ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2011

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

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PART 9

WITNESSES

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February 24, 2010
House Committee on Appropriations
Sub-committee for Energy and Water Appropriations
Prepared by
Paul Adcock, General Manager
Perkins County Rural Water System, Inc.

Perkins County Rural Water System, Inc. respectfully submits this written testimony to the Appropriations Sub-Committee on Energy and Water Development for appropriations of 3.142 million dollars for fiscal year 2011. This project was authorized under PL 106-136.

Perkins County Rural Water System, Inc. (PCRWS) gained the approval of the Office of Management and Budget and the Bureau of Reclamation to proceed with construction in 2004. With funding for 2010, we have been appropriated to date $16.9 million. In 2009 & 2010, we received $2.65 and $1.0 million respectively. Three million dollars is basically the lowest amount that we could receive and still do enough construction to move our project forward. Cost share for the System is 75% Federal, 25% State and local funds. The State of South Dakota has legislated to loan PCRWS the local share for forty years at 3% interest to keep costs down to the consumer. We have used all of our State of South Dakota funds. With local and State funds to date, we would now be able to cost share up to 36.4 million dollars. Total project funds are projected at 32.0 million dollars to finish with $24 million of that amount to be Federal funds.

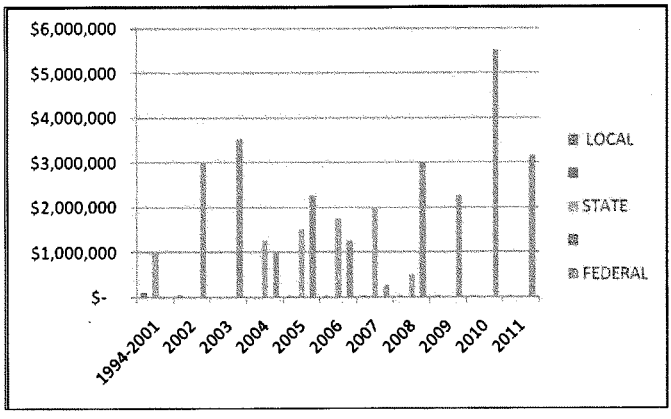
Breakdown for the project for 2011 is as follows:

2010 BUDGET	
INCOME	
BUREAU OF RECLAMATION	***$3,142,000***
STATE OF SOUTH DAKOTA	***$ 0***
LOCAL FUNDS	***$ 25,000***
TOTAL	***$3,167,000***
EXPENSE	
NORTH DAKOTA STATE WATER COMMISSION	***$ 886,760***
FINISH CONSTRUCTION ON DISTRIBUTION	***$2,280,240***
TOTAL	***$3,167,000***

PCRWS would need 3.167 million dollars for the next year to complete the project by 2011. This consists of 250 miles of various pipe sizes ranging from 1.5" to 8", booster stations, and a pump station

capable of moving 800 gallons of water per minute, two or more storage tanks and telemetry to operate the whole system from one localized location.

The chart below shows the amount of Federal funds in comparison to State and local funds. The amount of State and local funds has exceeded the cost share for both. Therefore, all funds except for approximately $25,000 per year will have to be federal funds.



The quality of water in northwest South Dakota is the main concern for the health and well being of the people. Although the water typically meets primary standards established by the USEPA, most of the dissolved solids are exceedingly high by the State of South Dakota standards. Water quality and quantity in Perkins County, South Dakota has been a plague for the county over many years.

Droughts, such as the one Perkins County is in now, are a fact of life for the people in this area. With surface water gone and wells being depleted, farmers and ranchers are desperately trying to hold onto their livestock herds. Rains will raise grass and small crops, but water for drinking is a constant problem for all.

On behalf of the Board of Directors of PCRWS and the people of Perkins County, South Dakota, thank you for allowing us to enter this testimony in the Sub-Committees report.

COLORADO RIVER BASIN SALINITY CONTROL FORUM
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March 1, 2010

The Honorable Peter Visclosky
Subcommittee on Energy and Water Development
House Appropriations Committee
United States House of Representatives
2362B Rayburn House Office Building
Washington, D.C. 20515-6016

Dear Chairman Visclosky:

The Colorado River Basin Salinity Control Forum has adopted a position supporting funding for Title II of the Bureau of Reclamation's Colorado River Basin salinity control program in the amount of $17,500,000. The testimony of the Forum is attached.

We would appreciate you making this statement a part of the formal hearing record concerning FY 2011 appropriations for the Bureau of Reclamation. We thank you for your Subcommittee's support of this program in years past and hope that you will again support adequate funding to continue this valuable program.

Sincerely,

Jack A. Barnett
Executive Director
jbarnett@barnettwater.com

attachment

Statement of
the
COLORADO RIVER BASIN SALINITY CONTROL FORUM

to the
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

Presented by
JACK A. BARNETT, EXECUTIVE DIRECTOR
March 1, 2010

Requesting Appropriations
for the
COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, TITLE II

For the Department of the Interior

Bureau of Reclamation – FY 2011 Appropriation

Colorado River Basin Salinity Control Forum's Recommendation:

1.	Title II Program (Basinwide Program) Authorized in 1995 (PL 104-20)	$17,500,000
2.	Colorado River Water Quality Improvement Program	Administration Request
3.	Paradox Valley Unit and Grand Valley Unit	Administration Request

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This testimony is in support of funding for the Title II Colorado River Basin Salinity Control Program. The Congress has designated the Department of the Interior, Bureau of Reclamation (Reclamation), to be the lead agency for salinity control in the Colorado River Basin. This role and the authorized program were refined and confirmed by the Congress when PL 104-20 was enacted. A total of $17,500,000 is requested for FY 2011 to implement the needed and authorized program. Failure to appropriate these funds will result in significant economic damage in the United States and Mexico.

In recent years, the President's requests have dropped to below $10 million. The Colorado River Basin Salinity Control Forum (Forum) finds this unacceptable. Reclamation has requests for funding of many very cost-effective proposals through its Basinwide Program that far exceed this funding level. In the judgment of the Forum, this amount is inappropriately low. Water quality commitments to downstream United States and Mexican water users must be honored while the Basin states continue to develop their Colorado River Compact-apportioned waters. Concentrations of salts in the river cause about $353 million in quantified damage in the United States with significantly greater unquantified damages. Damages occur from:

- a reduction in the yield of salt sensitive crops and increased water use for leaching in the agricultural sector,
- a reduction in the useful life of galvanized water pipe systems, water heaters, faucets, garbage disposals, clothes washers, and dishwashers, and increased use of bottled water and water softeners in the household sector,
- an increase in the use of water for cooling, and the cost of water softening, and a decrease in equipment service life in the commercial sector,
- an increase in the use of water and the cost of water treatment, and an increase in sewer fees in the industrial sector,
- a decrease in the life of treatment facilities and pipelines in the utility sector,
- difficulty in meeting wastewater discharge requirements to comply with National Pollutant Discharge Elimination System permit terms and conditions, and an increase in desalination and brine disposal costs due to accumulation of salts in groundwater basins,
- increased use of imported water for leaching and the cost of desalination and brine disposal for recycled water.

The Forum, therefore, believes implementation of the program needs to be accelerated to a level beyond that requested by the President in the past.

The program authorized by the Congress in 1995 has proven to be very successful and very cost effective. Proposals from the public and private sector to implement salinity control strategies have far exceeded the available funding and Reclamation has a backlog of proposals. Reclamation continues to select the best and most cost-effective proposals. Funds are available for the Colorado River Basin states' cost sharing for the level of federal funding requested by the Forum. Water quality improvements accomplished under Title II of the Colorado River Basin Salinity Control Act also benefit the quality of water delivered to Mexico. Although the United States has always met the commitments of the International Boundary & Water Commission's (Commission) Minute No. 242 to Mexico with respect to water quality, the United States Section of the Commission is currently addressing Mexico's request for better water quality at the International Boundary.

Some of the most cost-effective salinity control opportunities occur when Reclamation can improve irrigation delivery systems at the same time that the U.S. Department of Agriculture's (USDA) program is working with landowners (irrigators) to improve the on-farm irrigation systems. Through the USDA Environmental Quality Incentives Program, adequate on-farm funds appear to be available and adequate Reclamation funds are needed to maximize the effectiveness of the effort. These salinity control efforts have secondary water conservation benefits at the point of use and downstream at other points of use.

OVERVIEW

In 2000, the Congress reviewed the program as authorized in 1995. Following hearings, and with Administration support, the Congress passed legislation that increased the ceiling authorized for this program by $100 million. Reclamation has received cost-effective proposals to move the program ahead and the Basin states have funds available to cost-share up-front.

The Colorado River Basin Salinity Control Program was originally authorized by the Congress in 1974. The Title I portion of the Colorado River Basin Salinity Control Act responded to commitments that the United States made, through Minute No. 242, to Mexico concerning the quality of water being delivered to Mexico below Imperial Dam. Title II of the Act established a program to respond to salinity control needs of Colorado River water users in the United States and to comply with the mandates of the then newly legislated Clean Water Act. Initially, the Secretary of the Interior and Reclamation were given the lead federal role by the Congress. This testimony is in support of adequate funding for the Title II program.

After a decade of investigative and implementation efforts, the Basin states concluded that the Salinity Control Act needed to be amended. The Congress revised the Act in 1984. That revision, while leaving implementation of the salinity control policy with the Secretary of the Interior, also gave new salinity control responsibilities to the USDA and to the Bureau of Land Management (BLM). The Congress has charged the Administration with implementing the most cost-effective program practicable (measured in dollars per ton of salt removed). The Basin states are strongly supportive of that concept as the Basin states cost share 30% of federal expenditures up-front for the salinity control program, in addition to proceeding to implement salinity control activities for which they are responsible in the Colorado River Basin.

The Forum is composed of gubernatorial appointees from Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. The Forum has become the seven-state coordinating body for interfacing with federal agencies and the Congress to support the implementation of the program necessary to control the salinity of the river system. In close cooperation with the Environmental Protection Agency (EPA) and pursuant to requirements of the Clean Water Act, every three years the Forum prepares a formal report analyzing the salinity of the Colorado River, anticipated future salinity, and the program elements necessary to keep the salinities at or below the concentrations in the river system in 1972 at Imperial Dam, and below Parker and Hoover Dams.

In setting water quality standards for the Colorado River system, the salinity concentrations at these three locations have been identified as the numeric criteria. The plan necessary for controlling salinity and reducing downstream damages has been captioned the "Plan of Implementation." The 2008 Review of water quality standards includes an updated Plan of Implementation. The level of appropriation requested in this testimony is in keeping with the agreed upon plan. If adequate funds are not appropriated, significant damages from the higher salt concentrations in the water will be more widespread in the United States and Mexico.

JUSTIFICATION

The $17,500,000 requested by the Forum on behalf of the seven Colorado River Basin states is the level of funding necessary to proceed with Reclamation's portion of the Plan of Implementation. In July of 1995, the Congress amended the Colorado River Basin Salinity Control Act. The amended Act gives Reclamation new latitude and flexibility in seeking the most cost-effective salinity control opportunities, and it provides for utilization of proposals from project proponents, as well as more involvement from the private as well as the public sector. The result is that salt loading is being prevented at costs often less than half the cost under the previous program. The Congress recommitted its support for the revised program when it enacted PL 106-459. The Basin states' cost sharing up-front adds 43 cents for every federal dollar appropriated. The federally chartered Colorado River Basin Salinity Control Advisory Council, created by the Congress in the Salinity Control Act, has met and formally supports the requested level of funding. The Basin states urge the Energy and Water Development Subcommittee to support the funding as set forth in this testimony.

ADDITIONAL SUPPORT OF FUNDING

In addition to the funding identified above for the implementation of the most recently authorized program, the Forum urges the Congress to appropriate funds requested by the Administration to continue to maintain and operate salinity control facilities as they are completed and placed into long-term operation. Reclamation has completed the Paradox Valley unit which involves the collection of brines in the Paradox Valley of Colorado and the injection of those brines into a deep aquifer through an injection well. The continued operation of this project and the Grand Valley Unit will be funded primarily through the Facility Operations activity.

The Forum also supports funding to allow for continued general investigation of the Salinity Control Program as requested by the Administration for the Colorado River Water Quality Improvement Program. It is important that Reclamation have planning staff in place, properly funded, so that the progress of the program can be analyzed, coordination between various federal and state agencies can be accomplished, and future projects and opportunities to control salinity can be properly planned to maintain the water quality standards for salinity so that the Basin states can continue to develop their Colorado River Compact-apportioned waters.

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COLORADO RIVER COMMISSION
OF NEVADA

March 5, 2010

VIA ELECTRONIC MAIL

Honorable Peter Visclosky, Chair
Subcommittee on Energy and Water Development
House Committee on Appropriations
Room 2362B Rayburn House Office Building
Washington, D.C. 20515-6020

Subject: Support for Fiscal Year 2011 Appropriations for the Bureau of Reclamation

Dear Chairman Visclosky:

As a Nevada representative of the Colorado River Basin Salinity Control Forum, the Colorado River Commission of Nevada (CRCN) submits this written testimony in support of $17,500,000 for funding the Fiscal Year 2011 budget for the Bureau of Reclamation's Colorado River Basin Salinity Control Program. The CRCN urges the Congress to appropriate funds requested by the Administration to continue to maintain and operate salinity control facilities as they are completed and placed into long-term operations. Reclamation has completed the Paradox Valley Unit which involves the collection of brines in the Paradox Valley of Colorado and the injection of those brines into a deep aquifer through an injection well. The continued operation of this project and the Grand Valley Unit will be funded primarily through the Facility Operations activity. The CRCN also supports funding to allow for continued general investigation of the Salinity Control Program as requested by the Administration for the Colorado River Water Quality Improvement Program.

