens and volunteers from across the State, our citizens still face the daunting challenge of how to pay for the losses they suffered. While FEMA was on the ground within hours of the flood, they only have so many tools at their disposal. Their primary purpose is to get people into temporary housing and to keep them fed and safe. FEMA assistance does not repair or replace homes.

Our residents will be looking to the federal government to fully compensate them for their losses. Many law suits have already been filed against TCID, Fernley, Lyon County and others for recovery of losses due to the canal breach has been named in some of those suits. One of my biggest fears is that lawsuits will do nothing more than tear our community apart. We need the Truckee Canal to provide water; and we need TCID to continue delivering water to our community. Lawsuits will do nothing more than line the pockets of lawyers, perhaps bankrupt TCID, and take years to resolve. We are working hard with the Nevada Congressional Delegation to find a solution to these issues. Not only are we facing perhaps \$55 million in damages to homes and property, we need to insure the Truckee Canal continues to supply water but not fail in the future.

This is not the first time the Truckee Canal has failed. The canal has failed eight times in its history due to both natural occurrences such as ice jams, but also due to structural failures. Given the age and track record of this federal facility, my community remains highly skeptical about the safety of the canal and many worry that the canal will fail again. As far as the investigators can tell, piping due to rodent activity is the most likely cause of the Truckee Canal failure. The millions of dollars of FEMA, State, and local funds spent on the disaster recovery in Fernley would have been better spent on maintaining the Truckee Canal.

I whole heartedly support the legislation introduced by Senate Majority Leader Reid, known as the "Aging Water Infrastructure and Maintenance Act". Had this legislation been in place prior to January 5th of this year, my community would not be facing the challenge of getting people back in their homes and we would not be knocking on the doors of Congress to pay for damages in excess of \$50 million dollars. It is my belief that the Federal Government must bear some of the burden of inspecting and repairing these major facilities if they are going to maintain ownership of them. One recommendation I would have for the Subcommittee is to review the insurance requirements of the operators of these Federal facilities. Fernley needs this canal to continue to be an integral part of our community and our future. More importantly, we need to assure our residents that the safety of the canal is a priority. This safety can only be achieved by the regular inspections and maintenance of the canal.

Thank you for your time and I am happy to answer any questions you might have.

Senator JOHNSON. Thank you.

Mr. Donnelly.

**STATEMENT OF THOMAS F. DONNELLY, EXECUTIVE VICE
PRESIDENT, NATIONAL WATER RESOURCES ASSOCIATION,
ARLINGTON, VA**

Mr. DONNELLY. Thank you, Mr. Chairman, and I will be very brief.

Under the best of circumstances, in the next 10 to 20 years, water managers throughout the western United States are going to be stressed to meet the needs of their growing service area. We cannot afford to have the existing infrastructure that we have in place fail because of lack of rehabilitation and modernization of those facilities.

We believe that there are two things that really need to be done right now.

First, we need to determine what the scope of the problem is west-wide, and I think Senator Reid's legislation goes to that problem. I am not sure what the dollar number required to do that job and do it adequately to meet your needs is, but we would be happy to work with you and the Bureau to ascertain that.

The second issue, which all of you have touched upon, is the financing. What we have found are the projects in need or that will need rehabilitation and modernization sort of fall into three categories.

One category we do not even have to worry about. That is the category of projects that have vendible outputs, whether it is power or domestic water supply. They can take care of their modernization and rehabilitation needs.

On the other side of the spectrum are the projects like St. Mary's. They do not have the financial resources to take care of their modernization needs. It is important to note that these are still Federal assets and the Federal Government has a responsibility to address those assets.

The group in the middle is a little bit easier for the Congress to deal with because these are projects that can repay the costs, but they cannot pay it in 1 year. That is the only option right now under the Bureau's existing programs. They would need reasonable terms and conditions over 10–20 years to pay back those costs, but they have the ability to do that. So what Congress has to take a look at is developing mechanisms for the Bureau of Reclamation to offer to their customers to pay back those costs over time.

I agree with a lot of what Senator Craig said on financing. We do need to look at innovative financing. Regardless of the private sector, I do not think the St. Mary's project falls into that category whatsoever.

But I would be happy to work with this committee and the Bureau to try to address these needs.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Donnelly follows:]

PREPARED STATEMENT OF THOMAS F. DONNELLY, EXECUTIVE VICE PRESIDENT,
NATIONAL WATER RESOURCES ASSOCIATION, ARLINGTON, VA

Mr. Chairman, members of the Committee, my name is Thomas F. Donnelly and I am the Executive Vice President of the National Water Resources Association. On behalf of the membership of the Association, it is my privilege to present testimony on the issue of the Bureau of Reclamation's aging infrastructure.

The National Water Resources Association (NWRA) is a nonprofit federation of associations and individuals dedicated to the conservation, enhancement, and efficient management of our Nation's most precious natural resource, WATER. The NWRA is the oldest and most active national association concerned with water resources policy and development. Its strength is a reflection of the tremendous "grassroots" participation it has generated on virtually every national issue affecting western water conservation, management, and development.

In the next decade, we believe, that one of the most critical problems facing the Bureau of Reclamation and many water districts throughout the West is maintaining the existing water and power infrastructure at peak operational efficiency. Many projects have met or exceeded their design life and are in need of modernization and/or rehabilitation. This is not to say that these projects cannot efficiently provide benefits well into the foreseeable future. However, modernization and rehabilitation of these important facilities will be required.

Currently, the U. S. Bureau of Reclamation (USBR) does not have a program which enables water users to modernize or rehabilitate their projects and payoff those costs over time under reasonable terms and conditions. Such works are considered operation and maintenance and consequently the costs must be paid back in the year that they occur. The Bureau understands the problem but has not been able to develop a program to address the problem that is acceptable to the Office of Management and Budget. This is a problem that, if not addressed immediately, will result in severe consequences sooner rather than later.

Neither the Bureau of Reclamation nor the membership of the National Water Resources Association has an accurate grasp of the scope of the problem West-wide. Therefore, we recommend that the first step in addressing this issue should be an accurate assessment of the scope of the problem.

From a funding and repayment perspective, the projects can essentially be divided into three rather distinct categories; 1.) those multi-purpose projects with a vendible output such as power or municipal water supply whose operating revenues adequately allow for future rehabilitation and modernization, 2.) those multi-purpose projects with operating revenues sufficient to repay the cost of major rehabilitation and modernization over time given reasonable terms and conditions, and 3.) those single purpose irrigation projects whose initial construction was heavily underwritten by the federal government and whose beneficiaries do not possess the financial resources to repay the costs of modernization and rehabilitation.

For the purposes of this hearing we need only to consider those projects falling into category 2 and 3.

PROJECTS WITH REPAYMENT CAPACITY

For the second category of projects (with repayment capacity over time), the solution is simply a program of funding that allows the beneficiaries to repay the modernization and rehabilitation cost over a reasonable period of time under fiscally sound terms and conditions. As stated earlier, the Bureau of Reclamation does not currently have a program which facilitates the timely modernization, rehabilitation or replacement of its existing infrastructure.

An example of a project that falls into this category and needs immediate assistance is the Minidoka/Burley Project in Idaho.

Over the past four years, we have engaged in discussions with Bureau's representatives concerning this problem. Unfortunately, the Bureau of Reclamation is tremendously restrained with what it can offer as a solution by the Administration's Office of Management and Budget and consequently, unable to think "outside the box." In the 109th Congress Reclamation successfully promoted loan guarantee legislation which was signed into law by President Bush. In some instances, loan guarantees could work, but loan guarantees do not offer a comprehensive solution. Ironically, now the Office of Management and Budget has cooled to the concept of loan guarantees and has stymied Reclamation's effort to promulgate regulations to implement this legislation which the President enthusiastically signed.

We believe there are a number of potential solutions, some using existing authority and others requiring new program authorization. Modernization and or rehabilitation of these projects could be accomplished through various means: project specific authorization (amendment of original authorization or new authorization) and appropriations, a congressionally authorized U. S. Bureau of Reclamation modernization and rehabilitation program (PL 81-335), infrastructure revolving fund or use of the Reclamation Fund. A restructuring of the Reclamation Fund, established under Section 1 of the Reclamation Act of 1902 (32 Stat.388; 43 U.S.C. §391), is an example of a potential solution using existing authority. The "Fund" currently has approximately \$6-7.0 billion in it. In reality, it was envisioned to address both new project construction and the modernization and rehabilitation of the existing infrastructure.

PROJECTS WITHOUT REPAYMENT CAPACITY

The second category of projects poses a much more difficult set of public and fiscal policy questions for Congress and the Administration.

Many of the early projects authorized and built under the Reclamation Act were single purpose irrigation projects. They were built in an effort to develop regional agricultural economies in order to facilitate a national policy goal of the orderly development of Western lands. Regional economies have developed around these projects. In many instances, project benefits have been expanded to include municipal and rural water supply, environmental mitigation and Native American water rights settlements. Despite the economic development, project beneficiaries of these

single-purpose projects do not possess the repayment capacity to repay the cost of major modernization or rehabilitation.

The St. Mary Diversion project in north central Montana is a classic example of this second category of projects. The project was authorized and built under the Reclamation Act of 1902 to provide a stable source of water for irrigation of the lower Milk River Valley and settlers moved to the valley on that promise.

The USBR currently estimates that rehabilitation of the St. Mary Diversion facilities will cost approximately \$130 million. The State of Montana and the local beneficiaries would be pressed to pay even a quarter of the estimated costs. While the State of Montana has committed \$10 million toward the cost of rehabilitating the project, it is hard to imagine why the state would invest much more in a purely federal asset. Therefore, the necessary rehabilitation costs will require a substantial federal re-financing of the project.

Conversely, the cost of letting the project further deteriorate would be enormous. A sudden failure would result in enormous environmental damage on the Blackfoot Indian Reservation, economically devastate local communities and businesses and undermine the Fort Belknap Water Rights Compact. It is likely that the State of Montana and the agricultural economy in the northern tier states would also be adversely impacted.

It is important not to lose sight of the fact that these projects are still federally owned facilities with the underlying responsibility of the federal government to operate and maintain them at peak efficiency.

SUMMARY

The water supply and power infrastructure built over the last century by the Bureau of Reclamation remains vitally important to the West and the Nation as a whole. Reclamation projects authorized by Congress provide numerous and substantial benefits for the entire United States. Among these benefits are: (1) flood prevention and protection totaling in the tens of billions of dollars; (2) generation of substantial amounts of hydroelectric energy using water as a renewable no-cost fuel source; (3) delivery of irrigation water to hundreds of thousands of acres of farmland in semiarid and arid regions that has increased and stabilized agricultural production in those regions; (4) water-based outdoor recreation facilities that provide recreation for millions of visitors annually; (5) municipal and rural domestic water supplies for over 30 million people; (6) recharge of underground aquifers and water supplies; (7) fish and wildlife habitat including new fisheries, wildlife management areas, and hundreds of thousands of acres of habitat and marshes throughout project distribution systems and facilities; and (8) major surface water transportation.

We simply cannot let this amazing legacy crumble and deteriorate. The membership of the National Water Resources Association pledges its support and assistance to the Committee as it seeks solutions to this important problem. In addition, we commend the Chairman and the Committee for their recognition of the aging infrastructure problem and timely attention to finding a solution.

Senator JOHNSON. Mr. Willardson.

STATEMENT OF TONY WILLARDSON, DEPUTY DIRECTOR, WESTERN STATES WATER COUNCIL, MIDVALE, UT

Mr. WILLARDSON. Mr. Chairman and members of the committee, my name is Tony Willardson. I am the Deputy Director of the Western States Water Council. Our members are appointed by the Governors and we represent 18 States. We are closely associated with the Western Governors Association and I am also testifying on their behalf.

In June 2006, the Governors adopted a report called Water Needs and Strategies for a Sustainable Future. A section of that report deals with infrastructure and our future needs. As part of that report, we supported the action that the committee has taken in the Congress in passing the Rural Water Supply Act. We look forward to working with Reclamation in implementing that act, which includes an assessment of infrastructure needs for rural communities.

We have also addressed as part of that report increasing appropriations from the Reclamation fund for authorized Bureau of Reclamation projects and purposes and to help meet western water supply needs to maintain and replace past projects and to build new capacity as necessary to meet the future demands of growth and environmental protection.

Early last month, the council was here in DC and we held a workshop on water infrastructure, which included Reclamation, the Corps, EPA, the States, local entities, as well as private investment banks. Some of the recommendations that came out of that meeting are still being vetted by the council and have not yet been adopted by the Governors.

I would mention, though, that one important aspect of that deals with providing adequate resources for basic data collection and the science that is needed to evaluate past and future infrastructure needs. We testified last December in support of the Secure Water Act that is before the subcommittee and the committee.

Also, getting to infrastructure, not long ago the American Society of Civil Engineers testified before the Senate Budget Committee that the present needs through 2010 are an estimated \$1.6 trillion for all of our infrastructure to bring it up to good working order. They do a report card. The last one gave our country's infrastructure a D.

The value of the Reclamation projects and our water resources infrastructure cannot be overestimated, particularly in the West, given the drought that we suffered from over the past several years. These are key infrastructure investments for our Nation's continued prosperity and for environmental improvements. More storage will be needed in the future as part of an integrated water resources strategy that relies on a mix of supplies.

But the first step is to preserve and protect the infrastructure that we already have. We need to leave a firm foundation for future generations, just as we enjoy the foresight of earlier generations in building these projects. Reclamation is facing the need to spend hundreds of millions of dollars for operation and maintenance expenses, ordinary and extraordinary maintenance, dam safety, project rehabilitation, and to improve delivery systems.

We need to find solutions related to this challenge and to form partnerships to do that and working relationships with traditional water users and partnerships that include transparent decision-making. I have participated in Managing for Excellence Workshops of the Bureau, and one thing that was heard loud and clear, I think, from project sponsors is that they want to be partners and just not paying customers. They want to be involved in the evaluation, the design, and the selection of alternatives as we look at rehabilitation. There are opportunities in the future, I think, where we can work together, where maybe can change some of the authorized project purposes or the way that these projects are constructed to deliver new services.

We need to realize that many of these projects also deliver water under numerous interstate compacts in the West and also under international treaties and tribal water rights agreements. We need to ensure that these United States interests are protected and that these obligations are fulfilled.

Now, Congress has to make this a budget priority. At present, the unobligated balance in the Reclamation fund is estimated at the end of this year to be over \$9 billion. Reclamation's budget for rehabilitation is more in the neighborhood of \$183 million I think was the request this year, and about \$200 million 2 years ago. We are going in the wrong direction there. We have got to look to the future and spend more money and at all levels. The State and local entities realize that and are spending a lot of money to maintain their own infrastructure and look to the future.

There are other needs which we need to address, and we are grateful for the opportunity to talk about this and the subcommittee's hearing on these needs and would be happy to answer any questions. I will leave my testimony there.

[The prepared statement of Mr. Willardson follows:]

PREPARED STATEMENT OF TONY WILLARDSON, DEPUTY DIRECTOR, WESTERN STATES WATER COUNCIL, MIDVALE, UT

Dear Mr. Chairman and Members of the Subcommittee: My name is Tony Willardson. I am Deputy Director of the Western States Water Council, and a member of the Western States Water Council, an organization of eighteen western states. Our members are appointed by their respective governors, and include senior state water managers and administrators. We are also closely associated with the Western Governors' Association (WGA), and I am testifying on their behalf. Water resources infrastructure investments and financing those investments are an important topic for the Governors and the Council. In April 2005, the Council addressed the full Committee as part of a Water Conference on various related topics, including the future role of the Bureau of Reclamation.

Our June 2006 report, *Water Needs and Strategies for a Sustainable Future*, highlighted support for two infrastructure related items within the jurisdiction of this Committee: (1) the Rural Water Supply Act since enacted into law; and (2) appropriations from annual receipts ". . . accruing to the Reclamation Fund for authorized Bureau of Reclamation projects and purposes, to help meet western water supply needs, especially for rural communities, to maintain and replace past projects, and to build new capacity necessary to meet demands related to growth and environmental protection." We look forward to working with Reclamation under the Rural Water Supply Act to assess related infrastructure needs. I will say more about the Reclamation Fund later.

The Water Report also directed the Council to hold a series of symposia designed to "(a) bring stakeholders together to try and find ways to meet our growing western water, wastewater, watershed protection and restoration, and public safety-related infrastructure funding needs; (b) find ways to quantify, evaluate and prioritize funding those needs; and (c) highlight the benefits of integrated watershed, riverbasin, regional and interstate planning and management."

Last month, the WGA and WSWC joined the Interstate Council on Water Policy and the Association of State and Interstate Water Pollution Control Administrators to cosponsor a "Water Infrastructure Workshop." To the extent the findings and recommendations from that discussion were consistent with our past positions and testimony, they have been incorporated into today's testimony. One recommendation which we whole-heartedly endorse is the need for the President and the Congress to provide adequate resources for the collection of basic water data to provide the science necessary to evaluate present and future water infrastructure needs. Last December, the Council testified in support of the SECURE Water Act before the full Committee. Other workshop suggestions will be considered, but have yet to be vetted by the WSWC and approved by the Governors.

Various estimates of our Nation's total infrastructure needs have been made. The American Society of Civil Engineers (ASCE) testified before the Senate Banking Committee last month that "aging and overburdened infrastructure threatens the economy and quality of life in every state, city, and town in the nation." ASCE's 2005 report card for America's Infrastructure presented an overall grade of "D" and ASCE estimates it would take "an investment of \$1.6 trillion by 2010 to bring the nation's existing infrastructure into good working order."

The Bureau of Reclamation operates hundreds of dams and reservoirs in the West supplying water and power to millions of people, irrigating millions of acres for food

and fiber, providing flood control and recreation, and maintaining instream flows for fish and wildlife habitat, including anadromous and threatened and endangered aquatic species. The value of federal Reclamation projects can not be overstated, particularly in assisting western communities to endure extended drought that continues to afflict parts of the West. Two of Reclamation's express "mission goals" are: (1) managing, developing and protecting water and related resources to meet the needs of current and future generations; and (2) operating and maintaining facilities safely, reliably, and efficiently to protect the public investment.

These investments are key to our Nation's continued economic prosperity and further environmental improvements. The West faces a continuing need for storage in Reclamation projects, and in the future more storage will need to be considered as part of an integrated water resources strategy that relies on a mix of water supplies. It is essential that we preserve and protect our existing water infrastructure, if we are to maintain past gains in environmental quality and our present and future quality of life. In general, we are not yet in a crisis, but face a chronic problem that will only get worse without aggressive, affirmative action. If we are to leave a firm water infrastructure foundation for future generations, we will need to increase spending for project repairs, replacement and new construction. Their water future is in our hands. Our decisions, actions or inaction, will affect not only our quality of life, but theirs. Similarly, we enjoy the foresight of earlier generations.

Reclamation faces many serious challenges to balance and provide for a new mix of resource needs in the West due to population growth and changing values. While traditional agricultural demands continue to dominate water use in the West, environmental uses have become more important to the public, while municipal and industrial development is demanding more and more high quality water. Climate uncertainty increases the challenge. In the future, there will be even greater demands placed on the West's limited water resources and Reclamation's aging projects, many of which are well beyond their designed life. We must preserve our existing storage capacity, and consider additional water storage alternatives, again as part of an integrated water resources planning strategy.

In the West, we all have an important interest in federal Reclamation project rehabilitation, and the solutions to problems related to aging infrastructure will require the formation of true partnerships. In the foreseeable future, Reclamation faces the need to spend hundreds of millions of dollars for general operation and maintenance expenses, extraordinary maintenance, dam safety, project rehabilitation and betterment, and water delivery system improvements. The Council and the Governors recognize the need to work together as federal-state-local partners to address this challenge. Reclamation's mission goals cover a number of long-term goals that include ensuring effective operations of facilities; and operating, maintaining and rehabilitating facilities to ensure reliability and cost-effectiveness. The Bureau's strategy for accomplishing these goals lists several guiding principles that involve a continuing and close working relationship with traditional water users, while using partnerships to create sustainable solutions and leverage limited resources. Transparent decisionmaking is one important principle that can not be over emphasized. States and local districts want to be "partners" not just "paying customers." They need to be actively involved in the evaluation, design and selection of alternatives.

Moreover, project modifications, reoperations and reauthorization should be considered, as necessary and appropriate, to look at current water problems and opportunities to increase project water yields to make more water available for new and expanded uses and increase water use efficiency. Reclamation facilities also play a key role in storing, managing and delivering water under numerous interstate compacts and international treaties and tribal water right settlements. These facilities must be maintained and operated so as to insure that U.S. interests are protected, and U.S. obligations fulfilled.

The Administration and the Congress must make this a budget priority. How should Reclamation programs and projects be funded? Created by the Reclamation Act of 1902, the Reclamation Fund was envisioned as the means to finance western water and power projects with revenues from western resources. Its receipts are derived from water and power sales, project repayments, certain receipts from public land sales, leases and rentals in the 17 western states, as well as certain oil and mineral-related royalties. It is a special fund within the U.S. Treasury that is only available for expenditure pursuant to annual appropriation acts.

With growing receipts, in part due to high energy prices, and declining federal expenditures for Reclamation purposes, the unobligated balance gets larger and larger (and otherwise reduces the need for federal borrowing proportionally), with the money actually spent elsewhere for other purposes. Receipts in the past were insufficient for the construction of major federal projects such as Grand Coulee and Hoo-

ver Dams, which required the appropriation of general Treasury funds, but today it appears that the Reclamation Fund balance is more than sufficient to pay for Reclamation's water resources programs at current levels.

The Congress, concerned with budget scoring problems, rejected the Administration's FY 2006 request to allow Reclamation to spend certain revenues from water and power receipts in the Reclamation Fund for project operation and maintenance expenses without further appropriation. At present, Reclamation Fund receipts, including energy-related revenue from federal lands, exceed appropriations by roughly \$1 billion annually. The WGA and the Council strongly believe the Administration should request and the Congress should appropriate more of this money for Reclamation project operation, maintenance, rehabilitation and replacements—as well as to “. . . build new capacity necessary to meet demands related to growth and environmental protection,” in close consultation with western states. (Water Report 3B, p. 15)

The President's FY 2009 budget request for Reclamation's Water and Related Resources account totals just over \$779 million, compared to actual FY 2008 appropriations of over \$949 million—continuing a general downward trend. Current program and financing figures and estimates of new budgetary authority (gross) for obligation for FY 2009 is \$1.053 billion, down from \$1.113 billion for FY 2008 and \$1.074 billion in FY 2007. Total gross outlays would be \$1.077 billion, compared to an estimated \$1.435 billion in FY 2008 and just over \$1 billion in FY 2007. Reclamation's facility maintenance and rehabilitation figure for FY 2009 is \$183 million, compared to \$195 million for FY 2008, and \$201 million for FY 2007. Obviously, spending on Reclamation infrastructure is going in the wrong direction.

Meanwhile, the unobligated balance in the Reclamation Fund continues to grow. The actual balance at the end of FY 2007 was \$6.567 billion—and the estimated balance at the end of FY 2008 is \$7.612 billion—with an estimated balance at the end of FY 2009 of \$9.232 billion. (By way of comparison, the Administration estimated that the fund at the end of FY 2006 would be \$5.905 billion, but the actual balance was \$5.671 billion). The actual balance at the end of FY 2004 was \$3.877 billion. Between the end of FY 2004 and the end of FY 2009, the unobligated balance will have grown by \$5.36 billion, if current FY 2009 estimates are correct.

Next, federal loan guarantees authorized by Congress should allow the Bureau of Reclamation to provide the means for the repayment of state and local bonds for the rehabilitation and construction of projects. The WSWC has in the past also supported a similar insurance fund, as well as the use of tax-exempt bonds to finance water resources needs. Tax credit bonds are another potential tool. State and local agencies finance the majority of their own water needs, but federal assistance has and will continue to be important.

Interior's Water 2025 Initiative is an example of Reclamation's efforts to address water resources challenges in the West before conflicts reach a critical impasse. The success in leveraging federal, state and local resources through its Challenge Grants is an example of what can be accomplished if we are willing to work together. It is apparent that matching non-federal support could easily be found for \$100 million in federal money, although this program alone is insufficient to provide meaningful support for water infrastructure needs in the western United States.

It is time to focus federal financial resources intended to aid in western water development to help Reclamation and state and local agencies meet the future challenges of continuing to supply adequate water of suitable quality in the face of growing municipal and industrial demands and federal requirements to protect public health and the environment. Federal infrastructure investments are justified in order to maintain our Nation's economic and environmental vitality, to assist state and local entities meet federally mandated standards, and to aid economically stressed communities.

Water has always been a valuable commodity in the West, and it is now increasingly so. We should all expect to pay more for water and water-related goods and services in the future as individuals and as governments to invest more in our water resources infrastructure. Regional projects offer potential savings due to economies of scale, but “exurbanization” including the development of whole subdivisions in rural areas with each homeowner relying on their own well and septic system are creating new stresses. Federal, state and local water and land management and planning agencies need to work together on a watershed and river basin scale to find solutions. More research is needed into water supply alternatives, asset management tools, risk assessment and acceptable risks, etc.

Current challenges may provide an opportunity to look beyond existing ownership and partnership arrangements, as well as authorized project purposes and benefits. Appropriate public-private partnerships should be considered where they have the potential to accelerate high priority projects, fast track financing or provide incen-

tives to maximize performance. However, such contracts require clearly defined responsibilities and performance requirements.

In the future, as we address the growing water needs in the West for many purposes, different agencies and stakeholders may have to come together and pool their available financial and other resources in new project specific partnerships, as well as nonstructural agreements, in order to overcome the challenges and obstacles we face in resolving our aging infrastructure problems and insuring the West and the Nation has an adequate water supply.

On behalf of the Western Governors' Association and Western States Water Council, our members and member states, we appreciate the opportunity to testify and I would be happy to answer any questions. Thank you.

Senator JOHNSON. Thank you.
Major General Charles McGinnis.

STATEMENT OF CHARLES I. MCGINNIS, MAJOR GENERAL (RETIRED), U.S. ARMY, REPRESENTING THE NATIONAL RESEARCH COUNCIL

Mr. MCGINNIS. Thank you, Mr. Chairman, members of the committee. My name is Charles McGinnis. I am a retired major general in the United States Army and former Director of Civil Works for the Army Corps of Engineers.

My purpose in being here is not covered by that, however. It is because I was a member of the National Research Council committee that authored the report Managing Construction and Infrastructure in the 21st Century Bureau of Reclamation.

That report was very comprehensive. However, it was published in the year 2006. So we have gone a couple of years and there have been a number of changes since that time.

One of the major changes that, frankly, comes as a very positive thing in our view is the way in which Commissioners Keys and Johnson have mobilized the entire Reclamation staff to address the findings of recommendations of our report. This morning I heard over on the House side that they feel they are about 50 percent finished with doing the things that our committee strongly recommended that they do.

Listening to Senator Craig talk, I think it is strong support for our assessment that Reclamation has a huge mix of projects, stakeholders, statutory authorities, and statutory mandates. This complicates their work enormously, and anything the Congress can do to help provide some uniformity I am sure would be appreciated.

It has also been mentioned but I would reiterate that Reclamation's resources have been declining over time, and that is at a time when the needs that they must address, the obligations imposed upon them, have been increasing. We have already talked about the age of their facilities. I think it goes without saying that with that age comes an increasing requirement for maintenance activity.

Our committee issued some findings and came to some conclusions and made some recommendations and suggestions pretty much as follows.

Reclamation needs to establish some clear policies as required for uniformity of actions and uniformity of customer treatment. These policies were largely abandoned in the middle 1990s, and work is going on now to restore them, but that work needs to continue and even accelerate.

There needs to be a rebalancing of central policy control versus decentralized program execution. Decentralization was the buzz word of the 1990s, and we think the pendulum swung a bit too far.

Reclamation needs to more thoroughly and constructively engage and communicate with all of its stakeholders. We have seen strong evidence that this Managing for Excellence program is moving rapidly and effectively toward doing that.

Two of Reclamation's five regions have prepared 5- and 10-year look-ahead programs for management of their maintenance. We think these programs are excellent and we would hope that the other three regions could develop programs as good.

We think Reclamation needs to seek realistic financing for mission-mandated activity. There has been a lot of discussion of financing, and I think that that is appropriate.

The final one that has not come up yet this afternoon. Reclamation has done a wonderful job of benchmarking its hydropower production activity. They need to do as good a job in benchmarking their water management activities.

Summarizing, Reclamation needs support to bring resource allocations into balance with mission expectations. Future activities require changes in their organization, personnel education and training, policies, even corporate culture, but while doing this, they must retain the knowledge, the skills, and the abilities needed for execution of that basic historic mission of delivering water and power. Reclamation needs these resources to remain an informed buyer of contract services. Improvement is required in response to modern mandates of environmental mitigation and improvement, stakeholder communication and involvement, stakeholder conflict resolution, security, and emergency reaction.

The changes suggested are substantial. They will take time and they will cost a considerable amount of money. We feel that Reclamation is off to a great start. We implore the committee to assist them in maintaining that momentum.

[The prepared statement of Mr. McGinnis follows:]

PREPARED STATEMENT OF CHARLES I. MCGINNIS, MAJOR GENERAL (RETIRED), U.S. ARMY, REPRESENTING THE NATIONAL RESEARCH COUNCIL

Good afternoon, Mr. Chairman and members of the Committee. My name is Charles I. McGinnis. I am a retired Major General and former director of civil works for the U.S. Army Corps of Engineers. I served on the National Research Council Committee which authored the report, *Managing Construction and Infrastructure in the 21st Century* Bureau of Reclamation. The National Research Council is the operating arm of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine of the National Academies, and its goal is to provide elected leaders, policy makers, and the public with expert advice based on sound scientific evidence.

I appreciate the opportunity to be here to discuss our report, which was published in 2006. The report contained recommendations on a broad range of issues, including organizational structure, policy development, project management, acquisition and contracting, and stakeholder relationships. Today I will focus on those issues and recommendations that pertain to the management, operation, and maintenance of Reclamation's aging infrastructure, and provide a brief summary of the Bureau's response to the report. My written testimony, which has been submitted for the record, includes an appendix with additional information from the study.

STUDY BACKGROUND

The study committee was asked by the Department of the Interior to advise Reclamation and the department on the "appropriate organizational, management, and

resource configurations to meet its construction, maintenance, and infrastructure requirements for its missions of the 21st century.” The committee was comprised of 12 experts from the public and private sectors and academia. We met as a whole four times from February to August 2005 and conducted small-group site visits to offices and projects in each of the five Reclamation regions. We received briefings from and had discussions with Reclamation representatives, Reclamation’s customers and other stakeholders, and representatives of organizations with missions similar to Reclamation’s, including the U.S. Army Corps of Engineers, the Tennessee Valley Authority, and the California Department of Water Resources.

ASSET MANAGEMENT ISSUES

Since its establishment in 1902, Reclamation has constructed more than 500 dams and hydropower plants, and more than 300 related structures including pumping plants, fish protection facilities, and buildings. At this time, however, relatively few large new projects are planned. As a consequence, Reclamation’s focus and workload have shifted from building new facilities to operating, maintaining, repairing, and modernizing existing ones, and to evaluating dam safety, providing for dam security, and addressing environmental issues.

This transition brings with it significant changes in the workload and in the responsibilities, duties, and activities of the workforce. Reclamation’s current work is dominated by two categories of tasks: (1) the operation, maintenance and rehabilitation of existing structures and systems; and (2) the creation and brokering of agreements among a variety of groups and interests affected by the management of water resources.