Salinity remains one of the major problems in the Colorado River. Congress has recognized the need to confront this problem with its passage of P.L. 93-320 and P.L. 98-569. Your support of the Forum's current funding recommendations in support of the Colorado River Basin Salinity Control Program is essential to move the program forward so that the congressionally directed salinity objectives embodied in P.L. 93-320 and P.L. 98-569 are achieved.

Sincerely,

/s/ George M. Caan

George M. Caan
Executive Director

GMC/NE/jln

cc: Representative Shelley Berkley, State of Nevada
Representative Dina Titus, State of Nevada
Representative Dean Heller, State of Nevada

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James C. Stouch, P.E.
Vice President – Business Development & Sales

March 8, 2010

The Honorable Peter J. Visclosky, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

The Honorable Rodney P. Frelinghuysen, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

RE: Public Witness Testimony for the Record
Subcommittee on Energy and Water Development
USDOE Budget Request of $38.8 million for small, modular reactors

Precision Custom Components, LLC, located in York, PA, is a manufacturer of custom fabricated pressure vessels, reactors, casks, and heavy walled components for the nuclear power industry and US Navy. Since 1876 the company has made large industrial turbines, reactor internals for the first commercial nuclear power plant in Shippingport, PA, and spent nuclear fuel shipping casks for the Navy and commercial power plants. In sum, PCC has been an integral part of the US manufacturing base for well over century.

The President's request for $38.8 million for research, development and demonstration of small, modular nuclear power reactors is a modest but well thought out program involving both public and private investments. This request for funding is coming at just the right time when engineering and design firms have presented credible new reactor designs that are well within the capabilities of the US manufacturing industry, including PCC. But it is the time consuming and costly regulatory review process at the NRC where joint federal-private assistance is needed.

The benefits of small, modular nuclear reactors are well documented; from creating US jobs, to creating new sources of carbon-free baseload power, to improving the financial risk otherwise associated with larger power plants. These innovations will also incorporate some of the latest safety features and

proliferation resistant technologies bringing additional public benefits and export opportunities.

If you could make this correspondence part of the record for outside witness testimony PCC would like to be on record as supporting the President's budget request for $38.8 million for the Department of Energy's small, modular reactor program in FY2011, including and encompassing light water reactor (LWR) based designs as well as other technologies.

Sincerely,

Precision Custom Components, LLC

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WRITTEN STATEMENT OF

THE STATE TEACHERS' RETIREMENT SYSTEM
STATE OF CALIFORNIA

BEFORE THE

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

Submitted for the Record
March 9, 2010

Department of Energy – Elk Hills School Lands Fund:
$9.7 million for FY11 installment of Elk Hills compensation

Congress Should Appropriate the Funds Necessary to Fulfill the Federal Government's Settlement Obligation to Provide Compensation for the State of California's Interest in the Elk Hills Naval Petroleum Reserve

Summary

Acting pursuant to Congressional mandate, and in order to maximize the revenues for the Federal taxpayer from the sale of the Elk Hills Naval Petroleum Reserve by removing the cloud of the State of California's claims, the Federal Government reached a settlement with the State in advance of the sale. The State waived its rights to the Reserve in exchange for fair compensation in installments stretched out over an extended period of time. The State respectfully requests an appropriation of at least $9.7 million in the Subcommittee's bill for FY 2011, in order to meet the Federal Government's obligations to the State under the Settlement Agreement.

Background

Upon admission to the Union, States beginning with Ohio and those westward were granted by Congress certain sections of public land located within the State's borders. This was done to compensate these States having large amounts of public lands within their borders for revenues lost from the inability to tax public lands as well as to support public education. Two of the tracts of State school lands granted by Congress to California at the time of its admission to the Union were located in what later became the Elk Hills Naval Petroleum Reserve.

The State of California applies the revenues from its State school lands to assist retired teachers whose pensions have been most seriously eroded by inflation. California teachers are ineligible for Social Security and often must rely on this State pension as the principal source of retirement income. Typically the retirees receiving these State school lands revenues are single women more than 75 years old whose relatively modest pensions have lost as much as half or more of their original value to inflation.

State's Claims Settled, as Congress Had Directed

In the National Defense Authorization Act for FY 1996 (Public Law 104-106) that mandated the sale of the Elk Hills Reserve to private industry, Congress reserved 9 percent of the net sales proceeds in an escrow fund to provide compensation to California for its claims to the State school lands located in the Reserve.

In addition, in the Act Congress directed the Secretary of Energy on behalf of the Federal Government to "offer to settle all claims of the State of California. . . in order to provide proper compensation for the State's claims." (Public Law 104-106, § 3415). The Secretary was required by Congress to "base the amount of the offered settlement payment from the contingent fund on the fair value for the State's claims, including the mineral estate, not to exceed the amount reserved in the contingent fund." *(Id.)*

Over the year that followed enactment of the Defense Authorization Act mandating the sale of Elk Hills, the Federal Government and the State engaged in vigorous and extended negotiations over a possible settlement. Finally, on October 10, 1996 a settlement was reached, and a written Settlement Agreement was entered into between the United States and the State, signed by the Secretary of Energy and the Governor of California, under which the State would receive 9 percent of the sales proceeds in annual installments over an extended period.

The Settlement Agreement is fair to both sides, providing proper compensation to the State and its teachers for their State school lands and enabling the Federal Government to maximize the sales revenues realized for the Federal taxpayer by removing the threat of the State's claims in advance of the sale.

Federal Revenues Maximized by Removing Cloud of State's Claim in Advance of the Sale

The State entered into a binding waiver of rights against the purchaser in advance of the bidding for Elk Hills by private purchasers, thereby removing the cloud over title being offered to the purchaser, prohibiting the State from enjoining or otherwise interfering with the sale, and removing the purchaser's exposure to treble damages for conversion under State law. In addition, the State waived equitable claims to revenues from production for periods prior to the sale. The Reserve thereafter was sold for a winning bid of $3.53 billion in cash, a sales price that substantially exceeded earlier estimates.

Congress Should Appropriate $9.7 Million for the FY11 Installment of Elk Hills Compensation

The State's 9 percent share of the adjusted Elk Hills sales price of $3.53 billion is $317.70 million. To date, Congress has appropriated seven installments of $36 million and one installment of $48 million that was reduced to $47.52 million by the one percent across-the-board rescission under the FY 2006 Defense Appropriations Act, for total appropriations to date of $299.52 million of Elk Hills compensation owed to the State. Accordingly, the Elk Hills School Lands Fund should have a positive balance of at least $18.18 million.

In the past, Department of Energy personnel have proffered 4 purported grounds for suspending further payments of Elk Hills compensation to the State. Each of these is a "red herring":

Red Herring #1. Finalization of respective equity shares of Federal Government and ChevronTexaco as selling co-owners of Elk Hills oil field still not completed.
The Administration's FY 11 Budget request states that "the timing and levels of any future budget request [for Elk Hills compensation] are dependent on the schedule and results of the equity finalization process" between the Federal Government and ChevronTexaco to determine the relative production over the years from their respective tracts in the Elk Hills field. (FY11 Budget Appendix, at p. 435). But DoE already has held back $67 million, including $6.03 million from the State's share, to protect the Federal Government's interests in a "worst case scenario" for this equity process. The State has agreed to a "hold-back" of that amount to protect the Federal Government's interest. This reduces the available balance in the Elk Hills School Lands Fund to $12.15 million. In addition, DOE's FY 2011 Budget Request detail states that the equity determination is in its final stages: "Of the four applicable zones [in Elk Hills], the Dry Gas Zone and Carneros Zone are finalized. The Office of Hearings and Appeals is asking for additional briefs from both parties before rendering their decision on the Stevens Zone [the largest in Elk Hills]. A final recommendation for the Shallow Zone is pending." (p. 754). Accordingly, remaining uncertainty in the equity process thus provides no basis for withholding further payment of the State's Elk Hills compensation.

Red Herring #2. There is no money left in the Elk Hills School Lands Fund right now.
The Administration's FY 11 Budget request states: "Under the Act [that mandated the sale of Elk Hills], nine percent of the net proceeds were reserved in a contingent fund in the Treasury for payment to the States.* * *Under the settlement agreement, $300 million has been paid to the State of California." (FY 11 Budget Appendix, at p. 435). The FY 1999 Budget Request at the time of the sale notes that $324 million was deposited into the Elk Hills School Lands Fund. (FY 1999 Budget Appendix, at pp. 378-9). A post-sale adjustment to the Elk Hills sales price reduced this amount to $317.7 million. Accordingly, after deducting the $300 million in payments to the State to date and the $6 million hold-back to protect the Federal Government's interests in the "worst case" scenario for the equity process, the Elk Hills Fund has ample funds available for appropriation of a further payment of compensation to the State.

Red Herring #3. No payment can be made to the State because of pending litigation between ChevronTexaco and DoE. DoE has pointed to pending litigation brought by ChevronTexaco against DoE in the U.S. Court of Federal Claims (Docket No. 04-1365C) as a reason to suspend further payments to the State. This litigation alleges DoE personnel committed misconduct in the equity finalization process by having improper *ex parte* contacts and having the same DoE staff serve as both advocate for DoE's position and advisor preparing the decision documents for the decisionmaker. However, the California State Attorney General has analyzed this litigation and advised that this litigation is a claim for money damages for DoE staff misconduct that has no effect on the Federal Government's equity share, and so there is no effect on the State's share of compensation. Indeed, under the governing agreement between DoE and Chevron, Chevron had waived any right to contest the final equity determination in court. In any event, the trial in this litigation was completed at the end of 2009, and a decision is expected by Spring.

Hence this litigation provides no basis for withholding the rest of the State's compensation.

Red Herring #4. No payment can be made to the State because the State's share must be reduced by the equity finalization costs and environmental remediation costs and the final amount of such costs is not yet known. The State's share of compensation is properly reduced by the "direct costs of sale" as required by Congress. Since the sale took place over a decade ago, those costs are fixed and known. The State has agreed to bear its share of these sales expenses. However, DoE is seeking to charge against the State's share two additional categories of costs – costs of determining the equity ownership and environmental remediation – that constitute ongoing costs of operating the oil field, not sales expenses. The California State Attorney General advises that these do not properly constitute sales expenses chargeable against the State's share.

More specifically, the Settlement Agreement between the Federal Government and the State provides that the Federal Government shall pay the State "nine percent of the proceeds from the sale of the Federal Elk Hills Interests that remain after deducting from the sales proceeds the *costs incurred to conduct such sale.*" This reflects the Congressional direction that, "In exchange for relinquishing its claim, the State will receive seven [nine in the final legislation] percent of the gross sales proceeds from the sale of the Reserve that remain after the *direct expenses of the sale* are taken into account." (House Rept. No. 104-131, Defense Authorization Act for FY 1996, Public Law 104-106)).

The State has agreed that the $27.13 million incurred for appraisals, accounting expenses, reserves report, and brokers' commission are appropriate sales expenses. Accordingly, the State's 9 percent share of these proper sales expenses reduces the available balance of the Elk Hills School Lands Fund by $2.44 million to $9.7 million.

Costs of conducting the equity adjustment are properly viewed as ongoing costs incurred due to the joint operation of the Elk Hills oil field by the Federal Government and ChevronTexaco, since the equity adjustment already was required under their joint operating agreement and related to pre-sale production revenues. Similarly, costs of environmental remediation of the Elk Hills field was a cost attributable to the prior operation of the field, which created any environmental problems that exist. The ongoing operational nature of this cost is underscored by the fact that the Federal Government is currently engaged in the phased environmental remediation of a Naval Petroleum Reserve that it is not selling – NPR-3 (Teapot Dome), as evidenced by the FY 11 budget request.

In conclusion, of the current Elk Hills School Lands Fund balance of $18.18 million, taking into account the "hold-back" for worst case scenario under equity finalization and deducting the appropriate direct costs of conducting the sale, the State respectfully requests the appropriation of at least $9.7 million for Elk Hills compensation in the Subcommittee's bill for the FY 2011 installment of compensation, in order to meet the Federal Government's obligations to the State under the Settlement Agreement.

For more information, contact:
John S. Stanton (202/637-5704; JSStanton@HHLAW.com)
Hogan & Hartson LLP, Washington, DC

Edward Derman, Deputy Chief Executive Officer (916/229-3714)
California State Teachers' Retirement System, Sacramento, CA

Name: Mike Berry
Title: General Manager
Organization: Tri-County Water Conservancy District
Montrose, Colorado

TRI-COUNTY WATER
CONSERVANCY DISTRICT

March 9, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

The Tri-County Water Conservancy District Board respectively requests your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

We appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Contact: tcw@montrose.net, 970-249-3369, Fax 970-249-8277

647 NORTH 7TH STREET · P.O. BOX 347 · MONTROSE, COLORADO 81402
(970) 249-3369 · FAX (970) 249-8277

Peter Grenell
General Manager
San Mateo County Harbor District

Pillar Point Harbor, California: The San Mateo County Harbor District requests your support for a Fiscal Year 2011 appropriation of $2,200,000 to the U. S. Army Corps of Engineers Operation and Maintenance account to complete storm damage repairs to the federal breakwater at Pillar Point Harbor. Completion of repairs already in progress will restore breakwater integrity and navigation safety to a designated critical Harbor of Refuge vital for the fishing industry, waterborne commerce, recreational boating, and local and regional economies.