Although its activities have changed, Reclamation’s mission continues to be the effective management of power and water resources in ways that protect the health, safety, and welfare of the American public and are environmentally and economically sound. Achieving these objectives will depend on Reclamation’s ability to effectively manage a number of constraints and realities. These include:

- Aging infrastructure. Many of Reclamation’s dams, power plants, and related infrastructure are more than 50 years old, and some are almost 100 years old. Most embody out-of-date design, engineering practices, and materials. Their age increases their maintenance requirements as the structures and equipment reach or pass their design lifetimes, and wear out through daily use.
- Transferred works. Some facilities are owned by Reclamation but operated and maintained by users such as water districts. These “transferred works” are generally irrigation-system-related facilities, including smaller dams, dikes, pumping plants, and canals. The resources and sophistication of the water districts that operate and maintain transferred works vary. Although some districts are willing and able to perform a larger role, others have fewer resources. Some water customers already find full payment for operation and maintenance activities difficult, and major repairs and modernization needs, if included in the operations and maintenance budget, impose an even greater financial burden that cannot be met under the current repayment requirements.
- Increasing competition for declining resources. Although water availability is declining in many parts of the West, existing water users continue to demand reliable systems to provide as much water as they have used historically. Additional demands are posed by environmental requirements and by increases in population and industry.
- Increased regulatory requirements. Water rights regulations, Endangered Species Act (ESA) requirements, environmental impact assessment (EIA) requirements, and expectations for increased openness and public involvement in decision making place additional demands on Reclamation’s project managers, operators, and decision makers.
- Security. Security reviews and ongoing security management add to the workload at many of the larger facilities, including those facilities designated national critical infrastructure.

Considering these trends and changes, the study committee made recommendations for Reclamation to develop the appropriate organizational, managerial, and resource configurations to meet its construction, maintenance, and infrastructure requirements for its missions of the twenty-first century. I should point out that our recommendations were purposely general in nature as the study committee believed that the specifics could be best developed internally where more detailed knowledge resides.

PLANNING FOR ASSET SUSTAINMENT

The Bureau of Reclamation has a decentralized management structure in which each of its five regions is responsible for sustaining a significant portfolio of facilities. The regions have different organizational structures, capabilities, and workloads. The regions also have ongoing but different procedures and methods for tracking the maintenance workload and backlog of needs. In power facilities, computerized maintenance management systems are used. Critical maintenance problems receive immediate attention. Less-than-critical needs are prioritized and scheduled as funds become available. At water management assets, needs beyond the scope of normal day-to-day maintenance are tracked through the dam safety information system (DSIS) and replacement, addition, and exceptional maintenance (RAX) lists. The RAX lists are also used to prioritize maintenance needs and funds through the budget formulation process. Budget proposals originate at the area offices, and are then refined and consolidated at the regional and headquarters levels.

The committee observed inconsistencies in the way these processes operate and in how the beneficiaries (primarily water districts) are engaged in decision making and review. Some beneficiaries noted that the rules seem to differ within regions and across regions with respect to who must pay, how much must be paid, and how design and construction activities are carried out. The quality and consistency of assessment and planning documents, except those associated with the larger power facilities, also vary from region to region.

As the owner of facilities, Reclamation headquarters has the responsibility to ensure that its facilities are planned, designed, constructed, and managed with a level of quality that is consistent throughout the Bureau. To demonstrate consistency, Reclamation needs clear, detailed policy directives and standards to enable each of the regions to implement a uniform, structured approach.

Effective planning is the key to the effective operation and maintenance of Reclamation facilities. The committee observed that, in general, the regions will need to evaluate their asset inventory and manage their assets more aggressively over the life cycle and engage in constructive relationships with customers and stakeholders.

In two regions, the committee observed effective processes for planning and executing facility operations and maintenance. The core of these processes consists of 5- and 10-year plans developed to identify out-year funding requirements and to ensure that stakeholders are informed well in advance of future funding requirements, especially for refurbishment.

The operations and maintenance burden for an aging infrastructure will increase, and the financial resources available to Reclamation, its customers, and contractors may not be able to keep up with the increased demand. A number of water districts pointed out to the committee the difficulties resulting from the requirement to reimburse expenditures for operation and maintenance activities within the fiscal year in which they were expended. This is a particular difficulty for some water districts that do not have enough control over cash flow and other factors to do this when operation and maintenance costs increase. Better long-term planning should allow these districts to anticipate such needs. Long-term sustainment will require more innovation and greater efficiency in order to get the job done.

The committee recommended that all regions develop and use 5- and 10-year plans as a stakeholder communications tool and as a roadmap for meeting future requirements. The comprehensive operations and maintenance plans should also serve as the basis for financial management and the development of fair and affordable repayment schedules. The committee also recommended that Reclamation should include its customers in their efforts to address economic constraints by seeking repayment procedures that ease borrowing requirements and extend repayment periods.

BENCHMARKING AND BEST PRACTICES

The committee observed extensive efforts and success in benchmarking Reclamation's hydropower activities; however, there appears to be little effort to benchmark the operations and maintenance of water distribution facilities. In the committee's opinion, benchmarking can help improve the efficiency of Reclamation's water management and distribution activities as well as those of the water contractors responsible for transferred works.

In the case of the larger hydroelectric generating facilities, Reclamation uses an independent benchmarking process to determine how its facilities compare to others in terms of costs, reliability, efficiency, and overall maintenance. Such reviews are conducted on an annual basis, and the reports provide useful information to facility managers.

Similar efforts should be made to establish metrics and measure the performance of Reclamation's water management assets. Reclamation regional offices reported the use of some review tools, including annual, periodic, and comprehensive facility reviews, value engineering reviews, and peer review of endangered species recovery programs. The committee was also informed that there are several forums within Reclamation to identify best practices for asset management. However, there seem to be wide differences in the application and dissemination of review tools and best practices across the bureau.

The committee recommended that benchmarking of water distribution and irrigation activities by Reclamation and its contractors should be a regular part of their ongoing activities.

BUREAU OF RECLAMATION RESPONSE

An important element in the committee's ability to complete its assigned tasks was the support and participation of the bureau. The study committee appreciated the cooperation and support of former Commissioner John Keys III and all of the Reclamation officials who assisted the committee in the review. Before completing our work, we became aware that the commissioner had directed the development of a detailed response to its recommendations. The NRC committee applauded this rapid and enthusiastic response. We were not in a position to provide a detailed analysis at that time, but it appears that Reclamation's response, *Managing for Excellence*, sets forth a plan to address all of the issues identified in the study. Many of the study committee's recommendations will require further analysis by Reclamation personnel, and changes that implement these initiatives may take several years. As noted in the NRC report, Reclamation should seek independent reviews of its assessments and organizational changes. Nevertheless, it appeared that the Bureau had made a good start in implementing the committee's recommendations.

APPENDIX

The report *Managing Construction and Infrastructure in the 21st Century Bureau of Reclamation* contains additional observations and recommendations, as summarized below.

ORGANIZATIONAL STRUCTURE

The study committee recognizes that organizations can and do take on a variety of forms with varying degrees of success. Some will function successfully despite their form, while others will falter even as they deploy the best of theoretical forms. The internal culture and history of an organization play a significant role in determining the appropriate structure and the ultimate outcome. We believe that the organizational structure of Reclamation is basically appropriate for its customer-driven mission to deliver power and water. Nevertheless, we also believe that there are opportunities to improve the construction and management of its facilities and infrastructure, as well as the management, development, and protection of water and related resources in an environmentally sound manner in the interest of the American public.

CENTRALIZED POLICY AND DECENTRALIZED OPERATIONS

To optimize the benefits of decentralization, Reclamation should promulgate policy guidance, directives, standards, and how-to documents that are consistent with the current workload. The commissioner should expedite the preparation of such documents, their distribution, and instructions for their consistent implementation. Reclamation's operations should remain decentralized and guided and restrained by policy but empowered at each level by authority commensurate with assigned responsibility to respond to customer and stakeholder needs. Policies, procedures, and standards should be developed centrally and implemented locally. The design groups in area and project offices should be consolidated in regional offices or regional technical groups to provide a critical mass that will allow optimizing technical competencies and providing efficient service. Technical skills in the area offices should focus on data collection, facility inspection and evaluation, and routine operations and maintenance (O&M).

TECHNICAL SERVICE CENTER AND RECLAMATION LABORATORY AND RESEARCH ACTIVITIES

The commissioner should undertake an in-depth review and analysis of the TSC to identify the needed core technical competencies, the number of technical personnel, and how the TSC should be structured for maximum efficiency to support

the high-level and complex technical needs of Reclamation and its customers. The proper size and composition of the TSC are dependent on multiple factors, some interrelated:

- Forecast workload,
- Type of work anticipated,
- Definition of activities deemed to be inherently governmental,
- Situations where outsourcing may not be practical,
- Particular expertise needed to fulfill the government's oversight and liability roles,
- Personnel turnover factors that could affect the retention of expertise, and
- Needs for maintaining institutional capability.

This assessment and analysis should be undertaken by Reclamation's management and reviewed by an independent panel of experts, including stakeholders.

The workforce should be sized to maintain the critical core competencies and technical leadership, and to increase outsourcing of much of the engineering and laboratory testing work. Alternative means should be developed for funding the staff and operating costs necessary for maintaining core TSC competencies, thereby reducing the proportion of engineering service costs reimbursable by customers.

Reclamation's Research Office and TSC laboratory facilities should be analyzed from the standpoint of which specific research and testing capabilities are required now and anticipated for the future; which of them can be found in other government organizations, academic institutions, or the private sector; which physical components should be retained; and which kinds of staffing are necessary. The assessment should also recognize that too much reliance on outside organizations can deplete an effective engineering capability that, once lost, is not likely to be regained. In making this assessment Reclamation should take into account duplication of facilities at other government agencies, opportunities for collaboration, and the possibility for broader application of numerical modeling of complex problems and systems. Considering that many of the same factors that influence the optimum size and configuration of the TSC engineering services also apply to the research activities and laboratories, Reclamation should consider coordinating the reviews of these two functions.

OUTSOURCING

Reclamation should establish an agency-wide policy on the appropriate types and proportions of work to be outsourced to the private sector. O&M and other functions at Reclamation-owned facilities, including field data collection, drilling operations, routine engineering, and environmental studies, should be more aggressively outsourced where objectively determined to be feasible and economically beneficial.

PROJECT MANAGEMENT

Reclamation should establish a comprehensive set of directives for structured project management process for managing projects and stakeholder engagement from inception through completion and the beginning of O&M. Reclamation should also give high priority to completing and publishing cost estimating directives and resist pressures to submit projects to Congress with incomplete project planning. Cost estimates that are submitted should be supported by a design concept and planning, environmental assessment, and design development documents that are sufficiently complete to support the estimates.

Reclamation should establish a structured project review process to ensure effective review and oversight from inception through completion of construction and the beginning of O&M. The level of review should be consistent with the cost and inherent risk of the project and include the direct participation of the commissioner or his or her designated representative in oversight of large or high-risk projects. The criteria for review procedures, processes, documentation, and expectations at each phase of the project need to be developed and applied to all projects, including those approved at the regional level.

A training program that incorporates current project management and stakeholder engagement tools should be developed and required for all personnel with project management responsibilities. In addition, project managers should have professional certification and experience commensurate with their responsibilities.

ACQUISITION AND CONTRACTING

Reclamation should establish a procedure and a central repository for examples of contracting approaches and templates that could be applied to the wide array of

contracts in use. This repository should be continually maintained and upgraded to allow staff to access lessons learned from use of these instruments.

RELATIONSHIPS WITH SPONSORS AND STAKEHOLDERS

Making information readily available about processes and practices, both in general and for specific projects and activities, should be a Reclamation priority. Successful practices, such as those used in the Lower Colorado Dams Office, should be analyzed and the lessons learned should be transferred, where practical, throughout the bureau.

WORKFORCE AND HUMAN RESOURCES

Reclamation should do an analysis of the competencies required for its personnel to oversee and provide contract administration for outsourced activities. Training programs should ensure that those undertaking the functions of the contracting officer's technical representative are equipped to provide the appropriate oversight to ensure that Reclamation needs continue to be met as mission execution is transferred.

In light of the large number of retirements projected over the next few years and the potential loss of institutional memory inherent in these retirements, a formal review should be conducted to determine what level of core capability should be maintained to ensure that Reclamation remains an effective and informed buyer of contracted services. Reclamation should recruit, train, and nurture personnel who have the skills needed to manage processes involving technical capabilities as well as communications and collaborative processes. Collaborative competencies should be systematically related to job categories and the processes of hiring, training, evaluating the performance of, and promoting employees. Reclamation should facilitate development of the skills needed for succeeding at socially and politically complex tasks by adapting and adopting a small-wins approach to organizing employee efforts and taking advantage of the opportunities to celebrate and build on successes.

Senator JOHNSON. Thank you.
Mr. Reed.

STATEMENT OF WESLEY RANDAL REED, CO-CHAIR, ST. MARY REHABILITATION WORKING GROUP, CHINOOK, MT

Mr. REED. Mr. Chairman and distinguished members of the committee, my name is Randy Reed. I am a fourth generation agricultural producer and I serve as Co-chair of the St. Mary's Rehabilitation Working Group with Montana's Lieutenant Governor John Bohlinger. I would like to thank the committee for the opportunity to provide testimony concerning the critical issue of the Bureau of Reclamation's aging water resource infrastructure. The example I bring before the committee is the Milk River Project and the associated St. Mary's Conveyance Works.

The crisis we are facing today is the potential loss of the St. Mary's Conveyance Works. After over 90 years of service, many components of the system have exceeded their 50-year design life and are in critical need of repair or replacement. Engineering investigations, an increase in the frequency and cost of extraordinary maintenance needs, and recurrent delivery interruptions indicate the system is on the verge of collapse.

In an average year, approximately 70 to 90 percent of the water diverted from the Milk River for municipal and agricultural uses comes out of the St. Mary's Basin. Without this imported water, the Milk River would run dry 6 out of 10 years. The stable supply of water provided by the system secures the backbone of the regional agricultural economy.

For the last 7 years, I have worked with the State of Montana and the stakeholders in the Milk River Basin to engage the Bureau of Reclamation to develop a solution for rehabilitating the St.

Mary's Diversion and Conveyance Works before the system suffers catastrophic failure. However, rather than taking a leadership role, Reclamation officials have deferred to pressure from the Office of Management and Budget and initially resisted our efforts. Even today, they are playing a passive role in the rehabilitation of one of the Nation's original reclamation projects.

I believe the Bureau of Reclamation must be given the ability to develop new tools for addressing the challenges presented by the aging water resource infrastructure. One of our challenges we face in the Milk River Basin is how the Bureau of Reclamation views capital expenditures for the rehabilitation of projects. According to a 2006 engineering study undertaken by the State of Montana, the cost to rehabilitate and replace the St. Mary's Diversion and Conveyance Works is estimated to be \$130 million to \$140 million. Reclamation considers such work to be part of operation and maintenance and requires the costs be paid back in the year that they are incurred.

This presents an insurmountable financial obstacle to irrigators in the Milk River Project. Irrigators in our project would benefit from the development of a program that enables water users to modernize or rehabilitate the projects and pay off those costs over time with reasonable terms and conditions. Another option would be to encourage partnerships of Federal agencies with complementary resources and interests.

As originally authorized, the St. Mary's Diversion and Conveyance Works are operated for the single purpose of irrigation. As such, nearly 100 percent of the costs of rehabilitation and replacement of the system must be borne by small irrigators like me within the irrigation districts holding water delivery contracts.

Today the beneficiaries extend far beyond this original intent. The Bureau of Reclamation's 2005 current use benefits analysis showed large public benefits accrue from the existence of the St. Mary's system. In addition to providing water for irrigated agriculture, the system also provides water to communities and industry, water for Bowdoin National Wildlife Refuge, and water that supports a wealth of recreational opportunities in north central Montana.

The system is also an integral part of a federally reserved water rights settlement with the Blackfoot Tribe and the Fort Belknap Indian Community and the implementation of the 1909 Boundary Waters Treaty between the United States and Canada.