Breakwater-caused shoreline impacts south of the breakwater are adversely affecting adjacent state highway safety, causing loss of public beach use, and affecting shoreline property, and must be addressed by a demonstration project. The recent tsunami advisory for the California coast highlighted the need for the proposed action, especially as State Highway 1 is the only traffic artery on this stretch of coast available for emergency response needs. This project element will address damage prevention or mitigation along the northern open-ocean shoreline of Half Moon Bay that are attributable to construction of the federal breakwater.

The eroding beach shoreline fronts on Monterey Bay National Marine Sanctuary waters, which are administered for this sanctuary under agreement by the Gulf of the Farallones National Marine Sanctuary. Project performance will show how human activities can be sustained without causing adverse impacts on Sanctuary resources.

This project thus addresses urgent federal concerns with navigation safety, homeland security, marine resource protection, and public use, and will complete work already begun.

Peter Grenell
General Manager
San Mateo County Harbor District

Northern Half Moon Bay Shoreline Improvement Project: The San Mateo County Harbor District requests your support for a Fiscal Year 2011 appropriation of $100,000 to the U. S. Army Corp of Engineers Continuing Authorities Section 111 account for this project. Project goals are (a) to halt shoreline erosion now threatening the Coast Highway, which, as the only coastal artery in the region, is a homeland security concern as evidenced by the recent tsunami advisory for the California coast; (b) to enable restoration of anchorage area to the only designated Harbor of Refuge between San Francisco and Monterey Bay; (c) to restore public shoreline access and use adjacent to a major metropolitan area; (d) to demonstrate beneficial sand replenishment methods that may have broader environmentally sound applicability; and (e) overall, to insure that the Federal Pillar Point Harbor breakwater performs as intended.

The Pillar Point Harbor breakwater was built around 1960 to create a harbor of refuge for the commercial fishing fleet and other vessels. While serving its primary function, the breakwater has caused erosion of the adjacent beach and bluff areas by preventing sand movement along the shoreline and by scouring the area next to the breakwater. This shoreline erosion has increased over time, destroying one road and threatening California Highway 1 and several structures, and causing loss of a heavily used public beach. A July 2009 Army Corps of Engineers Initial Appraisal concluded that there is sufficient cause for Federal interest in a shoreline improvement project, which is supported by government agencies and the public.

Peter Grenell
General Manager
San Mateo County Harbor District

Oyster Point Marina/Park Breakwater Reconfiguration: The San Mateo County Harbor District requests your support for a Fiscal Year 2011 appropriation of $400,000 to the U. S. Army Corps of Engineers Continuing Authorities Section 107 account to complete this vital project, which will facilitate the first new water transit service on San Francisco Bay and essential waterborne emergency response capability serving the northern San Francisco Peninsula. Through this project, the breakwater entrance has been widened to enable safe, fast, and comfortable access by new ferryboat service to and from the Marina serving east San Francisco Bay.

Completion of the project requires installation of wave attenuators and adaptive management to dissipate wave energy now entering the Marina's berthing area because of the entrance widening. This last task will provide increased protection to berthed vessels from southeasterly storm surges and protection of Marina facilities and property.

Oyster Point Marina/Park is located in the City of South San Francisco, and is operated for the City by the Harbor District under a Joint Powers Agreement. Oyster Point was designated by the San Francisco Bay Area Water Emergency Transportation Authority (WETA) as the initial expansion terminal facility for WETA's new regional ferry service on San Francisco Bay. This is due to the significant employee base working near the Marina in and around South San Francisco in life science industries. There are currently around 25,000 employees within a 4.5 mile radius from the Marina, which is forecasted to double by 2015. Many of these workers commute over the Bay bridges and contribute, and are adversely affected by, traffic congestion and air pollution. Water transit is an economically and environmentally viable alternative.

Additionally, the Marina has been identified as a vital component of WETA's emergency response plan for San Francisco Bay. The breakwater project including the wave attenuators is required to accommodate rapid waterborne emergency response activities, expanded vessel traffic, improve vessel access and safety, and new ferry traffic.

GRAND VALLEY WATER USERS ASSOCIATION
GRAND VALLEY PROJECT, COLORADO

1147 24 Road (970) 242-5065 FAX (970) 243-4871
GRAND JUNCTION, COLORADO 81505

Name: Richard L. Proctor **Title: Manager** **E-mail: GVWUA1147@AOL.com**

March 10, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney P. Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2010 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
Richard L. Proctor, Manager
GRAND VALLEY WATER USERS ASSOCIATION
(970) 242-5065 Fax (970) 243-4871 E-mail: GVWUA1147@AOL.com

Northern Water
Northern Colorado Water Conservancy District
220 Water Avenue Berthoud, Colorado 80513
phone 970-532-7700 www.ncwcd.org

Name: **Eric W. Wilkinson**
Title: **General Manager**
Organization: **Northern Colorado Water Conservancy District**

March 11, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

On behalf of the Northern Colorado Water Conservancy District Board of Directors, I am requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the U.S. Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among; the states of New Mexico, Colorado, Utah and Wyoming; Indian tribes; federal agencies; and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water usage and development continue in compliance with the Endangered Species Act.

The Northern Colorado Water Conservancy District appreciates the Subcommittee's past support of the Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Recovery Program and requests the Subcommittee's support for fiscal year 2011 funding to ensure the U.S. Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Eric W. Wilkinson (970) 532-7700 – phone (970) 532-0942 – fax ewilkinson@ncwcd.org

THE GUNNISON TUNNEL PROJECT
The Uncompahgre Valley Water Users Association
601 North Park Ave. * P.O. Box 69 * Montrose, CO 81402-0069
Phone: 970-249-3813 Fax: 970-249-6830

Marcus W. Catlin
Manager
Uncompahgre Valley Water Users Association

March 10, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
Marcus W. Catlin, Manager
Uncompahgre Valley Water Users Association
Phone: 970-249-3813 Fax: 970-249-6830 E-mail mcatlin@montrose.net

THE SOUTHWESTERN WATER CONSERVATION DISTRICT
Developing And Conserving the Waters in the
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES
IN SOUTHWESTERN COLORADO

West Building – 841 East Second Avenue
DURANGO, COLORADO 81301
(970) 247-1302 – Fax (970)259-8423

Name: John Porter
Title: President
Organization: Southwestern Water Conservation District

March 11, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
John Porter, President

Contact: (970)247-1302; fax (970)259-8423; dolores333@msn.com

THE JICARILLA APACHE NATION

P.O. BOX 507 • DULCE, NEW MEXICO • 87528-0507

Herbert A. Becker
Attorney-at-Law
Jicarilla Apache Nation

9 March 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

On behalf of the Jicarilla Apache Nation, I am requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

The Nation has been a voluntary participant in the highly successful and widely supported program to recover endangered fish species in the San Juan River basin since 1992 and fully supports the same effort underway in the Upper Colorado River. More than 1,800 federal, tribal and non-federal water projects are involved in the recovery efforts, these actions have resulted in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Levi Pesata
President
Jicarilla Apache Nation

Name: Leslie James
Title: Executive Director
Organization: Colorado River Energy Distributors Association (CREDA)

March 11, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

CREDA is a non-profit organization representing the majority of the firm electric service customers of the Colorado River Storage Project. CREDA has participated in these programs since inception, and power revenues have been a key funding source of the programs. These ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests are intended to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

We appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these important programs.

Sincerely,

Leslie James
Executive Director, CREDA
10429 S. 51st St. Suite 230
Phoenix, Arizona 85044
480-477-8646 fax: 380-477-8647 email: creda@qwest.net

STATEMENT PRESENTED BY: Reynold S. Minsky, President
Board of Commissioners
Fifth Louisiana Levee District
102 Burnside Drive
Tallulah, LA 71282

STATEMENT PRESENTED TO: House Subcommittee on Energy and Water Development
Fiscal Year 2011

The Board of Commissioners for the Fifth Louisiana Levee District respectfully requests that construction funding for Mississippi River Levees be increased from the $29,150,000 contained in the proposed budget for Fiscal Year 2011, to the U.S. Army Corp of Engineers' capability of $56,238,000, and the Mississippi River Levee maintenance allocation be increased from the proposed $7,582,000 to $20,270,000.

Reduced funding, combined with the inability to let construction contracts under a continuing contract clause, has left thousands of people in Louisiana vulnerable to the adverse effects of a deficient levee system. Construction of levee enlargements is essential if the levee is to contain the "Project Flood" which is estimated to be 20 percent greater than the record Flood of 1927.

The effect of fully funded contracts for levee construction, now required under Public Law 109-103, (Sec. 106 and 108), adopted by the 109th Congress in 2005, as opposed to the previous system of continuing contract clauses, has virtually halted enlargement of the Mississippi River Levee System in Louisiana. Year after year, as the cost of projects and maintenance has increased, funding for levee systems and flood control has been reduced. The current proposed budget is no exception, with only $240,000,000 allocated for the entire Mississippi River and Tributaries (MR&T) project. We request that be increased to the Corp's capabilities of $550,000,000.

Since the Mississippi River and Tributaries project was established, less than $11 Billion has been invested. This investment provides benefits far beyond their actual cost to the taxpayer by offering protection to the 4 million citizens, 1.5 million homes, 33,000 farms, and countless vital transportation routes from destructive floods.

With the help of Congress, great progress has been made in the Mississippi River Valley over the years, but there is still much to be done, and because of that, we urge Congress to increase funding to the Corp of Engineers in Fiscal Year 2011, to insure that the Corp is not forced to halt or delay contracts for levee construction essential to the well being of this Nation. It is vital that the MR&T project(s) be completed at the earliest possible date. This can only be accomplished through adequate funding and repeal of the mandate for contracts to be fully funded prior to the beginning construction.

DENVER WATER
1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199

Hamlet J. Barry III
Manager
Denver Water

March 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

Denver Water is requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/HJ Barry
Manager
303-628-6500/303-628-6199 fax
Chips.Barry@denverwater.org

SOUTHERN UTE INDIAN TRIBE

OFFICE OF THE CHAIRMAN

Matthew J. Box

April 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney P. Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

On behalf of the Southern Ute Indian Tribe, I am requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation ("Reclamation") within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation the Tribe seeks on behalf of Reclamation is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, the Southern Ute Indian Tribe, the Ute Mountain Ute Indian Tribe, the Navajo Nation, and the Jicarilla Apache Nation, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

The Tribe appreciates the Subcommittee's past support and requests the Subcommittee's assistance for fiscal year 2011 funding to ensure Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Matthew J. Box, Chairman

P. O. BOX 737 • IGNACIO, CO 81137 • PHONE: 970-563-0100 • FAX: 970-563-0396

Statement of Dr. Donald Levy
Vice President for Research and National Laboratories, University of Chicago
Submitted to the House Energy and Water Appropriations Subcommittee
Committee on Appropriations
U.S. House of Representatives
Washington, D.C.
March 12, 2010

My name is Donald Levy and I am Vice President for Research and National Laboratories at the University of Chicago. The University of Chicago manages, supports, and engages with two major federal research centers: Argonne National Laboratory and the Fermi National Accelerator Laboratory (Fermilab). The University's management and operations responsibility for Argonne dates back to its founding in 1946 as the nation's first national laboratory, and is a direct descendant of the University of Chicago's Metallurgical Laboratory, part of the World War II Manhattan Project. In partnership with Universities Research Association, the University of Chicago was awarded the M&O contract by the Department of Energy for Fermilab in 2007. Argonne and Fermilab are leaders in ensuring U.S. competitiveness in the global economy, and providing unmatched science talent and capacity for the Midwest and the nation. The fundamental science and applied research that takes place in them, often in collaboration with the University of Chicago and numerous other universities across the country, continues to push the frontiers of scientific discovery, energy security, environmental sustainability and national security. ***I am pleased to testify in strong support for the Administration's proposed FY 2011 budget request of $5.1 billion for the Office of Science.***

The Department of Energy's Office of Science

The Department of Energy's Office of Science (SC) is the steward of 10 national laboratories – including the Argonne National Laboratory and Fermi National Accelerator Laboratory. This system of national laboratories provides direct and vital support for the mission of the Department's science programs and represents the most comprehensive research infrastructure system of its kind in the world. A high level of collaboration among all of the national laboratories with the university community and industry in the use of world-class scientific equipment and supercomputers, facilities, and multidisciplinary teams of scientists increases their collective contribution to DOE and the nation. The national laboratories sponsored by the SC enables the U.S. to remain at the forefront of discovery science. They ensure that facilities and projects of great scale are part of the nation's scientific infrastructure and provide the foundation for translating the results of discovery science into technological applications.

SC is also one of the nation's largest supporters of peer-reviewed basic research, providing 40% of Federal support in the physical sciences while supporting approximately 25,000 Ph.D.s, graduate students, undergraduates, engineers, and support staff at more than 300 universities and at all 17 DOE laboratories. In FY 2010, the Office of Workforce Development for Teachers and Scientists expects to support over 1100 undergraduates in research internships at the DOE laboratories and nearly 300 K-16 educators. SC is proposing to increase the Graduate Fellowship Program to support approximately 400 graduate students in the out-years.

The Subcommittee is faced with very tight fiscal constraints and a difficult set of choices. Given that situation, the FY 2011 DOE budget for SC deserves the Subcommittee's strong support for the following reasons: It invests in science for national needs in clean energy, the environment and materials research; It provides vital support for national scientific user facilities relied on by universities and industry working on research that can't be performed anywhere else in the United States and; It supports scientific and technological education and related workforce development.

The FY11 budget request makes much needed investments to harness the power of American ingenuity. This request will help create clean energy jobs, expand the frontiers of science, reduce dependence on foreign oil, and help curb the carbon pollution that threatens our planet. If one advance could transform America's prospects, it would be having a range of clean, efficient and renewable energy technologies, ready to power our cars, our buildings and our industries, at scale, while creating jobs and protecting the planet. If we want to own those future technologies, there is only one path: sustained support for research.

We should not count on private industry alone to make the necessary investments. Since 1980, research investment by U.S. energy companies paralleled the drop in public research. By 2004, corporate energy R&D stood at just $1.2 billion in today's dollars. This level might suit a cost-efficient and technologically mature fossil-fuel-based energy sector. However, it is very much out of step with any industry that depends on innovation.

The lesson is that while industry must support development and commercialization, only government can prime the pump of research. Congress funded the basic research that spawned the information technology revolution and the biotechnology revolution. Today, to spark an energy revolution, Congress – and this Subcommittee in particular -- must lead again.

The potential, from the economy to global security to climate, is boundless. Yet we are not the only ones who have noticed. If we fail to make major strategic investments in energy research now, we will find ourselves overtaken by our competitors, from China and India to Germany and Japan. Other countries have the money and motivation, and they are chasing the technology almost as fast as we are. We must make sure that in the energy technology markets of the future, we have the power to invent, produce and sell, not the obligation to buy.

The handwriting is clearly on the wall – the Great Wall.

Argonne and Fermi National Laboratories

In the coming years, the Argonne National Laboratory will pursue major initiatives that support the Department of Energy's research goals to create innovative and transformational solutions to the nation's grand scientific challenges. These initiatives have inspirational goals that will keep Argonne at the very forefront of scientific discovery and engineering excellence. Three of the major initiatives: Hard X-ray Sciences, Leadership Computing, and Materials and Molecular Design and Discovery, emphasize the development of next generation scientific tools and materials. Five other major initiatives: Energy Storage, Alternative Energy and Efficiency, Nuclear Energy, Biological and Environmental Systems, and National Security, directly address practical energy, environment and security challenges. A number of these initiatives, in areas

such as computational sciences, molecular design and biological and environmental systems are being conducted in close collaboration with the University of Chicago's core research capabilities.

Fermilab's world-class scientific research facility allows qualified researchers from around the world to conduct fundamental research at the frontiers of high-energy physics and related disciplines. Thousands of scientists have used Fermilab's particle accelerators and experiments to study the universe at the smallest and largest scales. The extraordinary technology developed for particle physics has often led to real-life applications – from accelerators for cancer treatment to the World Wide Web. Fermilab's broad scientific program pushes forward on the three interrelated frontiers of particle physics. Each uses a unique approach to making discoveries, and all three are essential to answering key questions about the laws of nature and the cosmos.

Among the initiatives proposed by the Office of Science of particular importance to the University of Chicago, Argonne and Fermilab are:

- Basic Energy Sciences program support for upgrades to Argonne's Advanced Photon Source (APS). The high-brilliance x-rays produced at the APS—the brightest in the Western Hemisphere— has been instrumental in developing new and improved energy sources, bettering the environment, battling diseases, improving technologies, unlocking the secrets of our planet and universe, and furthering the education of today's and tomorrow's scientists.. We urge the Subcommittee to provide strong encouragement to DOE to support vital future performance enhancements in the APS;
- Advanced Scientific Computing Research program support for Argonne's Leadership Computing Facility. The application of state-of-the-art supercomputers to modeling and simulation can play breakthrough roles linked to our energy security, climate change and sharpen America's competitive edge. The applications also provide benefits to program offices and their external users throughout the Department of Energy. We urge the Committee to support the FY11 budget request and remain committed to a robust funding path in future years in order to fully achieve the next level of computational power needed to address the next series of important large-scale challenges ;
- The High Energy Physics Program, including continued support for Tevatron Collider research, enhancements for the neutrino physics program and complex wide infrastructure improvements;
- The newly proposed Energy Innovation Hub for Batteries and Energy Storage – which will focus on integrating from fundamental research through potential commercialization of electrical energy storage relevant to transportation and the electric grid; and
- Vital support for individual investigator, small group, and Energy Frontier Research Centers (EFRCs) in areas complementing the initial suite of 46 EFRCs awarded in FY 2009.

Conclusion

As President Obama made clear in his remarks to the National Academy of Sciences in April 2009, the public sector must invest in research and innovation not only because the private sector is sometimes reluctant to take large risks, but because the rewards will be broadly shared across the economy. Leading requires assembling a critical mass of the best scientists and engineers to

engage in mission-oriented, cross-disciplinary approaches to addressing current and future energy challenges. To develop clean energy solutions and maintain the U.S. leadership role in science and innovation, the Department must cultivate the science, technology, engineering, and mathematics workforce of the next generation. The University of Chicago strongly supports the Administration's goal to double funding for the DOE's Office of Science between FY 2007 to FY 2017, a goal that is consistent with the recommendations in the National Academies' 2005 report *Rising Above the Gathering Storm*. To that end, the University of Chicago strongly supports funding of at least $5.1 billion for SC in FY 2011 – the amount requested by the Administration.

The Subcommittee is faced with a difficult and probably thankless job – the allocation of too few resources among a wide variety of worthy and compelling public policy objectives. Some of these objectives are near term and funding provided for them can lead to tangible benefits such as the cleanup of nuclear waste sites or water and flood protection projects funded through the Corps of Engineers. The benefits of investing in research are less visible in the near term. However, they are essential to the long term health and economic vitality of the nation. Appreciating the difficult budget environment the Subcommittee must confront, the University of Chicago respectfully requests the maximum support possible for the important research programs of DOE in the context of the FY 2011 appropriations process.

Thank you for the opportunity to provide these views.

Company Name: National Insulation Association
Subcommittee: House Committee on Appropriations Subcommittee on Energy and Water Development
Agency: U.S. Department of Energy
Contact: Michele M. Jones, National Insulation Association
12100 Sunset Hills Rd., Suite 3300
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P: 703.464.6422
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Email: mjones@insulation.org

Federal Funding for Mechanical Insulation Will Create Shovel Ready, Green Energy Jobs all While Saving Energy and Protecting the Environment

Submitted by:

Michele M. Jones
Executive Vice President and CEO
National Insulation Association

and

James A. Grogan
General President
International Association of Heat and Frost Insulators and Allied Workers

Chairman Visclosky, Ranking Member Frelinghuysen, and members of the Subcommittee on Energy and Water Development, on behalf of the National Insulation Association (NIA) and the International Association of Heat and Frost Insulators and Allied Workers (International Union), we are writing in support of a programmatic increase to $3.5 million in Fiscal Year 2011 for the Department of Energy's Industrial Technologies Program specifically for a national mechanical insulation education and awareness program.

NIA represents 95 percent of the products utilized in the mechanical insulation industry, with members across the country at 800 corporate locations, and the International Union represents more than 25,000 workers and families employed in the mechanical insulation sector across the country. Together, our members, of which the vast majority are small businesses, have more than a century-long track record of providing large- and small-scale, long-term energy efficiency, emissions reductions, cost savings, and safety benefits at manufacturing facilities, power plants, refineries, hospitals, universities, and government buildings across the country.

We have joined together to advocate for a national comprehensive advocacy program for increased use, maintenance, and retrofits of mechanical insulation in the commercial and

industrial sectors because of its potential to create tens of thousands of jobs now, reduce carbon emissions, increase energy savings, and provide a safer working environment.

Buildings are responsible for 40% of U.S. energy demand and 40% of all greenhouse gas emissions, making efficiency gains in this area crucial if we are to markedly reduce America's energy consumption and effectively combat climate change. The industrial sector is similar in energy efficiency opportunities. At the residential level, insulation is well publicized for its efficiency benefits. However, the same cannot be said in the commercial and industrial sectors, which together consume 2½ times more energy than homes, according to the Energy Information Administration. Commercial and industrial insulation—collectively known as mechanical insulation—has the potential to slash the energy demand for the building and industrial sector.

Congress has already signaled its support for a mechanical education and awareness program through both the appropriations and authorization process. Congress directed $500,000 be allocated in the Department of Energy's budget for a mechanical insulation education and awareness campaign in the FY 2010 Energy and Water Appropriations bill [Public Law No: 111-85]. This funding was a critical start, and we thank members of the Appropriations Committee for recognizing the value of this program, but more is needed to carry out a successful campaign. Further evidence of Congress' support for such a program is the inclusion of language to authorize a 5-year, $3.5 million a year national industrial energy efficiency education and training initiative focused on mechanical insulation in H.R. 2454, the American Clean Energy and Security Act of 2009 (Section 275, page 521).

By increasing awareness and use of this energy-saving technology, Congress will both create jobs now and reduce carbon emissions. Creating jobs, particularly green jobs, is a top priority for Congress and the administration. Using government data, NIA conservatively estimates that maintenance of insulation at industrial facilities and going beyond minimum levels in new construction can generate $4.8 billion in energy savings per year, reduce 43 million metric tons of carbon dioxide and other greenhouse gas emissions, and create 89,000 jobs annually.

Best of all, these jobs don't require additional research and development. Mechanical insulation opportunities can be easily identified, with potential energy savings and emissions reduction determined with proven DOE-utilized software technology, and in many applications implemented in weeks, making projects truly shovel-ready.

For facility owners and operators, the savings are swift and last for many years; the return on investment from mechanical insulation is typically less than two years (and sometimes as little as six months). Mechanical insulation also improves infrastructure in the public, educational, and health-care sectors, among others.

FY 2010 funding for mechanical insulation education programs is insufficient to make an economic impact in the industrial and commercial sector through energy savings, emissions reduction, and job creation. Increased funding from Congress in FY 2011 would enable federal agencies and industry partners to gather more data, work with engineering schools, and reach out to facility managers and owners, engineering and design professionals, and others to educate them about the benefits of increasing their focus on the benefits of mechanical insulation

technology. Congressional funding would also ensure the promotion of the most energy-efficient uses of mechanical insulation in new construction, increased education about the energy savings that can be realized through proper maintenance and a renewed focus on retrofitting mechanical insulation in older buildings and manufacturing facilities that together will generate substantial carbon emissions reductions and sustainable jobs.

NIA and the International Union have cumulatively contributed $3.0 million in developing and beginning the implementation of the campaign and are committed to matching the FY 2011 funding to a $500,000 level. As such, we have outlined program elements for a comprehensive, persuasive awareness campaign to engage and motivate industrial and commercial decision makers to take action.

Elements of the program would include:

- Develop curriculum and conduct NIA-led educational sessions
- Utilize web-based information for educational programs
- Provide educational programs at industry and government conferences and workshops
- Implement awareness and educational marketing and advertising campaign
- Develop needed data and seek media coverage of success stories and the facts
- Engage NIA and Union members and other allies to actively support the campaign

NIA, its members, and the International Union are committed to working with Congress, the Department of Energy, other federal agencies, and key stakeholder groups on these and other initiatives that will lead to greater energy efficiency nationwide. We have formed alliances with engineering and other industry trade organizations and have offered to work with the Department of Energy to bring together a coalition to help develop, implement, and provide educational awareness programs established and funded by Congress.

Thank you for the opportunity to submit testimony in support of a program that is critical to job creation, economic growth, energy savings, and emissions reductions.

Name: Douglas Kemper
Title: Executive Director
Organization: Colorado Water Congress

February 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Douglas Kemper,
Executive Director

/s/

Contact: (303) 837-0812, fax (303) 837-1607, cwc@cowatercongress.org
Colorado Water Congress, 1580 Logan St., Ste. 700, Denver, CO 80203

Name: Gene Shawcroft
Title: Assistant General Manager
Organization: Central Utah Water Conservancy District

March 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

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I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Gene Shawcroft, P.E.

Contact: (801) 226-7120 phone
(801) 226-7171 fax
gene@cuwcd.com email

Name: Carly B. Burton
Title: Executive Director
Organization: Utah Water Users Association

March 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

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I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Carly B. Burton

Contact: (801) 268-3065 phone
(801) 261-4069 fax
utahwaterusers@aol.com email

DAVE FREUDENTHAL
GOVERNOR

THE STATE OF WYOMING

STATE CAPITOL
CHEYENNE, WY 82002

Office of the Governor

February 23, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Zach Wamp, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Wamp:

I am requesting your support for appropriation of $8,354,000 to the Bureau of Reclamation included in the President's fiscal year 2011 recommended budget in the Upper Colorado Region budget line-item entitled "Endangered Species Recovery Implementation Program." This budget line-item designates $800,000 for construction and construction management activities for the San Juan River Basin Recovery Implementation Program; $7,154,000 for construction and construction management activities for the Upper Colorado River Endangered Fish Recovery Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy.

The Upper Colorado and San Juan recovery programs are highly successful collaborative conservation partnerships working to recover the four species of endemic Colorado River fish on the federal endangered species list; while at the same time water use and development has been able to continue in our growing western communities. These programs are unique efforts involving the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. They are achieving Endangered Species Act (ESA) compliance for water projects and fully complying with interstate river compacts and the participating states' water law.

Since 1988, the two programs, collectively, have provided ESA Section 7 compliance (without litigation) for over 1,850 federal, tribal, state and privately managed water projects depleting more than 3.7 million acre-feet of water per year. The Department of the Interior recognized these programs with its nation-wide Cooperative Conservation Award in April 2008 as outstanding collaborative partnerships accomplishing substantial on-the-ground conservation results. Substantial non-federal cost-sharing funding exceeding 50% is embodied in both programs.

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The Honorable Peter J. Visclosky, Chairman
The Honorable Zach Wamp, Ranking Member
February 23, 2010
Page 2

As we do each year in support of these two region-wide cooperative recovery programs, the State of Wyoming again requests the Subcommittee's assistance: it is absolutely essential that fiscal year 2011 funding be provided within the Bureau of Reclamation's budget appropriation to assure that agency's continued financial participation as directed by Public Law 106-392, as amended.