Amending the original authorization of the Milk River Project and the St. Mary's Diversion and Conveyance Works to reflect the extensive public benefits that they provide would relieve irrigators of the burden of subsidizing the Federal Government for the benefits enjoyed by others.

Failure of the St. Mary's Diversion and Conveyance Works would economically devastate the communities and businesses along the Hi-Line and likely have economic repercussions across the State. Aging infrastructure threatens my family's future, the future of the Milk River Basin, and the future of farm-based economies across the West.

I urge the committee to remember that many of these Reclamation projects are Federal assets owned and operated by the Federal

Government. Investment in these projects will preserve our Nation's ability to conserve, enhance, and efficiently manage our most precious natural resource, water.

I would like to thank the chairman and the committee for recognizing the aging infrastructure problem and the timely attention to finding a solution. Again, I appreciate this opportunity to testify. Thank you.

[The prepared statement of Mr. Reed follows:]

PREPARED STATEMENT OF WESLEY RANDAL REED, CO-CHAIR, ST. MARY
REHABILITATION WORKING GROUP, CHINOOK, MT

Mr. Chairman, distinguished members of the Committee, my name is Randy Reed. I am a fourth generation agricultural producer from northern Montana and serve as Co-Chair of the St. Mary Rehabilitation Working Group with Montana Lt. Governor John Bohlinger. I would like to thank the Committee for the opportunity to provide testimony concerning the critical issue of the Bureau of Reclamation's aging water resource infrastructure. The example I bring before the Committee is the Milk River Project and the associated St. Mary Diversion and Conveyance Works.

In 1903, Congress authorized construction of the Milk River Project as one of the first five reclamation projects built under the Reclamation Act of 1902. Development of the Milk River Project required construction of the St. Mary Diversion & Conveyance Works to divert and transport water from the St. Mary River Basin to the Milk River Basin.

The crisis we are facing today is the potential loss of the St. Mary Diversion & Conveyance Works. After over 90 years of service, many components of the system have exceeded their 50-year design life, and are in critical need of repair or replacement. Engineering investigations, an increase in the frequency and cost of extraordinary maintenance needs, and recurrent delivery interruptions indicate the system is on the verge of collapse.

In an average year approximately 70% to 90% of the water diverted from the Milk River for municipal and agricultural use originates in the St. Mary River Basin. Without this imported water, the Milk River would run dry six out of ten years. The stable supply of water provided by the system secures the "backbone" of the region's agricultural economy.

For the last 7 years I have worked with the State of Montana and stakeholders in the Milk River Basin to engage the Bureau of Reclamation to develop a solution for rehabilitating the St. Mary Diversion and Conveyance Works before the system suffers catastrophic failure. However, rather than taking a leadership role, Reclamation officials have deferred to pressure by the Office of Management and Budget and initially resisted our efforts. Even today, they are playing a passive role in the rehabilitation of one of the nation's original reclamation projects.

Reclamation's position is confusing to contract holders and basin residents who do not understand why the federal agency that owns and operates the facilities is not leading the rehabilitation effort. Not only is it confusing for the owner/operator not to be fully engaged in the process, it has been detrimental to the overall effort.

Reclamation appears to be paralyzed in the face of the tidal wave of aging infrastructure issues they face across the West. It appears that without direction from Congress, the Department of Interior will not allow Reclamation to actively participate with project irrigators and the State of Montana to rehabilitate the St. Mary system. Through inaction at the federal level, the federal government is missing an opportunity to work with stakeholders and the State of Montana to find a workable solution for ensuring the continued viability of the Milk River Project. This federal inertia may also impact the federal government's ability to settle federal reserved water rights claims with the Blackfeet Tribe and Ft. Belknap Indian Community and jeopardize the ability of the United States to access water from the St. Mary River under terms of the 1909 Boundary Waters Treaty. Certainly, lack of leadership by federal agencies is a threat to my business and has forced me to get out and lead.

I believe that the Bureau of Reclamation must be given the ability to develop new tools for addressing the challenges presented by aging water resources infrastructure. One challenge we face in the Milk River Basin is how the Bureau of Reclamation views capital expenditures for rehabilitation projects. According to a 2006 engineering study undertaken by the state of Montana the cost to rehabilitate and replace the St. Mary Diversion & Conveyance Works is estimated at \$130 million to

\$140 million. Reclamation considers such work to be part of operation and maintenance and requires the cost to be paid back in the year they are incurred. This presents an insurmountable financial obstacle to irrigators in the Milk River Project. Irrigators within our Project would benefit from the development of a program that enables water users to modernize or rehabilitate their projects and payoff those costs over time under reasonable terms and conditions. Another option would be to encourage partnerships of federal agencies with complementary resources and interests.

As originally authorized, the St. Mary Diversion & Conveyance Works are operated for the single purpose of irrigation. As such, nearly 100% of the cost to rehabilitate and replace the system must be borne by small irrigators, like me, within the irrigation districts holding water delivery contracts. Today the beneficiaries extend far beyond this original intent. The Bureau of Reclamation's 2005 "Current Use Benefits Analysis" showed large public benefits accrue from the existence of the St. Mary system. In addition to providing water for irrigated agriculture, the system provides water to communities and industry, water to the Bowdoin National Wildlife Refuge, and water that supports a wealth of recreational opportunities in north-central Montana. The system is also integral to settlement of federal reserved water rights with the Blackfeet Tribe and Ft. Belknap Indian Community, and implementation of the 1909 Boundary Waters Treaty. Amending the original authorization for the Milk River Project and St. Mary Diversion and Conveyance Works to reflect the extensive public benefits they provide would relieve irrigators of the burden of subsidizing the federal government for the benefits enjoyed by others.

My great grandfather homesteaded in the Milk River Valley and was among the founders supporting construction of the Milk River Project and St. Mary Diversion & Conveyance Works at the turn of the 20th century. Irrigation allowed my great grandfather to settle in Northern Montana and endure. Today, my family benefits from these same water resource facilities and we are able to raise irrigated certified seed potatoes, alfalfa hay and malt barley. We also rely on the project for our drinking water and enjoy the many recreational opportunities supported by the water system.

Failure of the St. Mary Diversion & Conveyance Works would economically devastate communities and businesses along the Hi-Line and likely have economic repercussions across the state. Aging infrastructure threatens my family's future, the future of the Milk River Basin, and the future of farm-based economies across the West.

I urge the Committee to remember that many of these Reclamation projects are federal assets owned and operated by the federal government. Investment in these projects will preserve our Nation's ability to conserve, enhance, and efficiently manage our most precious natural resource, WATER!

I would like to thank the Chairman, and the Committee for their recognition of the aging infrastructure problem and timely attention to finding a solution. Again, I appreciate this opportunity to testify.

SUPPLEMENTAL STATEMENT

INTRODUCTION

A century ago local and national leaders developed a vision to build an economy along the Hi-Line of north central Montana. Implementation of this vision required construction of the St. Mary Diversion & Conveyance Works to divert and transport water from the St. Mary River Basin to the Milk River Basin. Water imported from the St. Mary River provides supplemental water to the Bureau of Reclamation's Milk River Project.

Today this marvel of ingenuity and early 20th Century engineering is the keystone to the economic vitality of Montana's Hi-Line region. In addition to fulfilling the original intent of providing water for large-scale irrigated agriculture along the Milk River, the system also provides water to communities and industry, water to Bowdoin National Wildlife Refuge, and water that supports recreational opportunities for fishing and hunting along 650 miles of river and at two major reservoirs in north-central Montana. In short, the St. Mary Diversion & Conveyance Works is truly "the lifeline of the Hi-Line". The system is also integral to settlement of federal reserved water rights with the Blackfeet Tribe and Ft. Belknap Indian Community, and implementation of the 1909 Boundary Waters Treaty between the United States and Canada.

However, after 90 years of service, many components of the system have exceeded their 50-year design life, and are in critical need of repair or replacement. Engineering investigations, an increase in the frequency and cost of extra-ordinary maintenance

nance needs, and recurrent delivery interruptions indicate the system is on the verge of collapse.

In an average year approximately 70% of the water diverted from the Milk River for municipal and agricultural use originates in the St. Mary River Basin. Without this imported water, the Milk River would run dry six out of ten years. The stable supply of water provided by the system secures the “backbone” of the region’s agricultural economy. Failure of the St. Mary Diversion & Conveyance Works would economically devastate communities and businesses along the Hi-Line, and likely have economic repercussions across the state. Failure of the canal, siphons, or drop structures may also result in environmental damage on the Blackfeet Reservation and in southern Alberta. Loss of the system would also curtail the United States ability to access its share of water from the St. Mary River in accordance with the Boundary Waters Treaty of 1909.

BACKGROUND

On March 14, 1903, Secretary of Interior Ethan Allen Hitchcock authorized construction of the Milk River Project (Project) as one of the first five reclamation projects built by the newly created Reclamation Service (now Bureau of Reclamation) under the Reclamation Act of 1902. The Project’s objective was to provide a stable source of water for irrigation of the lower Milk River valley, and settlers moved to the valley on that promise. Early settlers had learned that natural flows in the Milk River did not provide a reliable water source for irrigation in the downstream end of the watershed. Consequently, a plan to divert water from the St. Mary River to augment flows in the Milk River was a key component of the Milk River Project. In 1905, Secretary Hitchcock authorized construction of the St. Mary Diversion & Conveyance Works to provide supplemental water to the Milk River Project. Construction of the diversion dam and canal began on July 27, 1906. Diversion and delivery of supplemental water to the Milk River Project started in 1916.

The St. Mary Diversion & Conveyance Works are located entirely on the Blackfeet Reservation in Glacier County, Montana. The system annually diverts approximately 160,000 acre-feet of water from the St. Mary River east of Glacier National Park to the North Fork of the Milk River via a 90-year old, 29-mile long facility. Separate components include:

- Sherburne Reservoir—located on Swiftcurrent Creek just outside the eastern boundary of Glacier National Park;
- Swiftcurrent Creek Dike;
- Diversion dam and canal headgates on the St. Mary River;
- St. Mary River Siphon—Two 7.5 ft (dia.), 3,200 foot long riveted steel barrels with a combined discharge capacity of 850 cubic feet per second (cfs);
- Hall Coulee Siphon—Two 6.5 ft (dia.), 1,405 foot long riveted steel barrels;
- Check and wasteway structures—most are currently inoperable;
- Five hydraulic drop structures—combined vertical drop of 214 ft; and
- Approximately 29 miles of single bank, unlined, earthen canal.

The system is owned by the U.S. Government and is operated and maintained by the U.S. Bureau of Reclamation (Reclamation) with funds paid by holders of water delivery contracts in the Milk River Basin.

The St. Mary Diversion & Conveyance Works are approaching 100 years old, and are still dependent on the same basic infrastructure built by the Reclamation Service in the early 1900’s. Continued degradation of the system has resulted in a loss of capacity from 850 cubic feet per second (cfs), to 670 cfs. The steel siphons are plagued with slope stability problems and leaks, and the concrete in the hydraulic drop structures is severely deteriorating. Landslides along the canal and deteriorated condition of the structures make the canal unreliable as a water source.

Failure of a hydraulic drop structure in 2002 resulted in the canal being shut down for approximately 2 months during the irrigation season. On July 21, 2004, Reclamation was forced to shut down the canal for a week to repair a leak in the left barrel of the St. Mary River Siphon. The leak was attributed to a failed weld associated with repair work completed in 2001. Within 3 days of starting water deliveries in March 2005, Reclamation was once again forced to shut down the system for another repair on the left siphon barrel.

Operation of the St. Mary Diversion & Conveyance Facilities has had a series of negative environmental impacts on the Blackfeet Reservation. Operation of the system has led to flooding and erosion below the confluence of Swiftcurrent and Boulder Creeks, and the formation of a delta into Lower St. Mary Lake. As currently designed, the outlet works on Sherburne Dam are incapable of passing low flows during the winter months. As a result, Swiftcurrent Creek dries up and important

wintering habitat for the threatened bull trout (*Salvelinus confluentus*) is lost. In addition, the St. Mary diversion dam and canal headgates are having a negative impact on Blackfoot Tribal fishery resources. The diversion dam acts as a barrier to fish moving upstream and a large number of fish become entrained in the canal through the headgates during the irrigation season.

LIFELINE OF THE HI-LINE

The St. Mary Diversion & Conveyance Works are the foundation of large-scale irrigated agricultural production in Montana's Milk River Basin. The system provides water to irrigate over 110,000 acres through contracts with Reclamation. An additional 5,000 acres within the Ft. Belknap Indian Irrigation Project (BIA) and 25,000 acres of private irrigated land benefit from the supplemental flows. Together these farms produce approximately 8.7% of all cattle/calves produced in the state, approximately 8.2% of all irrigated hay, and 8.6% of all irrigated alfalfa produced in Montana.

In a normal irrigation season (May through September), approximately 70 % of Milk River flow near Havre originates from the St. Mary River Basin. In dry years the imported water may account for up to 90 % of the Milk River flows past Havre. During the drought of 2001, 95 % of available water in the Milk River originated in the St. Mary River Basin!

Although the St. Mary Diversion & Conveyance Works were initially built to provide supplemental water for irrigated agriculture, the beneficiaries extend far beyond this original intent. Reclamation's 2005 "Current Use Benefits Analysis" showed large public benefits accrue from the existence of the St. Mary Diversion & Conveyance Works. A preliminary economic study commissioned by the State and conducted in consultation with Reclamation indicates that 32% of the annual economic benefit associated with the supplemental water supplied by the system accrues to irrigated agriculture. The remaining 68% accrues to the public in the form of municipal, residential and industrial water, recreation, fish and wildlife, and extensive riparian areas. Over the last 90 years beneficiaries of water imported from the St. Mary River have expanded to include the following:

- Reclamation has contracts to deliver 4,664 acre-feet per year of municipal and industrial (M&I) water to the entities shown in Table 2. The communities of Havre, Chinook and Harlem serve approximately 14,000 customers

Table 2

Municipal and Industrial Water Contracts Associated with Milk River Project

Entity	Contract Amount (Acre-Feet)
City of Chinook	700
City of Harlem	500
City of Havre	2,800
Hill County Water Users	500
North Havre County Water District	100
Grand View Cemetery	14
Horizon Hills Golf Course LLC	50

- Bowdoin National Wildlife Refuge located 7 miles east of Malta, contracts with Reclamation for approximately 3,500 acre-feet per year of supplemental water from the St. Mary River. This 15,550-acre refuge provides food and habitat for an estimated 100,000 waterfowl each spring and fall.
- Fresno and Nelson Reservoirs were created as storage components within the Milk River Project. Today these reservoirs support tremendous tourism and public year-round recreational benefits including boating, camping, and fishing. According to a 2002 Reclamation study, the Milk River Project provides approximately \$15 million per year in recreational benefits to the Milk River Basin.
- The Fort Belknap Water Rights Compact is predicated on the continued viability of the St. Mary Diversion & Conveyance Works to deliver water to the Milk

- River Basin. The Compact is a delicate negotiated balance of water rights, including the Gros Ventre and Assiniboine Tribes' right to essentially all of the natural flow of the Milk River, subject to the claims of the Blackfeet Nation.
- The State of Montana and Blackfeet Tribe have reached agreement on a water rights compact which includes claims for water from the St. Mary and Milk Rivers. The parties are seeking federal and state ratification of the settlement. Rehabilitation of the St. Mary Diversion & Conveyance Works affords potential benefits to the settlement.
 - Implementation of the 1909 Boundary Waters Treaty between the United States and Canada is dependent on the existence of the St. Mary Diversion & Conveyance Works. Without the system, the United States' share of water from the St. Mary River under the 1909 Treaty would be lost to Canada.
 - Numerous endangered, threatened, and proposed species with the Milk River Basin, including the Piping Plover (threatened) and Pallid Sturgeon (endangered), benefit from augmented flows in the Milk River.
 - Water imported to the Milk River Basin through the St. Mary Diversion & Conveyance Works may prove to be a critical component of U.S. Fish and Wildlife Service recovery efforts for the endangered pallid sturgeon (*Scaphirhynchus albus*). As the first major tributary entering the Missouri River below Ft. Peck Dam, the turbid water of the Milk River may provide critical pallid sturgeon spawning habitat.

WORKING WITH RECLAMATION

For many years, Milk River irrigators, State of Montana water resource staff, and Reclamation staff have been working together on water management issues in the Milk River. It was not until the mid-1990 that the potential catastrophic failure of the St. Mary Diversion Facilities was recognized by the State and irrigators as a significant risk. At the time, the Chinook Irrigation Division had received a grant of \$300,000 to improve water use efficiency. However, an emergency repair of the St. Mary Siphons arose and the Chinook Division requested that the State funds be used to pay for the emergency repair rather than on water use efficiency. The funds were transferred and an additional \$100,000 was added so that the siphons could be repaired and returned to use. The following year the same scenario played out where districts requested emergency funding for a repair of the St. Mary Siphon. This time the State met with irrigators and Reclamation on the St. Mary diversion site to discuss the reasons that the emergency arose. It was at this on-site meeting that concern over the potential catastrophic failure of the system was recognized.

The State then began to work with Milk River irrigators and Reclamation to find solutions so that a major rehabilitation project could proceed. Through the Rocky Boy water compact (P.L.106-163), the Montana Congressional Delegation was able to gain support for a \$3 million appropriation for Reclamation to conduct the North Central Montana Regional Feasibility Study (2004). As part of the study, Reclamation examined 18 alternatives to resolve water supply, water use and management, and other major water-related issues in north central Montana. Reclamation identified rehabilitation of the St. Mary Diversion & Conveyance Works as the only feasible alternative that would address water supply and related issues in north-central Montana, and produce positive economic benefits.

Reclamation's conclusion supported State and local efforts to find a way to rehabilitate the St. Mary Diversion Facilities. However, Reclamation rather than taking a leadership position to rehabilitate the system, stated publicly that they would not support a rehabilitation plan if it involved the use of federal funds. The only acceptable approach to the agency was for the irrigators to pay for the entire cost. During the initial public meetings announcing the new Water 2025 initiative, Commissioner of Reclamation, John Keys made it clear to Montana representatives that Reclamation could not support a rehabilitation effort that involved federal funding.

PROTECTING THE MILK RIVER BASIN'S TOMORROW . . . TODAY

The dilemma of knowing that the entire water supply of the Milk River basin was at risk and the only option that Reclamation would support would be impossible for the irrigators to support forced the State of Montana to act. On November 18, 2003, former Lt. Governor Karl Ohs held a forum in Havre, Montana, on the need to rehabilitate the St. Mary Diversion & Conveyance Works. An outcome of this meeting was the formation of the St. Mary Rehabilitation Working Group. This 15-member Working Group represents a broad coalition of basin interests including the Milk River Irrigation Districts, the Blackfeet Tribe, the Tribes of the Ft. Belknap Indian

Community, municipalities, business interests, and recreational and fishery interests in the Milk River Basin. The Working Group's goals are:

- 1) Find a "workable" solution for rehabilitating the St. Mary Works before the system suffers catastrophic failure.
- 2) Work with the Blackfeet Tribe to address environmental impacts associated with the operation of the St. Mary Works, and provide workable enhancements and mutual benefits from a rehabilitated St. Mary Canal.
- 3) Explore options for restoring Fresno Reservoir to its original capacity and reauthorization and funding opportunities to rehabilitate the Basin infrastructure.

Though Reclamation attends all Working Group meetings, the agency has chosen to take a role limited to monitoring the discussion and providing technical information. This limited role is confusing to basin residents who do not understand why the agency that owns and operates the facilities is not at the front leading the discussion. Instead, the State of Montana has had to take the leadership role to move this project forward. Not only is it confusing for the owner/operator not to be fully engaged in the process, it is detrimental to the overall effort.

Reclamation appears to be paralyzed in the face of the tidal wave of aging infrastructure issues they face across the West. It appears that without direction from Congress, the Department of Interior will not allow Reclamation to actively participate with project irrigators and the State of Montana to rehabilitate the St. Mary system.

Through inaction at the federal level, the federal government is missing an opportunity to work with stakeholders and the State of Montana to find a workable solution for ensuring the continued viability of the one of the Nation's first reclamation projects. This federal inertia may also impact the federal government's ability to settle federal reserved water rights claims with the Blackfeet Tribe and Ft. Belknap Indian Community and jeopardize the ability of the United States to access water from the St. Mary River under terms of the 1909 Boundary Waters Treaty.

LOCAL AND STATE SUPPORT

Over the last four years, the State of Montana and St. Mary Rehabilitation Working Group have raised substantial non-federal funds to initiate the rehabilitation effort. Since 2004, the State has spent over \$1.6 million on professional engineering services and personnel services in support of the project. The 2005 State Legislature recognized the importance of this project to Montana by approving \$10 million in bonding authority to serve as seed money for the non-federal cost share. In 2007, the State Legislature reconfirmed their commitment to the project by approving a \$300,000 grant to the Department of Natural Resources and Conservation for engineering design and project coordination.

Local contributions have raised approximately \$416,632 to support the efforts of the St. Mary Rehabilitation Working Group (as of 12/07). The eight Irrigation Districts within the Milk River Project have assessed themselves to support the rehabilitation effort. Counties, communities, recreationists, and private citizens within the Milk River Basin have also raised funds. Since 2004, Working Group members have donated more than \$156,000 (as of 10/07) of in-kind support in the form of time and travel to attend meetings and promote the project within the basin.

FEDERAL SUPPORT

The Working Group's efforts have also benefited from support provided by Montana's Congressional Delegation. Senator Max Baucus secured \$8.5 million (FY06) from the Senate Transportation Committee. These funds are being used to construct a new bridge across the St. Mary River and address environmental concerns of the Blackfeet Tribe. Senator Conrad Burns secured \$500,000 (FY06) for the project from the Energy and Water Appropriations Subcommittee of the Senate Appropriations Committee. Through the use of cooperative agreements, the U.S. Bureau of Reclamation, Blackfeet Tribe, and Montana DNRC used these funds on technical and environmental data collection efforts in preparation for National Environmental Policy Act compliance activities. The Bureau of Reclamation received an additional \$500,000 in FY07 under the continuing funding resolution. Reclamation has used these funds to enter into an agreement with the Bureau of Land Management to conduct a cadastral survey along the canal route. This effort is part of a multiphase endeavor to settle outstanding right-of-way issues.

POTENTIAL SOLUTIONS

The State of Montana and St. Mary Rehabilitation Working Group have put in a tremendous effort to raise non-federal funds to initiate the rehabilitation project. To date, State and local funds committed to rehabilitation of the St. Mary Diversion and Conveyance Works exceed \$12.5 million. What is missing at this point is active participation by Reclamation to find a workable solution. Even with the grass roots support of the basin and the leadership and financial support of the State, we cannot succeed without the support of Congress and, in turn, Reclamation.

Bureau of Reclamation must be given the ability to develop new tools for addressing the challenges aging water resources infrastructure. One challenge we face in the Milk River Basin is how the Bureau of Reclamation views capital expenditures for rehabilitation projects. According to a 2006 engineering study undertaken by the state of Montana the cost to rehabilitate and replace the St. Mary Diversion & Conveyance Works is estimated at \$130 million to \$140 million. The Bureau Reclamation considers such work to be part of operation and maintenance and requires the cost to be paid back in the year they are incurred. This presents an insurmountable financial obstacle to irrigators in the Milk River Project. Irrigators within our Project would benefit from the development of a program that enables water users to modernize or rehabilitate their projects and payoff those costs over time under reasonable terms and conditions.

As originally authorized, the St. Mary Diversion & Conveyance Works are operated for the single purpose of irrigation. As such, nearly 100% of the cost to rehabilitate and replace the system must be borne by small irrigators like me, within the irrigation districts holding water delivery contracts. Today the beneficiaries extend far beyond this original intent. The Bureau Reclamation's 2005 "Current Use Benefits Analysis" showed large public benefits accrue from the existence of the St. Mary system. In addition to providing water for irrigated agriculture, the system provides water to communities and industry, water to Bowdoin National Wildlife Refuge, and water that supports a wealth of recreational opportunities in north-central Montana. The system is also integral to settlement of federal reserved water rights with the Blackfeet Tribe and Ft. Belknap Indian Community, and implementation of the 1909 Boundary Waters Treaty. Amending the original authorization for the Milk River Project and St. Mary Diversion and Conveyance Works to reflect the extensive public benefits they provide would relieve irrigators of the burden of subsidizing the federal government for the benefits enjoyed by others.

The Working Group and the State are eager and willing to work with Reclamation and Congress to find acceptable solutions for federal support to the project. We understand that National priorities make it extremely difficult to find federal funds for the rehabilitation of the St. Mary Diversion Facilities. The tremendous amount of authorized, but not completed Reclamation projects also places a heavy burden on the agency. It is important to remember that many of these Reclamation projects are federal assets owned and operated by the federal government. Investment in these projects will preserve our Nation's ability to conserve, enhance, and efficiently manage our most precious natural resource, WATER! There is not time to simply wait for the federal funding environment to change.

Note: *The St. Mary Project Glacier County, Montana report, has been retained in subcommittee files.*

Senator JOHNSON. Thank you, Mr. Reed.

For the information of Senators, we are scheduled to begin voting at 3:30.

Mayor Cutler, in addition to talking about the costs involved in addressing the BOR's aging infrastructure, it is also important to understand the costs involved if we do not address this situation. For that reason, I want to better understand the potential Federal costs involved in rebuilding your community.

Has the rebuilding process in Fernley begun? If so, what is the source of the funds used for rebuilding? Is insurance covering a large amount of losses?

Mr. CUTLER. Mr. Chairman, I will actually start with the insurance. Our area is not considered a flood zone area. So the majority of our residents do not have flood insurance.

With that said, it was determined this is not a flood because it was not of natural causes. It was a failure in a canal, the breach of the canal. So with the flood not coming up over the banks, it is a break. So it does not follow those guidelines. So, no, insurance is not covering any of the losses that have been sustained in our community.

The rebuilding has begun, and we are very thankful that we had the declaration of emergency from the President and we had FEMA on the ground very quickly to provide our residents and our city some funding. That funding is very minimal and our city has borne the great cost to begin the improvements of our infrastructure that was damaged and our citizens have begun their rebuilding. Several of our citizens are struggling to do so based on not having enough funding to meet those needs. They are falling well short. FEMA gave up to approximately \$28,000 to the most severe homeowners and residents. Yet some of their damage is into the \$60,000, \$70,000, \$80,000 up to \$100,000 worth of damage. So many of them are struggling.

As a matter of fact, in our local paper the other day, they spotlighted a gentleman named Chip Hansen who quit work to try to save his home. He did not have the funding to have anybody else do the work. So he is doing the work, and he is struggling because he now cannot pay his mortgage payment.

So we are moving forward with the rebuild. It is very costly, and we are struggling as a city. Our financial situation is in jeopardy based on the costs. As I said, FEMA has provided some refund, in a sense, to the costs that we have incurred, but also some of the funding that goes to the residents we have to, as a city, provide back to them.

So if we look at the total amount of money from Federal dollars, I mean, it could be quite extensive to meet the needs of our community. As I stated in the testimony, we are estimating up to—now that is just estimates—the \$50 million range. I do not believe that without support we are going to make a full recovery.

I know we have several lawsuits beginning. As people realize that they are not going to be able to fully recover, I believe that they will jump in with those lawsuits.

I hope that answers your question, Mr. Chairman.

Senator JOHNSON. Thank you, Mayor Cutler.

Senator Corker.

Senator CORKER. Thank you, Mr. Chairman.

General, thank you for your service and all the witnesses for testifying today. Mayor, certainly what happened in your city places an exclamation point, on the issue, and I thank you for the testimony. I know your citizens appreciate the leadership you are providing.

As it relates to some of the comments Mr. Donnelly made about the three different types of issues—there are some where there is vendible water, and certainly those particular districts are going to do fine. There are some that are sort of in the middle area. But as it relates to those who cannot, I assume there is still some degree of wealth generated to some individuals or companies or people along the paths of those. So I assume that in the districts where there is vendible water, people are contributing, if you will,

to the maintenance and upkeep either through the OEM process or hopefully some other financial mechanisms that might be made available to make this less obtuse, if you will, or less acute.

What do you do in those areas, though, where in essence the utility district or the area that is covered by these particular water resources have individuals that are benefiting, and yet, by virtue of the fact the whole area cannot support it, they are benefiting but not paying? How do you help those of us who now value what we ought to do in relation to some of these bills?

Mr. DONNELLY. By and large, Senator, the projects that we are talking about, like the St. Mary's project, were single purpose irrigation projects that were built at the very beginning of Reclamation's history. They were the first projects that were built.

Most of them were built in the northern tier States and they were very heavily underwritten by the Federal Government. But it was a partnership. It was a Federal/non-Federal partnership. At that point in our history, the Federal Government wanted to settle the West, and they provided the projects to bring water to the land for these people, understanding that they were not going to have the financial resources to repay that. That is why we have the ability to pay factor in a lot of the computations for repaying the cost of these projects.

We know that projects like the St. Mary's project will never, ever be able to repay the rehabilitation costs. They were not able or even required to pay back the initial costs of those projects.

This is still a Federal asset. As long as the Federal Government owns that, it is their responsibility to provide the money to maintain that in optimum operating condition. I guess it would be like me—because of some of the policies at Reclamation—for example, O&M has to be paid back in 1 year. It is tough for Reclamation to separate what is actual normal O&M and what is rehabilitation and betterment, and they have no program to address major rehabilitation and betterment.

Senator CORKER. If you do not mind, explain to us who are not—the second part is actually a Federal responsibility by itself? Is that a Federal responsibility by itself?

Mr. DONNELLY. It certainly depends on the project that we are talking about, but this category of projects that we are talking about, yes, it is. It would be like me owning a condominium and the roof blows off. I mean, I can expect you to pay the electricity and the water bill, but if the roof blows off, that is my responsibility to put a new roof on there. The same situation with these projects. It is the Federal responsibility minus the ability to pay of the project beneficiaries to rehabilitate this project.

Senator CORKER. Let me ask you. Is that something that is gradable, is easily discernible? Because by virtue of the way things operate in this body, more and more folks will certainly try to ensure that the Federal responsibility is more burdensome, if you will. I mean, that is just the way it works around here. So how do we understand, if you will, in a discernible way which of these projects ought to be, if you will, more a Federal issue? There are ability to pay problems. How do we discern which ones ought to be self-funded, if you will, but freed up to do it over a period of time instead of on a 1-year basis?

Mr. DONNELLY. I think that is pretty clear in Reclamation's current operating procedures. I think the gray line is what is annual operation and maintenance and what is rehabilitation and modernization costs. I think that is the determining factor.

Senator CORKER. I know my time is up, and my colleagues have good questions. Thank you all for your testimony.

Mr. DONNELLY. Yes, sir.

Senator JOHNSON. Senator Tester.

Senator TESTER. Yes, thank you, Mr. Chairman. I just want to follow up a little bit on Senator Corker's remarks because what I got out of Bob Johnson about rehabilitation—you said rehabilitation is the BOR's responsibility. I agree with that, by the way. I am not sure that he saw it that way, though.

Mr. DONNELLY. I do not think that he is allowed to agree with that.

Senator TESTER. OK. I just wanted to make that clear.

Mr. DONNELLY. You have to remember he can only espouse or tell you what OMB will allow him to tell you.

Senator TESTER. I understand and I appreciate your perspective.

Senator Craig, I do appreciate innovation and thinking outside the box. Unfortunately, I think a lot of the wealth that was accrued in this area is leveraged pretty tight, and I does not think anybody—and I will ask Randy Reed this—does not think that they should pay some. It is just that their ability to pay, you know, has got to be reasonable.

The other thing is that we have seen what has happened to energy and not being energy independent in this country. I would sure in hell hate to lose our food independence because its ramifications would be unbelievable. So my contention is if you eat, you truly do have a stake in this project.