The State of Wyoming thanks you for the past support and assistance of your Subcommittee; it has greatly facilitated the ongoing and continuing success of these multi-state, multi-agency programs.

Best regards,

Dave Freudenthal
Governor

DF:jws

cc: Representative Cynthia Lummis
Governor Bill Ritter
Governor Gary R. Herbert
Governor Bill Richardson

STATE OF COLORADO

OFFICE OF THE GOVERNOR
136 State Capitol Building
Denver, Colorado 80203
(303) 866 - 2471
(303) 866 - 2003 fax

Bill Ritter, Jr.
Governor

March 5, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Zach Wamp, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Wamp:

I am requesting your support for the appropriation of $8,354,000 to the Bureau of Reclamation included in the President's fiscal year 2011 recommended budget in the Upper Colorado Region budget line-item entitled "Endangered Species Recovery Implementation Program." This budget line-item designates the following:

- $800,000 for construction and management activities for the San Juan River Basin Recovery Implementation Program
- $7,154,000 for construction and construction management activities for the Upper Colorado River Endangered Fish Recovery Program
- $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy

The Upper Colorado and San Juan recovery programs are highly successful collaborative conservation partnerships working to recover the four species of endemic Colorado River fish on the federal endangered species list; while at the same time water use and development has been able to continue in our growing western communities. These programs involve New Mexico, Colorado, Utah and Wyoming, Indian tribes, multiple federal agencies and water, power and environmental interests in providing Endangered Species Act (ESA) compliance for water projects in the region. They also fully comply with interstate river compacts as well as the participating states' water law.

Since 1988, the two programs have collectively provided ESA Section 7 compliance (without litigation) for over 1,850 federal, tribal, state and privately managed water projects. The Department of the Interior recognized these programs as outstanding collaborative partnerships with its nation-wide Cooperative Conservation Award in April

The Honorable Peter J. Visclosky, Chairman
The Honorable Zach Wamp, Ranking Member
March 5, 2010
Page 2

2008 accomplishing substantial on-the-ground conservation results. Substantial non-federal cost-sharing funding, exceeding 50%, is embodied in both programs.

As I have done in the past, I am writing to support these two region-wide cooperative recovery programs. On behalf of the State of Colorado, I request the subcommittee's assistance. It is essential that fiscal year 2011 funding be provided within the Bureau of Reclamation's budget appropriation to ensure the agency's continued financial participation, as directed by Public Law 106-392.

On behalf of the State of Colorado, I thank you for the continued support and assistance of your subcommittee; it has greatly facilitated the ongoing and continuing success of these multi-state and multi-agency programs.

Sincerely,

Bill Ritter, Jr.
Governor

cc: Colorado House Delegation
Governor Dave Freudenthal
Governor Gary R. Herbert
Governor Bill Richardson

State of New Mexico
Office of the Governor

Bill Richardson
Governor

February 24, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Zach Wamp, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Wamp:

I am requesting your support for an appropriation of $8,354,000 to the Bureau of Reclamation included in the President's fiscal year 2011 recommended budget in the Upper Colorado Region budget line-item entitled "Endangered Species Recovery Implementation Program." This budget line-item designates $800,000 for construction and construction management activities for the San Juan River Basin Recovery Implementation Program; $7,154,000 for construction and construction management activities for the Upper Colorado River Endangered Fish Recovery Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy.

The Upper Colorado and San Juan recovery programs are highly successful collaborative partnerships working to recover the four species of endemic Colorado River fish on the federal endangered species list. These programs are unique efforts involving the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs provide Endangered Species Act (ESA) compliance for historic and developing water projects throughout the Upper Colorado River and San Juan River basins, and respect state water laws and interstate compacts. The requested fiscal year 2011 appropriation for the San Juan River recovery program includes funding to construct a fish screen to prevent entrainment of endangered fish by diversions for historic Navajo tribal water uses in New Mexico.

Since 1988, the two programs, collectively, have provided ESA Section 7 compliance (without litigation) for over 1,850 federal, tribal, state and privately managed water projects depleting more than 3.7 million acre-feet of water per year. The Department of the Interior recognized these programs with its nation-wide Cooperative Conservation Award in April 2008 as outstanding collaborative partnerships accomplishing substantial on-the-ground conservation

results. Substantial non-federal cost-sharing funding exceeding 50% is embodied in both programs.

The past support and assistance of your Subcommittee has greatly facilitated the success of these multi-state, multi-agency programs. The State of New Mexico gratefully thanks you for that support. We again request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these two region-wide cooperative recovery programs as authorized and directed by Public Law 106-392, as amended.

Sincerely,

Bill Richardson

Bill Richardson
Governor of New Mexico

BR/fl

cc: Representative Ben R. Lujan
Representative Harry Teague
Representative Martin Heinrich
Governor Bill Ritter
Governor Gary R. Herbert
Governor Dave Freudenthal

L. Randy Kirkpatrick
Executive Director
San Juan Water Commission

March 12, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

L. Randy Kirkpatrick
Executive Director
Phone 505-564-8969 Fax 505-564-3322 Email: sjwcoffice@sjwc.org

NEW MEXICO INTERSTATE STREAM COMMISSION

BATAAN MEMORIAL BUILDING, ROOM 101
POST OFFICE BOX 25102
SANTA FE, NEW MEXICO 87504-5102

(505)827-6160
FAX:(505)827-6188

March 11, 2010

via e-mail

The Honorable Peter Visclosky, Chairman
Subcommittee on Energy and Water Development
House Committee on Appropriations
United States House of Representatives
2362B Rayburn House Office Building
Washington, D.C. 20515-6020

Dear Chairman Visclosky:

Attached herewith is my statement in support of funding for the U.S. Bureau of Reclamation's Colorado River Basin salinity control program. I appreciate your consideration of this statement and request that it be made a part of the formal hearing record for FY2011 appropriations for the Bureau of Reclamation. Also, I fully support the statement of Jack Barnett, Executive Director, Colorado River Basin Salinity Control Forum, submitted to you in support of the Bureau of Reclamation's Colorado River Basin salinity control program.

If you have any questions or need additional information, please contact Paul Harms of my staff at (505) 827-6126 or e-mail at paul.harms@state.nm.us.

Sincerely,

John R. D'Antonio, Jr., P.E.
State Engineer and Secretary, New Mexico Interstate Stream Commission

JRD/ke

Enclosures
cc: w/enclosure: The Honorable Harry Teague
The Honorable Martin Heinrich
The Honorable Ben Ray Luján
Jack Barnett, CRBSCF

Statement of

JOHN R. D'ANTONIO, JR., P.E., NEW MEXICO STATE ENGINEER
AND SECRETARY, NEW MEXICO INTERSTATE STREAM COMMISSION

to the

HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

in support of

FY 2011 Appropriation for
COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, TITLE II,
BUREAU OF RECLAMATION

March 11, 2010

SUMMARY

This Statement is submitted in support of Fiscal Year 2011 appropriations for the Colorado River Basin Salinity Control Program of the Department of the Interior's Bureau of Reclamation (Reclamation). Congress designated Reclamation to be the lead agency for salinity control in the Colorado River Basin by the Colorado River Basin Salinity Control Act of 1974, and reconfirmed Reclamation's role by passage of Public Law 104-20. A total of $17.5 million is requested for Fiscal Year 2011 to implement the authorized salinity control program of the Bureau of Reclamation. Recent years have followed a trend of inadequate funding for the needs of the program. An appropriation of $17.5 million for Reclamation's salinity control program is necessary to restore the program to the level needed to protect water quality standards for salinity and to prevent unnecessary levels of economic damage from increased salinity in water delivered to the Lower Basin States of the Colorado River. In addition, funding for operation and maintenance of existing projects and sufficient general investigation funding is required to identify new salinity control opportunities.

STATEMENT

The water quality standards for salinity of the Colorado River must be protected while the Basin States continue to develop their compact apportioned waters of the river. The salinity standards for the Colorado River have been adopted by the seven Basin States and approved by the Environmental Protection Agency. While currently the standards have not been exceeded, salinity control projects must be brought on-line in a timely and cost-effective manner to prevent future effects that could result in unnecessary damages from higher levels of salinity in the water delivered to the Lower Basin States of the Colorado River.

The Colorado River Basin Salinity Control Act was authorized by Congress and signed into law in 1974. The seven Colorado River Basin States, in response to the Clean Water Act of 1972, formed the Colorado River Basin Salinity Control Forum (Forum), a body comprised of gubernatorial representatives from the seven states. The Forum was created to provide for interstate cooperation in response to the Clean Water Act and to provide the states with information necessary to comply with Sections 303(a) and (b) of the Act. The Forum has become the primary means for the Basin States to coordinate with federal agencies and Congress to support the implementation of the salinity control program for the Colorado River Basin.

Bureau of Reclamation studies show that quantified damages from the Colorado River to United States water users are about $350,000,000 per year. Unquantified damages are significantly greater. Damages are estimated at $75,000,000 per year for every additional increase of 30 milligrams per liter in salinity of the Colorado River. Control of salinity is necessary for the states of the Colorado River Basin, including New Mexico, to continue to develop their compact-apportioned waters of the Colorado River.

Timely appropriations for the funding of the salinity control program are essential to comply with the water quality standards for salinity, prevent unnecessary economic damages in the United States, and protect the quality of the water that the United States is obligated to deliver to Mexico. The Basin States and federal agencies agree that increases in the salinity of the Colorado River will result in significant increases in damages to water users in the Lower Colorado River Basin. Although the United States has always met the water quality standard for salinity of water delivered to Mexico under Minute No. 242 of the International Boundary and Water Commission, the United States through the U.S. Section of IBWC is currently addressing a request by Mexico for better quality water. Continued strong support and adequate funding of the salinity control program is required to control salinity-related damages in the United States and Mexico.

Congress amended the Colorado River Basin Salinity Control Act in July 1995 (Public Law 104-20). The salinity control program authorized by Congress by the amendment has proven to be very cost-effective, and the Basin States are standing ready with up-front cost-sharing. Proposals from public and private sector entities in response to Reclamation's requests for proposals and funding opportunity announcements have far exceeded available funding appropriated in recent years. Basin States cost-sharing funds are available for the $17.5 million appropriation request for fiscal year 2011. The Basin States' cost-sharing adds 43 cents for each federal dollar appropriated.

Public Law 106-459 gave the Bureau of Reclamation additional spending authority for the salinity control program. With the additional authority in place and significant cost-sharing available from the Basin States, it is essential that the salinity control program be funded at the level requested by the Forum and Basin States to protect the water quality of the Colorado River. Some of the most cost-effective salinity control opportunities occur when Reclamation improves irrigation delivery systems concurrently with on-farm irrigation improvements undertaken by the U.S. Department

of Agriculture's Environmental Quality Incentives Program (EQIP). The Basin States cost-share funding is available for both on-farm and off-farm improvements. The EQIP funding appears to be adequate to accomplish the on-farm work. Adequate funding for Reclamation's off-farm work is needed to maintain timely implementation and effectiveness of salinity control measures.

Maintenance and operation of Reclamation's salinity control projects and general investigations to identify new cost-effective salinity control projects are necessary for the continued success of the salinity control program. Investigation of new opportunities for salinity control is critical while the Basin States continue to develop and use their compact-apportioned waters of the Colorado River. The water quality standards for salinity are dependent on timely implementation of salinity control projects, adequate funding to maintain and operate existing projects, and sufficient general investigation funding to determine new cost-effective opportunities for salinity control.

Continued funding primarily through Reclamation's Facility Operation activity to support maintenance and operation the Paradox Valley Unit and the Grand Valley Unit is critically needed. General Investigation funding through Reclamation's Colorado River Water Quality Improvement Program needs to be restored to a level that supports the need for identification and study of new salinity control opportunities to maintain the levels of salinity control needed to meet water quality standards and control economic damages in the Lower Colorado River Basin.

I urge the Congress to appropriate $17.5 million to the Bureau of Reclamation for the Colorado River Basin Salinity Control Program, plus adequate funding for operation and maintenance of existing projects and adequate funding for general investigations to identify new salinity control opportunities. Also, I fully support testimony by the Forum's Executive Director, Jack Barnett, in request of this appropriation, and .the recommendation of an appropriation of the same amount by the federally chartered Colorado River Basin Salinity Control Advisory Council.

The American Shore & Beach Preservation Association
Protecting our coastal economy and ecology since 1926
asbpa

American Shore & Beach Preservation Association
Statement Submitted to the
House Energy & Water Development Appropriations Subcommittee
On the FY 2011 Budget of the Corps of Engineers
March 15, 2010

I am Mayor Harry Simmons of Caswell Beach, North Carolina and President of the American Shore & Beach Preservation Association. ASBPA appreciates this opportunity to provide written testimony to the House Energy & Water Appropriations Subcommittee on the FY '11 budget of the Corps of Engineers. Over the years, the Appropriations Committees, and Congress as a whole, have been extremely supportive of what is known as the Federal shore protection program. We are very grateful for the many times you stood up to what has seemed like the never-ending efforts of one Administration after another to cripple or terminate this program.

The Federal coastal restoration program represents our nation's commitment to responsible coastal stewardship. Our coasts are the gateway to America. They provide the seagoing and intracoastal water highways which carry most of America's commerce. They are the home to hundreds of animal and plant species that are not likely to be found elsewhere. They sustain tens of thousands of middle-class and service worker jobs which, together with taxes on business profits, bring billions of dollars into the Federal Treasury each year.

This Administration has been far more willing to discuss and budget for coastal programs and projects that at any time since 1995. That is indeed refreshing. However, the recommendation the President has made in his FY 2011 budget of approximately $55 million is only one-tenth of what ASBPA's national survey shows as the need for $460 million for the Federal cost-share of what is needed to fund authorized shoreline projects and studies. Inevitably and regrettably, this optimal funding number increases each year that we have done this analysis. Almost all of that increase is due to the persistent underfunding of ongoing studies and periodic nourishments. As much as we have accurately blamed various Administrations for their failure to support the coastal restoration program, Congress simply has not been able to provide anywhere near the money needed to fund the authorized Corps projects and programs that preserve America's coastal resources. Ironically, the non-Federal sponsors have their 35 to 50 percent share in hand – as fiscally pressed as they are; but the Federal government has been unable to meet its share of the costs since long before the current recession started.

PRESIDENT'S OFFICE
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The underfunding of existing coastal projects is threatening to undermine a key aspect of this Federal program that is so attractive to localities and states -- while it has put ongoing studies in a choke hold that seems designed, intentionally or not, to kill each and every one of them.

ASBPA respectfully asks the House and Senate Appropriations Committees to look beyond the figures that you must confront today and hold hearings to assess the condition of the nation's coastal resources and also gauge their importance to the U.S. economy and ecology. We ask also that you evaluate the role Federal coastal programs play as a defense against natural hazards that can devastate entire regions of the country, as the cog which keeps the wheels of the American economy running, and as the location of commercial and recreational resources that act as a magnet to millions of Americans.

Following are our recommendations for funding *some* of the national programs promoting coastal stewardship. ASBPA hopes the Subcommittee will give consideration to each of these requests. Thank you for considering our views. We look forward to continuing to work with the Subcommittee on the funding and effectiveness of coastal programs.

1. National Planning Centers of Expertise (GI)

The Corps of Engineers designated six national Planning Centers of Expertise and identified their roles in support of plan formulation and complex technical evaluations associated with plan formulation. These Planning Centers of Expertise provide specialized planning talent to enhance and supplement the capabilities of the districts. They include Deep Draft Navigation and Small Boat Harbors, Inland Navigation, Ecosystem Restoration, Coastal Storm Damage Reduction, Flood Risk Management, and Water Management and Reallocation Studies.

ASBPA has found that the Coastal & Storm Damage Reduction Planning Center of Expertise (Coastal PCX) has been extremely helpful to Districts and their customers and has increased the quality of the Corps work product and re-instilled confidence on the part of local sponsors in the Corps of Engineers. In FY09, Congress designated some funding allocated to the Planning Support Program (GI account) for the 6 Centers. In FY10, the Senate bill designated funding specifically for the Coastal PCX. This was not carried over in Conference.

ASBPA Request: $1,500,000 for the 6 PCX's as a separate line item under the GI account. No funding is included in the President's budget request.

2. Water Resource Priorities Report (GI)

Section 2032 of WRDA 2007 provides the Corps of Engineers with the direction and authority to examine risk assessment and risk reduction in the broadest and yet most practical approach imaginable. We understand the Corps has requested but not received funding from Congress to do the report.

ASBPA Request: $2 million to undertake what is likely to be a two-year effort to meet the mandate of Section 2032. No funding is included in the President's budget request.

3. Section 2038: National Shoreline Erosion Control Development Program (CG)

Section 227 of WRDA 1992 created a program to test new technologies that will improve the performance of Federal beach restoration projects and reduce their cost. Section 2038 of WRDA 2007 contains important modifications to that program. For example, the original "Section 227" program did not permit the Corps to cost-share these projects with local governments. In addition, where the tested technology has worked, Section 227 did not permit the technology to be seamlessly integrated into an existing Federal beach restoration project. These and other weaknesses have been corrected in Section 2038.

Section 2038 moved the Section 227 program into the Section 103 Small Shoreline Protection Projects Continuing Authorities Program. While the Senate committee viewed this merger as a positive one for both programs, the fact that it is no longer as visible as it once was is working against its survival. The President has earmarked every dollar of the funding he requested for Section 103 projects, and not one of those dollars is requested for the Shoreline Erosion Control development program. This program is an all-out effort to test technologies that may reduce the rate of erosion along all of the U.S. shoreline.

ASBPA Requests: $8, 975,000 to plan, construct, and/or monitor at least 9 demonstration projects. No funding is included in the President's budget request.

4. Regional Sediment Management Research Program (O&M)

RSM is not a faster way to plan and execute water resources projects; it is a better way. It is a systems-based approach that solves sediment-related issues through integrated management of littoral, estuarine, and riverine sediments and projects to achieve the type of balanced and sustainable approach that is lacking when planning and funding is done on a project-by-project basis. RSM will be a major factor in protecting environmental resources while also bringing efficiencies and greater effectiveness that would otherwise not be achievable.

ASBPA Request: $9 million to continue Federal-State-local cooperative RSM efforts in almost a dozen states. The President's has requested $2 million for this program.

5. Regional Sediment Management Program Authorized by Section 2037 of WRDA 2007 (CG)

This is now known as the Section 204 program and is separate from the RSM research program above. This program enables the Corps to do at least two things that the Research program cannot do: (1) Construction RSM projects; and (2) Cooperate with states that have initiated their own RSM studies.

ASBPA Request: $15 million to fund the planning and construction phases of RSM projects from New England to California. There is no funding included in the President's budget request.

6. National Coastal Mapping Program. (GI)

This is an interagency effort to survey the U.S. shoreline on a recurring basis to support regional sediment management, construction, operations and maintenance, and regulatory functions in the coastal zone. With this data, governmental entities at al; levels will be better able to manage America's coastal resources.

ASBPA Request: $13 million to complete the first survey of the entire U.S. shoreline of the lower 48 states. The President has requested $7 million for this program.

7. Coastal Field Data Collection Program (GI)

Without good data, there can be no project planning for the present and no systems planning for the future. CFDC includes the Corps' Field Research Facility which obtains data on longer-term coastal processes, the Wave Information Study to develop and analyze new surge and wave data. This line items also includes several other programs such as SWIMS, PILOT, and MORPHUS

ASBPA Request: $6,600,000 to complete construction of projects and continue monitoring and evaluation of completed projects. The President has requested $1.4 million for all of the programs under this heading.

8. Coastal Data Information Program (O&M)

This is the first year the President has proposed funding a separate line item. Nevertheless, this program was established in 1975 and has now been deployed at over 142 stations and has archived 200 GB of wave duty, The CDIP also contains information that is accessed daily by the Navy, Coast Guard, Marines, as well as those commercial fisherman and others in the private sector.

ASBPA Request: $5 million. The President's budget request contains $3 million for this line item, which does not permit to expand to the East Coast.

9. National Shoreline Management Study (GI)

Authorized by WRDA '99, this study will provide the first detailed report since 1971 on which sections of the U.S. shoreline are accreting and which are eroding. Without this basic information, none of us knows how serious a problem coastal erosion is.

ASBPA Request: $500,000. The President has requested $375,000 for this study.

10. National Hurricane Program (GI)

This program is a cooperative effort with FEMA. The studies provided by the National Hurricane Program (NHP) help State and local communities establish evacuation plans by determining the probable effects of a hurricane; predicting public response to the threat and advisories, and identifying appropriate shelters. Specifically, NHP conducts hazard and vulnerability analyses for coastal communities considering different types of storm threats. This

includes an assessment of storm surge and wind impacts; existing road and other transportation systems, population (e.g., demographics, behavior analysis) and shelters. This information helps officials determine where individuals are most likely to go when evacuating from a storm.

The NHP assists coastal communities by developing evacuation zones, which helps determine where and when the public should be ordered to evacuate as a storm approaches. This recommendation is negotiated among decision-makers within each community. Once the evacuation zones are established, the NHP provides each community with corresponding evacuation maps and suggested clearance times for the various types of storm categories. The communities determine how to utilize these tools and recommendations, in developing their evacuation plans.

ASBPA Request: $3 million as a separate line item in O&M. It is currently part of the National Emergency Preparedness Program and was allocated $1 million from that program in FY 2010.

11. <u>Flood Control and Coastal Emergencies</u> (FCCE)

According to the President's budget justification for this important category of funds:

"FISCAL YEAR 2011 DISASTER PREPAREDNESS: This activity consists of functions required to ensure that USACE activities are ready to provide baseline response to disasters and emergencies. It includes coordination and planning with key local, state and federal stakeholders/partners under the Corps' statutory authority, PL 84-99, and in support of the National Response Framework with Federal Emergency Management Agency, Department of Homeland Security. It also allows the Corps to support facilities (e.g. Emergency Operations Centers) and purchase and stockpile some critical supplies. This amount funds salaries for basic mission essential personnel at MSC/Divisions, Districts and support personnel. At this funding level for the annual appropriation, USACE will maintain a lower than historical level of critical readiness planning, training, exercise, equipment, and stockpiles....Planning and preparedness funding should be sought as part of the regular budget process, instead of relying on emergency supplementals. Recent earthquakes, Nor'easters, ice storms and tsunamis illustrate the need for preparedness funding and the ability to provide trained staff and resources immediately after or even prior to an event."

ASBPA agrees with the need to include FCCE funding in the regular appropriations bill. Unfortunately, his has not been the case in recent years. When emergencies arise, the Corps has no money on hand to deal with them and must wait for a Supplemental Appropriations Bill for that purpose.

ASBPA Request: $50 million. The President has requested $30 million which is substantially below his FY '10 request.

Patrick Themig
Vice President, Generation
PNM Resources, Inc.

March 15, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Patrick Themig
(505) 241-4146
(505) 241-4306 (fax)
Patrick.Themig@pnmresources.com

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668 - 38 ROAD
GRAND JUNCTION, CO 81526

March 15, 2010

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The Honorable Rodney Frelinghuysen, Ranking Member
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Sincerely,

Max Schmidt, District Manager
970-464-7885
max@acsol.net

City of Aurora

AURORA WATER

Water Department
Administration
Phone: 303-739-7370
Fax: 303-739-7491

Aurora
2008

March 15, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
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Sincerely,

Mark Pifher
Director, Aurora Water

15151 E. Alameda Parkway, Ste 3600 • Aurora, Colorado 80012 • www.aurorawater.org

The Nature Conservancy
Protecting nature. Preserving life.™

WESTERN RESOURCE ADVOCATES

Name: Taylor Hawes
Title: Colorado River Program Director
Organization: The Nature Conservancy

March 11, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney P. Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
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Sincerely,

Taylor Hawes
Contact: 720-541-0322; 303-444-2986(fax); thawes@tnc.org

Bart Miller
Water Program Director
Western Resource Advocates
Contact: 303-444-1188; 303-786-8054(fax); bmiller@westernresources.org

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The Nature Conservancy is a leading international, nonprofit organization that preserves plants, animals and natural communities representing the diversity of life on Earth by protecting the lands and waters they need to survive. To date, the Conservancy and its more than one million members have been responsible for the protection of more than 14 million acres in the United States and have helped preserve more than 83 million acres in Latin America, the Caribbean, Asia and the Pacific. Visit us on the Web at www.*nature.org*.

Western Resource Advocates is a nonprofit conservation organization dedicated to protecting the Interior West's land, air, and water. With more than 29 employees and offices in Colorado, Utah, Arizona, and Nevada, we promote river restoration and water conservation, advocate for a clean and sustainable energy future, and protect public lands for future generations. We meet our goals in collaboration with other environmental and community groups, and by developing solutions appropriate to the environmental, economic and cultural framework of this region. Visit our website at *www.westernresourceadvocates.org*.

WYOMING WATER ASSOCIATION

Water is Wyoming's Gold

P.O. Box 21701 • Cheyenne, WY 82003-7032

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Name: Robin Gray
Title: Administrative Consultant
Organization: Wyoming Water Association

March 15, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
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Sincerely,

Robin Gray
Contact: 307-742-9533, wwa@wyoming.com

TESTIMONY OF
THE RED RIVER VALLEY ASSOCIATION
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
COMMITTEE ON APPROPRIATIONS
FY 2011 'CIVIL WORKS'
U.S. HOUSE OF REPRESENTATIVES

Mr. Chairman and members of the Committee, I am Wayne Dowd, President, and pleased to represent the Red River Valley Association, 629 Spring St., Shreveport, Louisiana. Our organization was founded in 1925 with the express purpose of uniting the citizens of Arkansas, Louisiana, Oklahoma and Texas to develop the land and water resources of the Red River Basin.

The resolutions contained herein were adopted by the Association during its 85th Annual Meeting in Shreveport, Louisiana, on February 18, 2010, and represent the combined concerns of the citizens of the Red River Basin area as they pertain to the goals of the Association. A summary of the civil works projects and requested funding is included in this testimony.

The President's FY 2011 budget included $4.9 billion for the civil works programs. This is a drastic 10% cut from what Congress appropriated in FY 2010. The Administration fails to recognize the Corps' critical role as stewards of our nation's water resources, and the vital importance of our water resources infrastructure to our economic and environmental well-being. The problem is also how the Administration distributes funds. A few projects received the full 'Corps Capability' to the detriment of many projects that receive no funding. The $4.9 billion level does not come close to the real needs of our nation. A more realistic funding level to meet the existing needs of the civil works program is $6 billion for FY 2011. The traditional civil works programs remain at the low, unacceptable level as in past years. These projects are the backbone to our nation's infrastructure for waterways, flood prevention, water supply, recreation and ecosystem restoration. We remind you that civil works projects are a true **'jobs program'** in that up to 85% of project funding is contracted to the private sector; 100% of the construction, as well as much of the architect and engineering work. Not only do these projects provide jobs, but provide economic development opportunities for our communities to grow and prosper, creating permanent jobs.