So, Randy, could you just give us a little better understanding about how devastating a failure of the St. Mary's project would be to north central Montana? How many acres are we talking about? What are we talking about here?

Mr. REED. An example would be even in this current year, on the Halls-Cooley siphon, contractors were in there through the winter and replaced the seals on the steel siphon that goes across this massive Cooley. The way the IJC is set up, through the month of March, the St. Mary's Basin is shared 50/50 with the United States and Canada. Once the irrigation season starts, it is 25/75.

So we watered up. One of the seals blew. The contractors did not stick the seal in because this thing is old. I mean, this thing has got rivets sticking out of it. So we had to shut down for a week/10 days when we could have gotten more water out of the St. Mary's Basin because of the 1909 Boundary Waters Treaty. We are doing maintenance rather than moving water that will grow crops.

So because of the extremely deferred maintenance, it costs the communities wealth. So you are kind of pinned in a catch 22. You struggle with your ability to pay, but yet the project—and Reclamation owns and operates the facility—is cheating you water and you need water for consumptive use to grow crops.

Often the water that comes out of this facility is from Glacier Park. It is high mountain snow melt. So it is consistent. The lower

prairie runoff is not consistent. So this is really the project's consistent water. Yet it has been ignored.

I mean, there is not even freeboard on the canal. It was constructed with horses and they dug—they excavated out the bottom of the canal and then dug the soil to the low side of the mountain. This thing has one bank. It is not a modern canal. It never has been modernized.

The wasteways and the structure do not function. The Spider Lake gates do not function. Several years ago, we had a rain event and because there is only one bank, if you get a thunderstorm, the water runs down the mountain in the canal, breaches the canal, and then you are shut down for weeks at a time while you do maintenance on the canal so you can get water over to the storage reservoirs to water up to irrigate.

So you know, it is kind of a catch 22. Your ability to pay is based on your ability to grow a crop, and we cannot consistently grow crops because the facility cheats us water.

Senator TESTER. Because it is worn out.

So at this point in time, that is the effect on you as far as the system. Even if it does not explode and quit working, it is the lack of consistent water that impacts your area economically. Very good. Thank you very much.

My time also has run out. Thank you very much for your testimony.

Senator JOHNSON. They tell me that the vote has slipped a while. But, Senator Craig, will you make a quick——

Senator CRAIG. I will do just that. Let me thank all of you for your testimony. It is valuable and it is important. I think it shows the problem and the diversity of the problem.

Mr. Donnelly, you are right. There are at least three categories and maybe four or five, and we ought to be bright enough to figure those out and slot them, if you will, or create the appropriate regulation around them that would allow us a new and different flexibility in how we deal with these.

I do not disagree. When a project, Mr. Reed, is owned by the Government, the Government ought to maintain it. At the same time, the ability to maintain it, to go out and get that money and then spread it out over a reasonable period of time also makes some sense in many of these projects.

So thank you all very, very much. Mr. Willardson, thank you for your comments.

My only question of you, Mayor Cutler, tell me it was not a gopher.

Mr. CUTLER. I will tell you this. BOR had a thorough investigation of the——

Senator CRAIG. I am sure they did.

Mr. CUTLER [continuing]. Bank, and I actually was asked that very early. I was kind of almost embarrassed to say yes to that question.

Senator CRAIG. It is a serious question when it comes to canal maintenance.

Mr. CUTLER. Yes. I think in the end, the damage that the gophers are having on the canal and the breakdown was the leading

cause. We have bumper stickers going around our community, Citizens Against the Gophers.

Senator CRAIG. It is time you rose up against the gopher. Yes.

Mr. CUTLER. There are plans I guess to deal with it. Obviously, all these things take a lot of funding.

Senator CRAIG. Again, thank you. Sorry about your loss, but you are right. Oftentimes people who live around a canal and are not in a flood plain do not have flood insurance, and all of a sudden, they are flooded. When you get a breach of the kind that you had, that is serious business and, obviously, devastating to your community. Thank you much.

Mr. CUTLER. Thank you. I appreciate it.

Senator CRAIG. Thank you, Mr. Chairman. That is as quick as I could possibly make it.

Senator JOHNSON. I have no additional questions. Thank you again to our panelists. We may have additional questions for the record.

For the information of Senators and their staff, questions for the record are due by the close of business tomorrow.

With that, this hearing is adjourned.

[Whereupon, at 3:34 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSES OF THOMAS F. DONNELLY TO QUESTIONS FROM SENATOR JOHNSON

Reclamation appears to be taking the position that local water and power users are responsible for all maintenance, which includes major rehabilitation work and replacement of project facilities.

Question 1. Do NWRA and its members accept Reclamation's position on this subject?

Answer. We do not accept Reclamation's position on this subject. These are still federally owned facilities and therefore it is the responsibility of the federal government to maintain them in peak operational condition.

Water users, in most cases, are prepared to repay the capital costs of needed major rehabilitation and modernization given reasonable terms and conditions. However, Reclamation does not offer such a program. Currently, major rehabilitation is considered O&M and must be repaid in the year that is incurred. If the water users are incapable of paying the costs in that year the rehabilitation is deferred indefinitely.

Question 2. Per your testimony, how might the Reclamation Fund be used to address aging infrastructure needs?

Answer. The Reclamation Fund was established to finance new project construction and rehabilitation and modernization of existing projects. The Reclamation Fund currently contains in excess of \$7 billion. The Bureau of Reclamation's annual operating budget is a draw down from the fund; however, annual receipts into the fund far exceed Reclamation's budget. Congress could, by legislation, direct on a project-by-project basis that revenues from the fund be used to finance major rehabilitation needs.

The Rehabilitation and Betterment Loan Program (PL 81-335) could also be used to address aging infrastructure needs. At this time, the Office of Management and Budget will not allow Reclamation to use this program.

Question 3. You mentioned during the hearing that the water users' responsibility for maintenance may be limited to their "ability to pay". Please explain in detail what you mean by this statement.

Answer. First let me be clear, I was not suggesting that routine annual maintenance be subject to the water users' "ability to pay". "Ability to pay" is a complex formula that Reclamation uses to determine the amount of capital costs the water users are required to repay the federal government. The first projects built by Reclamation were single purpose irrigation projects. Many were built in the northern tier States where only one growing season was possible. Consequently, the capital costs of these early projects were heavily underwritten by Congress. However, they represent one of the most successful federal/non-federal partnership in our country's history. "Ability to pay" was developed as a recognition that the project beneficiaries could never repay the full cost of these projects and that Congress never intended full cost repayment.

These are the very projects that are now the "tip of the aging infrastructure iceberg." They pose a vexing public policy question. Should the federal government recapitalize these projects or let them fail with the knowledge that the communities and regional and local economies that are dependent on them would be devastated? My reference to "ability to pay" during the hearing was in the context that Congress must understand that for projects such as the St. Mary's Project in Montana and

others the water users would never be able to repay the major rehabilitation costs in total.

RESPONSE OF WESLEY RANDAL REED TO QUESTION FROM SENATOR JOHNSON

Question 1. It's my understanding that the 2007 Water Resources Development Act contained a provision instructing the Corps of Engineers, in consultation with BOR, to rehabilitate the St. Mary's facilities. It also authorized \$153 million for that effort.

What has happened since that provision was enacted? Will the Corps of Engineers step in to address the problem that has been created due to BOR's lack of action?

Answer. The Honorable Senator Johnson and members of the Committee, Thank you for the opportunity to provide your office with additional information. Your understanding of the 2007 Water Resources Development Act (WRDA) is correct. Section 5103 instructs the Corps of Engineers, in consultation with the Bureau of Reclamation to rehabilitate the St. Mary's facilities.

Since passage of WRDA 2007, the Army Corps of Engineers (COE) has not taken any concrete steps to implement the provisions in Section 5103. COE has taken the position that they (COE) will not address the St. Mary Project until Congress appropriates funds for the project. COE personnel at all levels have told us repeatedly that the St. Mary Project is considered an unfunded, low priority project. COE will not even begin drafting their internal implementation guidance until the project receives a Congressional appropriation.

Since January 2008, representatives from the State of Montana and St. Mary Rehabilitation Working Group (SMRWG) have met several times with COE and Bureau of Reclamation (Reclamation). On January 22, 2008, representatives from the Montana Department of Natural Resources and Conservation (DNRC) traveled to Billings, MT to meet with COE and Reclamation. COE representatives included Ms. Kayla Eckart Uptmor, Chief of the Planning Branch in the Omaha District Office, and members of her staff. Reclamation representatives included Mr. Dan Jewell, Manager of Reclamation's MT Area Office and members of his staff.

On February 5, 2008, we met with Mr. Theodore Brown, Acting Chief, Planning & Policy and Regional Integration Team and staff members at COE Headquarters in Washington, D.C. on the relevance of the COE and their implementation of Section 5103.

On May 8, 2008, representatives from MT DNRC, Mr. Don Wilson of the Blackfeet Tribe, and Mr. Larry Mires, Executive Director of the SMRWG met with Mr. Witt Anderson, Chief of Programs with COE's Northwest Division Office in Portland, OR. According to Mr. Anderson, the St. Mary Project will not be included in COE's budget now or anytime in the foreseeable future. Mr. Anderson also indicated that funds Congress appropriates to the project must be included in statutory language.

It is my understanding that Mr. John Paul Woodley, Assistant Secretary of the Army—Civil Works and Mr. Robert Johnson, Commissioner of Reclamation have met to discuss the project. I also understand that Mr. Anderson from COE's Northwest Division Office and Reclamation's Great Plains Regional Manager, Mr. Mike Ryan discussed the project at an April 30 meeting in Billings, MT. Reclamation and COE representatives have toured the project sight on at least two occasions.

As noted in my April 17, 2008, supplemental written testimony, the State of Montana authorized \$10 million in bonding authority to serve as seed money for the non-federal cost share. The State is willing to put these funds to immediate use provided they are guaranteed the expenditures will be credited towards the non-federal cost share. However, COE will not negotiate a cost share agreement until after they have completed the implementation guidance which, COE will not address until federal funds are appropriated to the project.

We find ourselves in a situation where the non-federal sponsor is willing to immediately expend significant resources up front, but the federal agency given responsibility to address the issue will not expend even a limited amount of resources to write the implementation guidance and negotiate a cost share agreement. In the meantime, Reclamation shut down the canal for a week in April 2008 to fix a new leak in the Hall Coulee Siphon.

On May 8, Mr. Anderson stated that COE will support a "new start" for the St. Mary Project if, and when, Congress appropriates funds. After visits with COE officials, I believe that COE and Reclamation will work cooperatively in implementing Section 5103 of WRDA 2007. The St. Mary Project provides a unique opportunity for two federal agencies with complementary interests and resources to form a partnership with the aim of maximizing federal dollars to fix a project owned and operated by the federal government.

Again, thank you for the opportunity to testify before the Committee.

RESPONSES OF CHARLES I. MCGINNIS TO QUESTIONS FROM SENATOR JOHNSON

Question 1. Based on your own technical expertise and experience, what is the design life for Reclamation's infrastructure, and is there some point when these facilities simply need to be replaced? How is the Corps of Engineers addressing this issue?

Answer. I cannot speak to Reclamation's policies and actions regarding infrastructure design life, or for that matter to that of the Corps of Engineers, since I retired from the Corps many years ago. That said, it is normal for major structures to be designed with a life expectancy in the 50 to 100 year range. Actual useful life may not be related to design intentions. Useful life may be limited by material deterioration and failure, or functional failure, i.e. the facility continues to perform as intended, but the need changes and the facility can no longer meet the need. Technical obsolescence can occur, especially in electronic, electrical, and mechanical components. The life of a facility is highly dependent on the quality of maintenance. As a case in point, the Panama Canal is 96 years old, and as a result of careful maintenance, it remains dependably operable. Its limitations are functional—bigger ships cannot transit the original locks. There is no single or simple answer to the question of a point where replacement is needed. This decision involves politics, environmental concerns, and economics in addition to a technical evaluation. Replacement decisions are made on a case by case basis.

Question 2. Your testimony notes an inconsistency across the BOR regional offices in planning work activities that are necessary to maintain project facilities.

Does this observation apply just for the facilities that BOR is operating and maintaining—the so-called “reserved works”—or does the inconsistency also apply in how these offices are addressing the facilities that are maintained by local entities—the “transferred works”.

Answer. I believe that an element of inconsistency is evident in both reserved and transferred works maintenance planning. As noted in Mr. Donnelly's testimony on April 17th, a degree of subjectivity is inevitable in determining the nature of maintenance and repair. Is the intended work routine operation and maintenance, is it dam safety related, or is it major rehabilitation? The extent of federal government financing is dependent on this determination. Reclamation officials react differently to local user pressure to rule on this question. In addition, the strong movement toward decentralization of program execution in Reclamation, and the near elimination of central policy guidance left field officials with very broad authority to make these interpretations. Superior advance planning in two of the five regions has resulted in some of this inconsistency, when results are compared with the remaining three regions. Organizations such as the Family Farm Alliance and the National Water Resources Association have interests in several Reclamation regions, so they become aware quickly of differences in program execution between the regions.

RESPONSES OF BOB JOHNSON TO QUESTIONS FROM SENATOR JOHNSON

Question 1a. Given issues of potential liability, BOR has a strong interest in ensuring its facilities are adequately maintained.

What are the standards and guidelines that apply to ensure that these “transferred works” are maintained in an adequate condition? How are contractors held to these standards?

Answer. The basic requirements for the examination of all water-related facilities, regardless of transferred works or reserved works, is contained in Directive and Standard FAC 01-04 “Review of Operation and Maintenance (RO&M) Program Examination of Associated Facilities (Facilities Other Than High-and Significant-Hazard Dams)” <http://www.usbr.gov/recman/fac/fac01-04.html> and FAC 01-07 “Review/Examination Program for High-and Significant-Hazard Dams” <http://www.usbr.gov/recman/fac/fac01-07.pdf>. Reclamation has internal guidelines on the conduct of the reviews of associated facilities which are attached for your information. The best general guide for the operation and maintenance of these types of facilities is Management, Operation and Maintenance of Irrigation and Drainage Systems, American Society of Civil Engineers (ASCE), 1991, ISBN 0-87262-785-3, which Reclamation co-sponsored with ASCE to develop.

Operating entities receive formal reports of the reviews conducted and identified recommendations. Those recommendations are entered into Reclamation's Dam Safety Information System and then monitored annually and followed up on during

the next review until they are resolved. Recommendations are categorized as to their seriousness. The most serious conditions, identified by a Category 1 designation, are actively monitored by Reclamation to ensure that the operating entity immediately schedules and resolves the issue on a timely basis.

Question 1b. Has the United States ever been held liable for damages caused by a failure of infrastructure owned by the BOR, notwithstanding contractual obligations it may have with a water district?

Answer. On June 5, 1976, Reclamation's Teton Dam failed during its initial filling. While there was never a final judicial decision, as a result of that incident, the Teton Dam Disaster Assistance Act (90 Stat. 1211) was enacted to provide compensation and settlement of claims arising from the failure.

Question 2. As I understand it, BOR takes the position that project contractors are financially responsible for a pro-rata portion of the operation and maintenance costs associated with project facilities, and that such costs must be paid in the year in which they are incurred. It's unclear, though, to what extent major rehabilitation projects and replacement of project works are the responsibility of project contractors—and the requisite repayment period that applies.

Can you describe in detail the relative responsibilities of BOR and its contractors with respect to the financial aspects of major rehabilitation and replacement of project works?

Answer. With regard to reserved works, Reclamation requires beneficiaries to pay an allocated share of the operation, maintenance and repair/replacement (OM&R) work performed by Reclamation. Reclamation requires that operators of transferred works assume the full cost of OM&R of facilities. Reclamation does not consider reinvestment in facilities to correct deficiencies stemming from age or operation as construction costs. The clearest demarcation of the difference between construction costs and operation and maintenance costs is found in the litigation *U.S. v. Fort Belknap Irrigation District*, 197 F. Supplement 812, 819 (D. Mont.1961).

Expenditures are properly chargeable to "construction" when they (1) are incurred to construct an irrigation system and put it in condition to furnish and properly distribute water, (2) are made necessary by faulty original construction in violation of contract and statutory requirements, or (3) are for the purpose of increasing the capacity of the original system. On the other hand, expenditures are properly chargeable to "operation and maintenance" when they are required to remedy conditions brought about by the use of the completed system or to maintain and operate it efficiently for the end to which it is designed.

Therefore, this court decision clearly placed major rehabilitation and replacement costs in the category of "operation and maintenance" which, by law and contract, the operating entity of the transferred works is obligated to finance.

Question 3a. In the Rural Water Supply Act of 2006, Congress authorized a BOR Loan Guarantee Program to help local entities implement maintenance and rehabilitation activities by securing non-Federal financing with favorable repayment terms. Section 203 of the Act directs the Secretary to initiate the program by publishing eligibility criteria in the Federal Register.

BOR believes that non-Federal entities are financially responsible for all maintenance associated with project facilities, is that correct? Isn't the loan guarantee program an appropriate way for the Federal Government to assist them in meeting their contractual obligations?

Answer. Yes, Reclamation believes that non-Federal operating entities are responsible for the maintenance (including related rehabilitation and replacement work) associated with transferred works, as defined by project O&M allocations. The Loan Guarantee Program, as authorized by Title II of the Rural Water Supply Act, may be one tool among others at Reclamation's disposal to assist operating entities with securing long-term private financing to undertake extraordinary operation and replacement work.

Question 3b. Why has the Loan Guarantee Program not been implemented if the responsibility for maintaining these facilities falls to the contractors?

Answer. The proposed loan guarantee rule was published in the Federal Register on October 6, 2008. The public has 30 days to comment on this proposed rule. DOI will respond to public comments in a final rule and, where it determines appropriate, revise the rule accordingly. The rule will then be reviewed by the Executive Office of the President. Once that review has been completed, DOI will publish the final rulemaking in the Federal Register.

Question 3c. Are changes needed to Title II of P.L. 109-451 to facilitate the implementation of the loan guarantee program? If so, can you provide a drafting service that documents these needed changes from the Administration's perspective?

Answer. The proposed loan guarantee rule was published in the Federal Register on October 6, 2008. The public has 30 days to comment on this proposed rule. DOI will take comments from the public under consideration and, where it determines appropriate, revise the rule accordingly. The rule will be reviewed by the Executive Office of the President. Once that review is completed, DOI will publish the final rulemaking in the Federal Register. The final review will include a response to substantive comments submitted by the public. As a consequence of the final rule, the Administration does not believe statutory changes would be needed.

Question 4. It seems to me that an opportunity exists when aging infrastructure is rehabilitated or replaced. Water conservation and efficiency improvements can be incorporated which might help resolve water supply or environmental issues that exist in a specific river basin.

Do you agree, and if so, has BOR combined the concepts of infrastructure rehabilitation and efficiency improvements in any of its maintenance activities?

Answer. We agree that if such major work is to be undertaken, opportunities may exist to achieve multiple objectives. The act of replacing or repairing facilities with current technology can often result in water conservation through such activities as canal lining, telemetry operations, etc. If major rehabilitation or repair work is undertaken in conjunction with an expansion of system/facility capacity, that additional capacity would be considered construction and not operation and maintenance work.

RESPONSES OF BOB JOHNSON TO QUESTION FROM SENATOR TESTER

Question 1. What could be done to allow the Bureau of Reclamation to establish a set of project costs, separate from those associated with regular operation and maintenance, for large-scale rehabilitation and replacement that could be paid back over a number of years and at reasonable terms? Would the Bureau of Reclamation be supportive of such a change?

Answer. Reclamation already has authority to provide loans with long-term repayment provisions under the Rehabilitation and Betterment Act (43 U.S.C. § 504) ("R&B Act"). However, in response to issues raised by the Office of Inspector General in the early 1990s regarding Reclamation loan programs and other issues, Reclamation stopped requesting funding for its loan programs. The merits (costs and benefits) of funding that program would need to be assessed by the Administration and Congress.

Question 2. Many of Reclamation's projects were built primarily for irrigation purposes, but over their 50-100 year lifetime, a variety of other benefits have accrued. Is there a process to redistribute costs as the beneficiaries of a project change? Should Reclamation have the ability to redistribute costs as the beneficiaries change?

Answer. There are established economic methods to allocate costs based on current benefits. Reclamation has authority and periodically revisits the allocation of O&M costs to assure they are equitable across authorized project purposes. However, any reallocation of construction costs to project purposes not originally included in the project authorization or statutorily added later would need to be authorized by the Congress pursuant to Reclamation Law. Reallocation of construction costs among authorized project purposes is also subject to certain limits, imposed in Section 302 of the Department of Energy Organization Act (42 U.S.C. § 7152).

APPENDIX II

Additional Material Submitted for the Record

QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT,
Quincy, WA, April 9, 2008.

Hon. MARIA CANTWELL,
U.S. Senate, 825 Jadwin Avenue, 204/204A, Richland, WA.

Re: Request for assistance in submitting testimony for the record—April 17 oversight hearing, Senate Energy and Natural Resources Committee

DEAR SENATOR CANTWELL, The Quincy—Columbia Basin Irrigation District in Quincy, Washington respectfully requests your assistance in submitting the attached testimony to the Senate Energy and Natural Resources Committee for their upcoming April 17 oversight hearing on aging federal water management infrastructure in the West. We have also attached a briefing paper that summarizes our issue and needs regarding the rehabilitation of the West Canal feature of the Columbia Basin Project.

Our Project is aging, and the West Canal is in dire need of major rehabilitation construction work. We are willing to pay for this work and with the assistance of a loan or loan guarantee program from the Bureau of Reclamation (Reclamation), we could accomplish this construction project. However, such a program does not exist, even though Congress recently passed legislation giving Reclamation authority to guarantee loans for such rehabilitation projects at federal facilities such as ours. We would like your assistance in communicating our concern over the lack of such a program, especially in light of the negative impacts to the cost of municipal financing (tax-free bonds) due to the mortgage crisis, as well as the immediate safety, security, and economic concerns if one of our facilities ever did fail.

The Quincy—Columbia Basin Irrigation District prides itself on preventing such catastrophes through maintenance programs that are second to none across the West. But the rehabilitation needs of some of our aging facilities are beginning to dwarf our budgets and the lack of financing tools to assist our efforts is hindering our ability to get ahead of these problems. We would like to meet with your District staff at their earliest convenience to explain and discuss our issues in person prior to this hearing. We understand that Senator Harry Reid, the Majority Leader, is very interested in this issue as well due to the recent levy failure in Nevada.

We thank you in advance for helping to submit our testimony at the April 17 hearing, and look forward to meeting your staff soon.

Sincerely,

DARVIN FALES,
Secretary-Manager.

ATTACHMENTS—STATEMENT OF THE QUINCY COLUMBIA BASIN IRRIGATION DISTRICT

Mr. Chairman, thank you for holding this hearing on the increasingly important topic of our aging Federal water infrastructure. We appreciate as well, our United States Senator, the Hon. Maria Cantwell, for providing the opportunity to submit our testimony to the official hearing record.

Over the past 106-years, the federal Bureau of Reclamation (Reclamation) has financed and built some of the largest irrigation and multi-purpose water development projects in the world. These projects spurred significant economic growth and prosperity in the Western U.S., and have well served this Nation through the efficient and effective delivery of water and production of fruits, grains, fresh vegetables, nuts, and beef and dairy products to feed the citizens of the United States and much of the world. These Reclamation projects Westwide support water supply, recreation, hydropower production, and fish and wildlife habitat, which all contribute to the Western economy and quality of life in the region and are even more important today than ever before.

As Reclamation's facilities age, the costs of operating and maintaining these projects continue to increase—with a major share of these escalating costs borne by only a segment of a project's beneficiaries—those holding Reclamation contracts for water.

In some places in the West, these facilities have already outperformed their original life expectancy, and are due for major rehabilitation to prepare the way for the next 100-years. Our facilities on the Columbia Basin Project in central Washington State are no exception. The Quincy—Columbia Basin Irrigation District (District) anticipates the need for over \$40,000,000 in new investment within the next few years just to maintain the efficiency and security of our system on the West Canal, a Reclamation facility.

Such investment is critical to maintaining the reliable water deliveries expected of our District, but probably an even more important reason for such preventative maintenance is the safety and protection of the population and development that has grown up around our facilities from the disastrous impacts resulting from a possible canal failure. The recent catastrophic failure of the Fernley canal, a Reclamation facility in Nevada, is precisely what timely and effective rehabilitation is meant to prevent.

While rehabilitating and upgrading canals may not always prevent such a catastrophe from occurring, the risks are drastically diminished.

While there are many challenges associated with accomplishing such a large rehabilitation project, the one major barrier our District faces is simply one of financing.

When many of the major Reclamation projects were constructed over a half-century ago, Congress understood the need for providing federal financial support for the major rehabilitation that would be necessary as that infrastructure reached its design and age maximums.

The Small Reclamation Projects Act of 1956 and the Distribution Systems Loan Act of 1955 were meant to support this objective by providing a mechanism for long-term financing directly to contracting districts (such as ours) to rehabilitate and improve federally-owned facilities. There have been no Distribution System Loans since 1991 and both programs have been scheduled for termination under Phase II of the National Performance Review.

Without a doubt there remains a federal interest in ensuring the timely and safe maintenance and rehabilitation of aging federally-owned water facilities in the West. Also, the condition of our Project's facilities is of utmost concern to the District and our patrons. Millions of dollars have been invested by private property owners over the life of the Project on Reclamation's promise of irrigation water delivered reliably and on a timely basis. We have a vested interest in ensuring Project facilities are and remain in top condition both now and into the future based on these investments.

One of the brightest moments we have seen in our efforts lately has been the passage and signing into law of the Rural Water Supply Act of 2006. Title II of this Act authorized a loan guarantee program for Reclamation to help meet the infrastructure needs of districts such as ours. While such a program may not solve every water district's infrastructure financing problem, it will prove a very useful tool in the continual need to rehabilitate water systems for the future.

Unfortunately, the Department of the Interior's efforts to implement this program have been stymied by the Office of Management and Budget, and there is no schedule for bringing this useful tool to the districts that need it anytime soon. Clearly, Reclamation believes this program would be useful as evidenced by their 2008 budget requested \$2,000,000 for implementation.

Our District's hope is that this Committee, which had the foresight to develop and move the legislation allowing for the loan guarantee authority to become law in the 108th Congress, will continue to insist that this critical financing tool be made available by the Administration as soon as possible.

THE COLUMBIA BASIN PROJECT

The Columbia Basin Project (CBP) is a multipurpose development built by Reclamation utilizing a portion of the water resources of the Columbia River and is located in central Washington State. The key structure, Grand Coulee Dam, is on the mainstem of the Columbia River about 90 miles west of Spokane, Washington. The extensive irrigation works extend southward on the Columbia plateau, 125 miles south to the vicinity of Pasco, Washington, where the Snake and Columbia Rivers join. Principal project features include Grand Coulee Dam, Franklin D. Roosevelt Lake, Grand Coulee Powerplant Complex, switchyards, and a pump-generating plant. Primary irrigation facilities are the Feeder Canal, Banks Lake, the Main, West, and East Low Canals, O'Sullivan Dam, Potholes Reservoir, and Potholes

Canal. At this time, approximately 671,000 acres are currently irrigated, and power production facilities at Grand Coulee Dam are among the largest in the world, with total name plate generating capacity rated at 6,809 megawatts.

The CBP was authorized for construction by the Rivers and Harbors Act approved August 30, 1935, and was reauthorized by The Columbia Basin Project Act of March 10, 1943, bringing it under the provisions of the Reclamation Project Act of 1939. Construction of Grand Coulee Dam commenced in December 1933, and was completed with the last of the eighteen 108,000 kilowatt generating units installed in September 1951. Irrigation commenced on the CBP in 1948 from the Columbia River pumping plant, and in 1950 from the Snake River pumping plant. In the spring of 1952, irrigation water was delivered through the newly constructed facilities at Grand Coulee to the CBP. Construction of major canals, re-lift pumping plants and lateral systems progressed on a regular schedule until 1984 when Irrigation Block 26, the last full block of the first half of the Columbia Basin Project, was developed. The orderly and efficient manner that the CBP was built has brought about a well-rounded development of the project.

THE WEST CANAL

The West Canal is 88-miles long and was constructed between 1946 and 1955. In 2006, the District hired Mr. Howard Gunnarson, Consulting Engineer, to develop an assessment of the condition of the West Canal. (The West Canal Assessment Report is attached to this testimony.) Eleven critical action items were identified in the Assessment Report (Report) along with cost estimates and a prioritization schedule based on the threat to the continued safe and proper operation of the West Canal and related structures.

The canal lining replacement action item has work items falling in all three priority levels—High, Medium, and Low. Maintenance items were also identified during the assessment and are being dealt with in our ongoing maintenance program. The estimated total construction cost to remediate all the critical action items identified in the Report is about \$42,000,000 in 2006 dollars; however, several alternatives are also identified in the Report to accomplish some of the work at a reduced cost. The Report identifies immediate “High” priority items estimated to cost \$3,400,000, and the District is looking into financing options at this time to move this critical work toward construction.

The need for loan guarantee to finance the critical action items will provide an opportunity to avoid what happens to the Truckee Carson canal in Nevada, (ditch failure flooding a recently developed neighboring subdivision), and the consequences of such a disaster.

Currently, private lands included within the Project are subject to assessments to pay for operation, maintenance, and rehabilitation. By statute, these costs are payable annually; Reclamation does not provide financial assistance to accomplish such work. Operation and maintenance funds are provided by the District’s patrons through annual assessments. However, the large amounts of funding required to rehabilitate major project features cannot be assessed at the rate required to meet these increasing needs. Long term financing is required to accomplish these improvements in a fiscally responsible manner that is fair to our patrons.

As stated previously in this testimony, there are few options to finance such large construction projects. Municipal bonds are one option, and have been used by other districts in similar situations. However the fallout from the current mortgage crisis and impacts to the money supply available for such investments has adversely affected the availability of affordable capital. It is our understanding that traditional Municipal Bond financing instruments are now pricing at 120%-150% of the Treasury rates. We have found that a federally-guaranteed loan for up to 90% of the cost of a construction project (as authorized by Congress in 2006), would be priced very close to the Treasury rate, and provide our District with substantial cost savings while assisting our efforts to quickly deal with our aging infrastructure needs with very little impact to the Federal budget.

CONCLUSION

The Quincy—Columbia Basin Irrigation District would like to thank you, Chairman Bingaman, Ranking Member Domenici, and the Members of this Committee for your continued interest in planning for and implementing rehabilitation projects that extend the useful lives of much of the West’s aging federal water management infrastructure. We look forward to continuing to work with this Committee and the Bureau of Reclamation in implementing the recently authorized loan guarantee program and other innovative financing methods that could provide our District with the financial tools necessary to accomplish our goals and objectives with regard to

rehabilitating the West Canal and other components of our facilities to meet our water needs well into the future.

BRIEFING PAPER

SUBJECT: West Canal Rehabilitation Project

ISSUE: Lack of federal funding mechanisms for the Quincy—Columbia Basin Irrigation District to commence design and construction of major rebuilding of the West Canal on the Columbia Basin Project in Washington State.

REQUEST: Congressional oversight and possible legislative direction to the Department of the Interior, Bureau of Reclamation, to begin formalizing a federal loan guarantee program within Reclamation to finance rehabilitation of aging water delivery infrastructure in the West.

ACTION: The Quincy—Columbia Basin Irrigation District is asking Congress to:

- 1) Insist that federal loan guarantees be made available by the Department and Reclamation as soon as possible; or,
- 2) Draft, introduce, and pass legislation directing the Department and Reclamation to provide federal loan guarantees to several high-priority rehabilitation projects, including the West Canal Rehabilitation Project within the District.