Congress did appropriate funding for the civil works program through the American Recovery and Reinvestment Act of 2009. The majority of those funds went toward backlog maintenance (O&M) at completed Corps projects, no construction funds were received in the Red River Valley. Many critical maintenance items were addressed; however, that should not be a reason to reduce the Corps' FY 2011 budget. We have the opportunity to truly reduce our maintenance backlog, but a reduced Corps budget will allow those issues to increase and hinder our ability to catch up.

We want to point out that we appreciate the funding Congress enacted in FY 2010 and that an appropriation bill was enacted in November 2009. We encourage Congress to increase the 'water' share of the total Energy and Water Bill closer to the $6 billion Corps capability.

We have a serious issue for the J. Bennett Johnston Waterway O&M in the President's budget. The Administration allocated $7,745,000 for FY 2011, $3,733,000 less than appropriated in FY 2010 ($11,478,000)! This drastic reduction will directly impact the ability to conduct

maintenance dredging and the authorized 9' channel will not be maintained. It is difficult to understand why the Administration would fund the O&M at the $11 million range for five years and suddenly make a drastic reduction that will have such a negative impact on a Waterway that has yearly increased its tonnage. If the required funding level of at least $11 million is not appropriated the Waterway may actually shut down to all traffic and industry will see the Waterway as unreliable and choose alternative modes of transportation, impacting ports and jobs.

A national issue that must be addressed is levee certification. FEMA has mandated that all levee systems go through a certification process. If a levee district does not meet their designated deadline their levee will be taken off the flood plain maps. This will greatly increase the current flood insurance paid by landowners and discourage economic development. The requirements of the engineering analysis for levee certification are cost prohibitive by most all districts. Considering that many of these levees were constructed over 80 years ago construction criteria then do not meet current methods and procedures. Additionally, levees have deteriorated and weathered over time. Levee districts can not be expected to absorb the expense to upgrade their levees to meet current criteria. There must be a national program to address this issue. It is too large an expense to be absorbed in the civil works underfunded budget. We recommend Congress address this issue and develop a program that would be funded through FEMA and executed by the Corps of Engineers and cost shared with levee districts.

We have great concerns over the issue of **'earmarks'**. Civil Works projects are not earmarks! Civil Works projects go through a process; reconnaissance study, feasibility study, benefit to cost ratio test, EIS, peer review, review by agencies, public review and comment, final Chief of Engineer approval, authorization by all of Congress in a WRDA bill and signed by the President. WRDA 2007 added an independent review of major projects. No other federal program goes through such a rigorous approval process. Each justified project 'stands alone', are proven to be of national interest and should be funded by project. For most projects there is local sponsor cost sharing during the feasibility study, construction and for O&M. Those who have contributed, in most cases – millions of dollars – to the process, must have the ability to have a say for their projects to get funded. That voice is through their Congressional delegation. We believe that earmarks are not in the national interest, but it does not pertain to the civil works program. For civil works it is an issue of priority of projects to be funded and who will determine that, OMB or Congress! We hope Congress keeps their responsibility to set civil works priorities and to determine how its citizen's tax dollars are spent.

The Inland Waterways Trust Fund (IWTF) is inadequately funded by the existing fuel tax rate. There is no doubt that something must be done to increase the revenue in the fund. The needs of the IWTF should be analyzed and determine what incr ease to the existing fuel tax would maintain the necessary income flow to keep projects funded from the Inland Waterway Trust Fund. The final proposal must be fair to tributary waterways and be applied equally to all industries using the waterways.

I would now like to comment on some of our specific requests for the future economic well being of the citizens residing in the four state Red River Basin regions.

Navigation: The J. Bennett Johnston Waterway is living up to the expectations of the benefits projected. We are extremely proud of our public ports, municipalities and state agencies that have created this success. This upward 'trend' in usage will continue as new industries

commence operations. A major power company, CLECO, has invested $1 billion in its Rodemacher Plant near Boyce, Louisiana, on the lower Red River and has started moving over 3 million tons of 'petroleum coke' and limestone, by barge. This project is a reality and there are many more industries considering using our Waterway and locating at the ports.

You are reminded that the Waterway is not complete, twelve percent (12%) remains to be constructed, $246 million. We appreciate Congress's appropriation level in FY 2010 of $6,613,000. There is a capability for $20 million of work, but we realistically request $12 million to keep the project moving toward completion, 'J. Bennett Johnston Waterway (CG)'.

Now that the J. Bennett Johnston Waterway is reliable year round we must address efficiency. Presently a 9-foot draft is authorized for the J. Bennett Johnston Waterway. All waterways below Cairo, Illinois are authorized at 12-foot, to include the Mississippi River, Atchafalaya River, Arkansas River and Gulf Intracoastal Waterway. A 12-foot channel would allow an additional one-third capacity, per barge, which will greatly increase the efficiency of our Waterway and further reduce transportation rates. This one action would have the greatest, positive impact to reduce rates and increase competition, bringing more industries to use waterborne transportation. We request a one-year reconnaissance study be funded to evaluate this proposal, at a cost of $100,000. Fact: Approximately 95% is already at 12-foot year round.

The feasibility study to continue navigation from Shreveport-Bossier City, Louisiana, into the State of Arkansas will be completed in CY 2012. This region of SW Arkansas and NE Texas continues to suffer major unemployment and this navigation project, although not the total solution, it will help revitalize the economy. Due to the time lapsed in the study the 'freight rates' calculated a number of years ago they must be re-evaluated this year. We request funding of $50,000 to conduct the re-evaluation of freight rates, 'Navigation into SW Arkansas Study'.

Flood Prevention: What will happen when we ignore our levee systems? We know the Red River levees in Arkansas do not meet federal standards, which is why we have the authorized project, 'Red River Below Denison Dam, TX, AR & LA'. Now is the time to bring these levees up to standards, before a major flood event.

We continue to consider flood control a major objective and request you continue funding the levee rehabilitation projects ongoing in Arkansas. Five of eleven levee sections have been completed and brought to federal standards. The Red River Levee District (AR) is prepared to provide lands, easements and rights of way for the next major rehabilitation of the Lafayette County levees.

The levees in Louisiana have been incorporated into the Federal system; however, they do not meet current safety standards. These levees do not have a gravel surface roadway, threatening their integrity during times of flooding. It is essential for personnel to traverse the levees during a flood to inspect them for problems. Without the gravel surface the vehicles will cause rutting, which can create conditions for the levees to fail. A gravel surface will insure inspection personnel can check the levees during the saturated conditions of a flood.

Appropriations of $12 million will construct one more levee section in Lafayette County, AR and continue the rock surfacing of levees in Louisiana, 'Red River Below Denison Dam, AR & LA'.

Bank Stabilization: One of the most important, continuing programs, on the Red River is bank stabilization in Arkansas and North Louisiana. We must stop the loss of valuable farmland that erodes down the river and interferes with the navigation channel. In addition to the loss of farmland is the threat to public utilities such as roads, electric power lines and bridges; as well as increased dredging cost in the navigable waterway in Louisiana. These bank stabilization projects are compatible with subsequent navigation into Arkansas and we urge that they be continued in those locations designated by the Corps of Engineers to be the areas of highest priority. We appreciated the Congressional funding in past fiscal years and request you fund this project at a level of $11.3 million in FY 2011, 'Red River Emergency Bank Protection'.

Water Quality: The Assistant Secretary of the Army (Civil Works), in October 1998, agreed to support a re-evaluation of the Wichita River Basin tributary of the project. The re-evaluation report was completed and the Director of Civil Works signed the Environmental Record of Decision. The plan was found to be economically justified. Then the ASA (CW) directed that construction would not proceed until a local sponsor was found to assume 100% of the O&M for the project. The 2007 WRDA Bill included language that clarified that all aspects of this project will be at full federal expense, to include O&M.

Over the past years there has been a renewed interest by the Lugart-Altus Irrigation District to evaluate construction of Area VI, of the Chloride Control Project, in Oklahoma. They have obtained the support of many State and Federal legislators, as well as the Oklahoma Governor in support of a re-evaluation report.

Total request for the 'Chloride Control Project': $8,300,000 for the Texas and Oklahoma areas.

Studies: We have a number of General Investigation (GI) studies that have been funded and have local sponsors prepared to cost share feasibility studies. Some of those important studies include: Bossier Parish Flood Control Study, LA - $250,000; Cross Lake Water Supply Study, LA - $100,000; SE Oklahoma Water Resource Study, OK – $500,000; SW Arkansas Study, AR - $50,000; Washita River Basin, OK - $500,000 and Wichita River Basin, TX - $100,000. These studies are important to have projects ready for future construction.

Operation & Maintenance: Full O&M capability levels are not only important for our Waterway project but for all our Corps projects and flood control lakes. The backlog of critical maintenance only becomes worse and more expensive with time. We request that the Corps O&M projects be funded at the expressed, full Corps capability.

Thank you for the opportunity to present this testimony and project details of the Red River Valley Association on behalf of the industries, organizations, municipalities and citizens we represent throughout the four state Red River Valley region. The Civil Works program directly relates to national security by investing in economic infrastructure. If waterways are closed companies will not relocate to other parts of the country – they will move over seas. If we do not invest now there will be a negative impact on our ability to compete in the world market threatening our national security.

Please direct your comments and questions to our Executive Director, Richard Brontoli, (318) 221-5233, E-mail: redriverva@hotmail.com.

Grant Disclosure: The Red River Valley Association has not received any federal grant, sub-grant or contract during the current fiscal year or either of the two previous fiscal years.

RED RIVER VALLEY ASSOCIATION
FY 2011 APPROPRIATIONS ($000)
CIVIL WORKS

I. Studies (GI)	**FY 10 Approp**	**RRVA FY 11 Request**	**President FY 11 Budget**	**Local Sponsor Requirements**
1. Navigation into SW Arkansas: Feasibility	-0-	50	-0-	(ARRC)
2. Red River Waterway, LA – 12' Channel, Recon	-0-	100	-0-	(RRWC)
3. Bossier Parish, LA	278	250	-0-	(Bossier Levee)
4. Cross Lake, LA Water Supply Supplement	90	50	-0-	(Shreveport)
5. SE Oklahoma Water Resource Study: Feasibility	233	500	-0-	(OWRB)
6. SW Arkansas Ecosystem Restoration: Recon Study	170	47	-0-	(ANRC / AR Game & Fish)
7. Cypress Valley Watershed, TX	90	175	-0-	(NETWD)
8. Sulphur River Basin, TX	-0-	1,000	-0-	(Sulphur Auth)
9. Washita River Basin, OK	171	500	-0-	(L)
10. Wichita River Basin above Lake Kemp, TX: Recon	-0-	100	-0-	(L)
11. Red River Above Denison Dam, TX & OK: Recon	-0-	100	-0-	(L)
12. Red River Waterway, Index, AR to Denison Dam	-0-	44	-0-	(?)
13. Mountain Fork River Watershed, OK & AR, Recon	-0-	-0-	-0-	(?)
14. Walnut Bayou, Little River, AR	-0-	100	-0-	(ANRC)
15. Little River County/Ogden Levee, AR, Recon	-0-	100	-0-	(ANRC)
16. Red River Waterway, Index to Denison, Bendway Weir	-0-	-0-	-0-	(?)
II. Construction General (CG)				
1. Red River Waterway: J. B. Johnston Waterway, LA	6,613	20,000	1,500	(RRWC)
2. Chloride Control Project, TX & OK Texas - 7,500 / Oklahoma - 800	1,332	8,300	-0-	N/A
3. Red River Below Denison Dam; AR & LA a. Bowie County Levee, TX	2,035 -0-	12,000 -0-	-0-	(Levee Districts)
4. Red River Emergency Bank Protection	1,986	11,300	-0-	(Levee Dist.)
5. Big Cypress Valley Watershed, TX: Section 1135	1,450	-0-	-0-	(Jefferson)
6. Palo Duro Creek, Canyon, TX: Section 205	-0-	90	-0-	(Canyon, TX)
7. Millwood, Grassy Lake, AR: Section 1135	181	100	-0-	(ANRC)
8. McKinney Bayou, AR, PED	-0-	-0-	-0-	(?)
9. Miller County Levee, AR, Sec 1135	-0-	-0-	-0-	(Miller Levee)
III. Operation and Maintenance (O&M)				
1. J. Bennett Johnston Waterway, LA	11,478	23,864	7,745	
2. Lake Kemp, TX - Total Need Basic Annual O&M Reallocation Study Service Bridge & Gate Repair	311	817 214 350 253	467	
3. Lake Texoma, TX & OK - Total Need Basic Annual O&M Shoreline Management Plan Backlog Maintenance	8,740 1,158	31,617 7,000 24,617	10,057	
4. Chloride Control Project, TX & OK	1,481	2,025	1,439	
5. Old River Lock, LA (MR&T)	9,854	12,755	9,255	

NOTE: Local Sponsor Column – Sponsor indicated in ( ); (?) indicates No Sponsor identified and need one to continue
(L) indicates Sponsor not required now but need one for feasibility; N/A – No Sponsor required.

Promoting Clean, Sustainable Transportation Technologies

TESTIMONY OF
BRIAN P. WYNNE, PRESIDENT
OF THE
ELECTRIC DRIVE TRANSPORTATION ASSOCIATION
SUBMITTED TO THE
ENERGY AND WATER DEVELOPMENT APPROPRIATIONS SUBCOMMITTEE
OF THE
HOUSE APPROPRIATIONS COMMITTEE

MARCH 16, 2010

The Electric Drive Transportation Association (EDTA) is the cross-industry trade association promoting the advancement of electric drive technology and electrified transportation and we are writing regarding the FY11 request for the Department of Energy's Vehicle Technologies and other electric drive programs.

Our members include vehicle manufacturers, battery and component manufacturers, utilities and energy companies, and smart grid and charging infrastructure developers. We are committed to realizing the economic, security, and environmental benefits of displacing oil with battery electric, hybrid, plug-in hybrid and fuel cell vehicles.