BACKGROUND: Over the past 106-years, the federal Bureau of Reclamation (Reclamation) has financed and built some of the largest irrigation and multi-purpose water development projects in the world. These Reclamation projects Westwide support water supply, recreation, hydropower production, and fish and wildlife habitat, which all contribute to the Western economy and quality of life in the region and are even more important today than ever before. As Reclamation's facilities age, the costs of operating and maintaining these projects continue to increase—with a major share of these escalating costs borne by only a segment of a project's beneficiaries—those holding Reclamation contracts for water. In some places in the West, these facilities have already outperformed their original life expectancy, and are due for major rehabilitation to prepare the way for the next 100-years. Our facilities on the Columbia Basin Project in central Washington State are no exception. The Quincy—Columbia Basin Irrigation District (District) anticipates the need for over \$40,000,000 in new investment within the next few years just to maintain the efficiency and security of our system on the West Canal. Such investment is critical to maintaining the reliable water deliveries expected of our District, but probably an even more important reason for such preventative maintenance is the safety and protection of the population and development that has grown up around our facilities from the disastrous impacts resulting from a possible canal failure.

While there are many challenges associated with accomplishing such a large rehabilitation project, the one major barrier our District faces is simply one of financing. When many of the major Reclamation projects were constructed over a half-century ago, Congress understood the need for providing federal financial support for the major rehabilitation that would be necessary as that infrastructure reached its design and age maximums. Without a doubt, there remains a federal interest in ensuring the timely and safe maintenance and rehabilitation of aging federally-owned water facilities in the West, yet there are no active federal loan programs available to Districts such as ours in financing these efforts. Title II of the Rural Water Supply Act of 2006 authorized a federal loan guarantee program for Reclamation to help meet the infrastructure needs of districts such as ours. While such a program may not solve every water district's infrastructure financing problem, it will prove a very useful tool in the continual need to rehabilitate water systems for the future. Given the current pressures on the financial industry today due to the mortgage crisis, the market for municipal bond financing is tight, and the interest costs have risen dramatically. Yet, the Department of the Interior's efforts to implement this program have been stymied by the Office of Management and Budget, and there is no schedule for bringing this useful tool to the districts that need it anytime soon. Clearly, Reclamation believes this program would be useful—their 2008 budget requested \$2,000,000 for implementation.

IMPACTS OF POSSIBLE BREACH OF THE WEST CANAL QUINCY—COLUMBIA BASIN IRRIGATION DISTRICT QUINCY, WA

- During irrigation season, the West Canal downstream of the Bifurcation contains a total volume of water equal to about 124 acre-feet (one acre-foot = 325,851 gallons) per mile to the W20 Check, with no wasteways or large turn-outs into any lateral systems in that reach.

- The reach from High Hill Check to the W20 Check (subtracting the Soap Lake Siphon) is calculated to contain about 1,250 acre-feet during normal operating conditions, with an average velocity of about 5 feet per second.
- In the event of a breach of the West Canal reach through the town of Ephrata, Washington, it is possible that over 1,000 acre-feet of water (over 325 million gallons) could flow out of the canal during the first 3 hours of failure.
- It is estimated that the downtown business area of Ephrata,* as well as the High School, could be inundated by up to 4 feet of water as the flow spreads.
- If such a breach occurred, State Route 28 could be closed for up to a week or more; the railroad may be damaged as well, and closed to rail traffic for several days or more.
- If a breach occurred in the vicinity of Soap Lake, the water would flow into Soap Lake, washing sediment into the waterbody and raising water levels over one foot, causing damage to residential areas and raising groundwater levels.
- Any breach of the West Canal would result in curtailed deliveries to over 250,000 irrigated acres, drying up high-value crops dependent on irrigation deliveries from the West Canal system and, if out of service for the entire irrigation season, resulting in losses estimated to total in the hundreds of millions of dollars in lost crops and associated processed products.

STATEMENT OF THE WATER RESOURCES COALITION

I. INTRODUCTION AND SUMMARY

The Water Resources Coalition (WRC) is pleased to offer this statement for the record on the aging water resource infrastructure that is operated and maintained, or owned, by the United States Bureau of Reclamation (Bureau).

The Coalition believes that Congress needs to increase federal financial support for the Bureau in the next three to five years as the agency faces three interrelated infrastructure problems: the level of funding provided to the agency under recent federal budgets; a small, but measurable, decline of the reliability of the water infrastructure facilities and systems under the Bureau's control; and the demonstrated need for more money to address the repair of aging facilities.

II. INFRASTRUCTURE ISSUES

A. *Current Conditions*

The Bureau of Reclamation was created by Congress in 1902. "The Reclamation Act of 1902 set in motion a massive program to provide federal financing, construction, and operation of water storage and distribution projects to reclaim arid lands in many Western States."¹

Reclamation operates and maintains 2,122 water and power structures in 17 states of the West. Among these facilities are 472 dams, 348 reservoirs, 58 power plants, and numerous other water delivery facilities. This infrastructure provides water to 31 million people and to 10 million acres of irrigated farmland, and it generates 44 billion kilowatt hours of electricity annually.

Major [Reclamation] water and power systems are now in place, and relatively few large new projects are anticipated. As a consequence, the bureau's focus and workload have shifted from building infrastructure to operating, maintaining, repairing, and modernizing it. . . . Reclamation's budget has been level while . . . the cost of maintaining and repairing existing infrastructure is rising, in part owing to aging facilities, normal wear and tear, and increased stakeholder attention to environmental issues.²

With the nation's population and accompanying development continuing to move into the West, however, the need for new infrastructure to deliver greater quantities of water in future cannot be discounted, according to the National Research Council.

As growth [in the West] occurs, more land in agricultural use is likely to be used for municipal and industrial development. These changes will spur demand for more water and power resources, and that demand may

* QCBID map has been retained in subcommittee files.

¹ Orff v. U.S., 545 U.S. 596, 598 (U.S. 2005).

² NAT'L RESEARCH COUNCIL, MANAGING CONSTRUCTION AND INFRASTRUCTURE IN THE 21ST CENTURY BUREAU OF RECLAMATION 1-2 (2006), <http://nap.edu>.

outstrip the supply. Reclamation will be challenged to find ways to manage water and power so that it can meet future demand.³

The Bureau reported recently that its current infrastructure systems are in generally good condition. But it acknowledged that the long-term trend shows a slight (but noticeable) decrease in reliability of the facilities under its control in the coming year. Indeed, the Bureau acknowledges that the agency faces approximately \$3 billion worth of rehabilitation needs for its aging infrastructure over the next 20 years.⁴

Based on the agency's own internal "Facility Reliability Rating" system, which measures the percentage of water facilities that are in good or fair condition, the Bureau determined in FY 2007 that 99 percent of all facilities met those criteria. The agency accepted, however, that the reliability index may fall below 90 percent in FY 2009 and following years.⁵

B. Operation and Maintenance

Much of the Bureau's current infrastructure is now 50 years old or older, and its proper operation and maintenance are the agency's top priorities. The administration has proposed \$396.3 million in budget authority for FY 2009 to ensure that its facilities are operated and maintained safely and reliably.⁶ This is a slight increase over the \$388 million enacted for O&M in FY 2008. The agency also is requesting \$91.2 million for its dam safety program in FY 2009.

Almost from the beginning, the federal government has wrestled with the problem of repairing the Bureau's infrastructure. It soon decided to require water users to pay for a portion of the repair and maintenance of the facilities.

In 1949, Congress passed the Rehabilitation and Betterment Act to authorize those interests that benefitted from the agency's water projects to enter into loan agreements in order to pay the federal government a share of the cost of the projects' upkeep. The loans were to be repaid "in installments fixed in accordance with [the local beneficiary's] ability to pay."⁷

In addition, the Bureau has an existing program, the Small Reclamation Loan Program, that should be examined for use in this area based on the role that it has played in almost all of the 17 western states.

The Coalition also is disappointed at the failure of the administration to move forward with implementing the Twenty-First Century Water Works Act that was contained in title II of the Rural Water Supply Act of 2005. This Act provided a valuable tool—loan guarantees—that many in the West were looking at with regard to addressing their aging infrastructure. We would ask the Committee to look into the Administration's failure in this important policy area.

Federal policy today continues to emphasize the need for local interests to assume the largest share of the responsibility for maintaining Reclamation infrastructure. The agency prefers that project beneficiaries perform the day-to-day O&M, where appropriate and in the best interest of the public, through a formal transfer agreement, with Reclamation retaining oversight of the program.⁸

Currently, the O&M responsibility of approximately 66 percent of project facilities Reclamation-wide, totaling nearly 500 facilities, has been transferred to project beneficiaries. In most cases, the remaining "reserved works" are maintained by Reclamation, with the agency's contracting all O&M activities at approximately seven percent of the reserved works facilities.⁹

Where irrigation is the only authorized purpose, all of the project's O&M costs are generally paid by the irrigators. Multipurpose projects may have benefits that in-

³Id. at 2.

⁴Comm'r Robert W. Johnson, U.S. Bureau of Reclamation, Reclamation Stakeholders Meeting, Washington, D.C. (Apr. 11, 2008).

⁵U.S. BUREAU OF RECLAMATION, BUDGET JUSTIFICATIONS—FY 2009 13 (2008), <http://www.usbr.gov/budget/2009/CONTENTS.pdf>. The trend will remain at or below 90 percent of all facilities for at least the next four years, according to the agency.

⁶Hearing Before the H. Subcomm. on Energy and Water Dev. on the Bureau of Reclamation Budget for FY 2009, 110th Cong. (2008) (statement of Comm'r Robert W. Johnson). <http://www.cq.com>.

⁷43 U.S.C. §504. Congress turned to local cost-sharing because the Great Depression and World War II had diverted federal appropriations for other, more pressing national needs, which left the Bureau's infrastructure in a condition requiring "extensive rehabilitation work." See S. Rep. No. 81-501 (1949), as reprinted in 1949 U.S.C.C.A.N. 2050, 1949 W L 1856.

⁸Memorandum from Comm'r Robert W. Johnson, to the Acting Deputy Comm'r—Operation, Bureau of Reclamation, on Decision Related to Managing for Excellence Teams 26-27, Final Recommendations (Nov. 16, 2007), http://www.usbr.gov/excellence/Finals/Team_26_27-Decision_Doc.pdf. Facilities owned by the Bureau but rehabilitated by local interests under an agreement with Reclamation are referred to as "transferred works."

⁹Id.

clude hydropower, irrigation, municipal and industrial water, flood control, recreation, and fish and wildlife, and portions of the O&M costs may be allocated to these different purposes. O&M costs allocated to reimbursable purposes are the responsibility of the water users and have no relationship to who is operating the facilities. If the agency performs the O&M, the irrigation beneficiary advances funds to Reclamation for the irrigation component of the facility's O&M costs.¹⁰

When Reclamation enters an O&M transfer agreement with a non-federal body, the O&M cost allocation remains the same and payments are exchanged, depending on whether project benefits are "reimbursable" (irrigation, hydropower, municipal and industrial), or "non-reimbursable" (flood control, multipurpose recreation and fish and wildlife).¹¹

III. INFRASTRUCTURE FUNDING CONSIDERATIONS

The Reclamation Act also established the "Reclamation Fund" to finance the construction and maintenance of water resources projects.¹² The Fund originally consisted of money received "from the sale and disposal of public lands" in the West.¹³

Because the Fund operates as a revolving loan fund, all income received by the federal government from federally constructed irrigation projects is returned to the Fund for reinvestment in irrigation projects.¹⁴ In recent times, however, the Fund has derived virtually all of its revenues from the sale of minerals and hydropower.¹⁵

The balance in the Reclamation Fund was \$6.5 billion as of September 30, 2007. It will reach an estimated \$7.6 billion on September 30, 2008. The balance is expected to reach \$9.2 billion by the end of FY 2009—an increase of \$2.7 billion (41 percent) in just two years. According to the agency, the balance is growing due to an increase in receipts from the Minerals Management Service and a simultaneous drop in annual congressional appropriations.

Notwithstanding the Bureau's policy of requiring maintenance costs to be absorbed largely by project beneficiaries, we believe the federal government needs to ensure that adequate funding is directed toward the restoration of the Bureau's infrastructure.

Therefore the WRC recommends that Congress amend the Reclamation Act to authorize an appropriation of \$1 billion over four years from the Reclamation Fund to be used exclusively to finance the restoration of the agency's aging infrastructure.

Although a 1927 law appears to authorize the Bureau to expend money repaid to the Fund without an annual appropriation,¹⁶ we believe that these sums (which the agency estimates as approximately six percent of all Fund receipts) are insufficient in the modern era to support an aggressive rehabilitation effort. Congress needs to amend the law to put the restoration of the agency's infrastructure on a sound, sustainable actuarial footing.

IV. OTHER BUDGET CONSIDERATIONS

The administration has proposed a budget of \$779.32 million for the Bureau's Water and Related Resources program for fiscal year 2009. This is a reduction of more than \$170 million from the \$949.88 million enacted by Congress in FY 2008.

The WRC believes that a minimum of \$200 million should be added into the FY 2009 Water and Related Resources budget for the Bureau. The additional funding

¹⁰Id.

¹¹Id.

¹²The Reclamation Fund is a restricted fund into which a substantial portion of Reclamation's revenues (mostly repayment of capital investment costs, associated interest, and O&M reimbursements from water and power users) and receipts from other federal agencies (primarily revenues from certain federal mineral royalties and hydropower transmission) are deposited. No expenditures are made directly from the Reclamation Fund; however, funds are transferred from the Reclamation Fund into Reclamation's appropriated expenditure funds or to other federal agencies through congressional appropriation acts to invest and reinvest in the reclamation of arid lands in the western United States. See BUREAU OF RECLAMATION, FINANCIAL STATEMENTS AND NOTES, 2007 BUREAU OF RECLAMATION ANNUAL REPORT 130 (2008).

¹³32 Stat. 388; 43 U.S.C. §391.

¹⁴43 U.S.C. 391a. A 1931 amendment limits the federal share of any single project to a maximum of \$5 million. See *id.*

¹⁵U.S. Bureau of Reclamation, Reclamation Fund (2006), [http://www.usbr.gov/excellence/Sacramento/Reclamation Fund Overview.pdf](http://www.usbr.gov/excellence/Sacramento/Reclamation%20Fund%20Overview.pdf) (estimating that 83 percent of Fund revenues are from mineral royalties received by the Minerals Management Service and the sale of hydropower).

¹⁶44 Stat. 957. "Any moneys which may have been heretofore or may be hereafter advanced for operation and maintenance of any project or any division of a project shall be covered into the reclamation fund and shall be available for expenditure for the purposes for which advanced in like manner as if said funds had been specifically appropriated for said purposes." 43 U.S.C. §397a (emphases added).

should be directed toward the Bureau's drought and water conservation programs; the Title XVI Water Reclamation and Reuse Program; and its authorized Rural Water Projects and the Colorado River Salinity Control Program.

We believe there should also be a greater emphasis to drought preparedness and the expected challenges from climate change with regard to the Reclamation program. We see an unmet need for greater integrated resource planning and water resource planning in the West.

The Bureau has played an important role in the development of the 17 western states over the past one hundred years. We are greatly concerned with the \$170 million reduction in the FY 2009 Reclamation program as proposed by the administration.

When the Water and Related Resources (construction) account of the Bureau is examined, 51 percent of the funding is now for facility maintenance and rehabilitation. The Coalition recognizes the importance of such investment given the aging of the infrastructure and the harsh climatic conditions of the western United States.

Nevertheless, that funding only leaves about \$250 million for the construction work in the water and energy component of the program—a program with a significant backlog of authorized work that holds the potential for meeting critical water needs in the West.

Finally, it is clear that the Bureau has a wide variety of unmet needs and will need to shepherd its resources and set priorities to address the most significant problems. One way to do this is to encourage the Bureau to continue to partner with the private sector to deliver services to the taxpayers. We would urge the Bureau to follow Congress' direction to utilize the extensive capabilities and expertise of the private sector for engineering and design services to ensure more timely project delivery and better value.