The nation is moving toward an electrified fleet and the electric drive industry is advancing into the marketplace as rapidly as possible. Electric drive is already in use in passenger cars, commercial trucks, neighborhood electric vehicles, public transport buses, tractors and ground support equipment. As the industry invests in research and development, advanced manufacturing and coordinated deployment initiatives, the Department of Energy's continued commitment to fast-tracking electrified transportation is critical to our success.

We support the FY11 budget's focus on advancing electric drive vehicle technologies that will reduce petroleum consumption and air pollutants while increasing energy security and global competitiveness. Like the electric drive industry itself, the Department of Energy is undertaking crosscutting efforts to move electric drive vehicles and infrastructure forward.

In particular, we believe that the requested increases for batteries and electric drive research and development (in a separate Vehicle Technologies program in the FY11 request) can accelerate critical cost reduction and performance advancements. The additional efforts funded in the Technology Integration account's Clean Cities program will support the industry's own efforts to expand deployment of electric drive vehicles and recharging infrastructure. Establishment of a batteries and energy storage "innovation hub" in the Office of Science ensure that we continue pushing for the next breakthroughs even as we are moving electric drive vehicles into the market and the mainstream.

In addition to these essential investments, we also see areas in which the budget request misses key opportunities to advance a diverse portfolio of electric drive vehicles. Specifically, the Department of Energy has established a program and a pathway for building US manufacturing capacity for advanced vehicles in the Advanced Technology Vehicle Manufacturing (ATVM) program. Although the program had more applicants establish electric drive manufacturing in the U.S. than funds, the FY11 budget does not request any additional new award resources for the program. Additional funds for the ATVM

1101 Vermont Avenue, NW / Suite 401 / Washington, DC 20005 / 202-408-0774 / 202-408-7610 fax / www.electricdrive.org

program will promote industry investment in US manufacturing, speed the vehicles to market and help build the foundation of the green jobs economy.

Another area in which the request is missing an opportunity is in the hydrogen and fuel cell programs, specifically as it relates to development of fuel cell electric vehicles and hydrogen refueling infrastructure. Fuel cell electric vehicles are important electric vehicle options because of their performance in diverse vehicle applications. The industry, working with Department, has met critical program milestones in reducing cost, enhancing performance and deploying fuel cell electric vehicles for real world use. Looking beyond today's fleet, the National Academy of Science has also emphasized that achieving U.S. energy security and environmental goals will require a portfolio of advanced technology vehicles, which needs to include zero-emission fuel cell options.

The FY11 budget request maintains the Department's commitment to hydrogen and fuel cell research, which we appreciate and support. However, at $37 million below last year's funded level -- a 21% cut in funding – the commitment is a tepid one. The request would eliminate all fuel cell electric vehicle deployment activities in Technology Validation and "defer" funding for early market development. This short-sighted approach undercuts the industry's own investments, slows momentum to commercialization and will hurt consumer confidence in emerging markets.

We urge you to extend the Technology Validation demonstration for an additional year to provide technology insertion and to ensure that funding for vehicle and infrastructure deployment, market transformation, as well as education and other enabling activities, is sufficient to enable the industry to build on technology and market achievements.

As a partner in the effort to establish a secure and sustainable transportation sector, the Department of Energy is accelerating technology breakthroughs, promoting investment in manufacturing capacity and speeding deployment of vehicles and infrastructure. We are pleased that Department's FY11 budget builds on its commitment to transportation electrification with increases for vehicles and recharging infrastructure development and deployment. We also respectfully ask that you improve on that effort by supporting advances in the full electric drive portfolio: battery electric, hybrid and fuel cell electric vehicles.

We thank you for your consideration.

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ENERGY NORTHWEST

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March 16, 2010

Honorable Peter J. Visclosky, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

Honorable Rodney P. Frelinghuysen, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

Subject: **PUBLIC WITNESS TESTIMONY FOR THE RECORD; SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT; SUPPORT FOR $38.8 MILLION FOR DOE SMALL, MODULAR REACTOR RD&D**

Energy Northwest is writing to express its support for the President's FY 2011 budget request of $38.9 million for the Department of Energy's small, modular nuclear reactor (SMR) program. This funding will help avoid delays in the federal licensing by the Nuclear Regulatory Commission for such projects.

The President's budget request would support public/private partnerships to advance mature SMR designs, and research, development and demonstration of innovative SMR technologies and concepts.

Energy Northwest is a joint operating agency headquartered in Richland, Washington and comprised of 28 publicly owned utilities from across Washington State. The agency owns and operates four electric generating plants: Columbia Generating Station (nuclear power plant), Packwood Lake Hydroelectric Project, Nine Canyon Wind Project and White Bluffs Solar Station. As part of Energy Northwest's evaluation of options for meeting future wholesale power supply needs of its members, the concept of building a small reactor that could be grouped with other modules to meet future load group is currently being studied.

At a time when the U.S. is charting an energy course to increase national energy security and promote greater development of low- or no-carbon emission resources, SMRs hold great promise. Potential benefits of SMRs include providing utilities greater flexibility in terms of capital investment, financing, siting and sizing.

Thank you for the opportunity to submit these views.

Respectfully,

JV Parrish
CEO, Energy Northwest

cc WA House Delegation

B. Sykes Sturdivant, President
Board of Levee Commissioners for the Yazoo-Mississippi Delta

U.S. Army Corps of Engineers
Mississippi River & Tributaries Project
FY 2011 Request -- $550 Million

These are changing times for this country's flood control community and those whom they seek to protect. As you in your wisdom consider such weighty matters as Levee Certification coupled with FEMA's new mapping initiative, the Clean Water Act, new Objectives, Principles and Standards for the Corps of Engineers and a related executive order, a new WRDA bill and 2011 funding for the Mississippi River and Tributaries Project, we urge you to do so with one guiding principle: First do no harm.

As you craft a new approach to flood control activities for the 21st Century, we urge you not to lose sight of the successes of the 20th and what they have meant to this country. The land in and around the Mississippi River Valley is among the most fertile and bountiful on earth. Not only is it home to the salt-of-the-earth men and women of the nation's heartland, but within it is produced a significant slice of the U.S. export pie—the food and fiber that feed and clothe this nation and the rest of the world.

You in this body and we in the flood control community are its stewards and as we move forward, we must do so always keeping in mind our duty to protect it. Update the Clean Water Act, but maintain its critical Navigable Waters clause; write new guidelines and standards, but avoid any radical departure from what has worked; enact a new WRDA bill, but enact one whose principal theme is to preserve and protect.

We are also keenly aware of the fiscal tightropes which must be walked in this country's current economic environment. Every dollar is critical and every expenditure must be prioritized. But what priority trumps the protection of our people and the wealth they produce? What role of government is more critical?

The administration proposes 2011 funding for the MR&T, truly one of this nation's success stories with a virtually unmatched benefit to cost ratio, at $240 million, an amount far less than you appropriated for 2010 and an amount even farther less than the Corps of Engineers' capability. But the final word is that of Congress, and we urge you to fund the MR&T umbrella of needed public works at the Corps capability level of $550 million.

As a local levee board, our first priority should be and is the protection of the lives and livelihoods of our people. Simply put, the Mainline Mississippi River Levee makes life and development possible within the Mississippi Delta. Therefore, we ask you to fund Mississippi River levees construction at $56.238 million and their maintenance at $20.270 million.

Our levee board is proud to have been the sponsor of the Upper Yazoo Projects, one of the most successful such endeavors in the country, given testament by the fact that it faces absolutely no

environmental opposition. To advance its completion, we urge that you appropriate $13.3 million.

Mississippi's four flood control reservoirs have proven to be remarkably successful structures, but they are aging and we request the appropriation of a total of $54.113 million for their maintenance.

Also of primary importance to us is the Delta Headwater Project, which helps to prevent our Delta streams from filling with soils eroded from the hills. We ask that it be funded at $23.2 million.

The other investigations, construction projects and maintenance efforts of importance to our levee district are as follows. We ask they be funded in 2011 at their respective Corps of Engineers capability levels:

Channel Improvements—$59.646 million.
Big Sunflower River—$2.2 million.
Main Stem—$25,000.
Yazoo Basin Reformulation—$1.6 million.
Channel Maintenance—$89.484 million.
Revetments and Dikes—$72.328 million.
Vicksburg Harbor Maintenance—$750,000.
Big Sunflower Maintenance—$1.684 million.
Main Stem Maintenance—$3.4 million.
Tributaries—$1.017 million.
Whittington Auxiliary Channel—$400,000.

Respectfully submitted,

The Yazoo-Mississippi Delta Levee Board

B. Sykes Sturdivant, President

Kelly Greenwood, CEO, Chief Engineer

The National Hydropower Association Statement for the Public Record on

The Fiscal Year 2011 Energy & Water Appropriations

Presented to the

House Energy & Water Appropriations Subcommittee

2362 Rayburn House Office Building

Washington, D.C. 20515

March 17, 2010

Contact:

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The National Hydropower Association (NHA)[1] appreciates the opportunity to submit this statement regarding hydropower Research & Development funding priorities for the FY 2011 appropriations budget cycle.

NHA requests a minimum of $100 million in FY 2011 Energy & Water Appropriations for the Department of Energy's Waterpower Program to support initiatives across all hydropower technology sectors. The types of technologies covered are conventional hydropower including pumped storage and emerging technologies that access the energy in ocean waves, and the flowing water in rivers, man-made channels and those caused by tides.

A $100 million funding level will go far to support a national goal to double U.S. capacity of renewable hydropower, the research needed to increase production and create 700,000 new industry sector jobs across every state of the country.

Investment in hydropower R&D will drive innovation across the economy and maintain American competitiveness and create jobs. In addition, the nation's largest and most reliable renewable electricity resource will be positioned to address the multiple challenges of global climate change, increasing demand for clean energy, U.S. energy security and national economic recovery.

Hydropower's current and potential contribution

The goal of the National Hydropower Association and its members is to provide clean, climate-friendly, reliable baseload electricity today and in the future through the responsible development and expanded use of conventional hydropower, pumped storage and new technologies, such as ocean and tidal energy and small irrigation power.

As the largest source of renewable electricity in the United States, currently providing 7 percent of U.S generation and avoiding 225 million metric tons of carbon emissions a year, hydropower is poised to do more. Recent studies demonstrate that the nation's hydropower capacity could double by 2025 mostly by maximizing existing infrastructure and without the need to build new impoundments.[2]

The evidence supporting these projections is credible, current and prolific. For example, more than 50,000 MW of new hydropower capacity is in the Federal Energy Regulatory Commission (FERC) pipeline awaiting review and approval for development, with additional projects on the drawing board for consideration.

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[1] NHA is a non-profit, national trade association dedicated to promoting the nation's largest renewable resource and advancing the interests of the hydropower and new ocean, tidal, conduit and instream hydrokinetic industries and the consumers they serve.

[2] In fact, of the approximately 80,000 dams in the U.S. only about 3 percent have hydropower facilities associated with them.

Secondly, applications for DOE Waterpower program funding opportunities last year far outnumbered available funds – both for new and conventional technologies. For example, in the most recent funding announcement on November 4, 2009, the Department of Energy awarded $32 million to 7 projects to pursue upgrades to existing hydropower facilities, although dozens more projects submitted applications.

Finally, new studies project the doubling (or even tripling) of hydropower's capacity by 2025. According to an October 2009 report conducted by Navigant Consulting, approximately 60,000 MW of new hydropower is possible by 2025. This represents enough electricity to power every household in Los Angeles, New York and Chicago. In addition to providing affordable and clean power, the report found that 60,000 MW of new hydropower capacity also will result in 700,000 cumulative direct and indirect American jobs, with an additional 700,000 induced jobs.[3]

However, development of some of this capacity requires necessary and needed R&D investment (both short and long term) in order to advance the state of the technology, study potential impacts, understand the extent of the developable resource, and more. In particular, government funding is needed at the front end when private investments would not recoup the full value of the resulting social good. This is especially true in the case of basic research and development investments, where the private sector tends to under-invest.

Hydropower's R&D needs span all industry sectors – conventional, new hydrokinetic technologies and pumped storage

Although conventional hydropower is one of America's longest serving electric generation resources, the industry is on the vanguard of new technology development and project expansion.

Technology advancements in the industry will allow facilities to add capacity and increase generation reduce impacts on environmental resources, and maximize water use efficiency in a time of increasing and competing needs for water from both power and non-power users.

Maximizing the existing hydropower system, as well as building on existing non-powered dams, are some of the lowest cost options per kilowatt hour for increasing renewable energy generation. However, these projects are also larger, more capital intensive up-front, experience longer development timelines due to licensing, manufacturing and construction, and require government R&D support to prove out technology advancements to federal and state resource managers as well as other stakeholders.

For the ocean and tidal energy and instream hydrokinetic industries, the potential resources are tremendous with marine projects that could be sited close to load centers in

[3] http://hydro.org/Jobs%20Study/NHA_JobsStudy_Final%20Report_Final_Sept%2020.pdf

the Northwest, California, Florida, and the Northeast as well as inland waterway projects that could be sited throughout the country. In addition, hydrokinetics may serve pressing power needs in remote communities as a distributed power resource, such as in Alaska.

The wave, tidal, and instream hydrokinetic industry is making great strides toward commercialization, but still requires significant R&D support to move beyond pilot projects to larger scale deployment, refine the technologies, answer potential environmental impact questions, and reduce higher project costs.

Research and development is also needed to maximize the full potential of hydropower pumped storage projects for use as transmission system tools to provide energy storage, grid reliability and other ancillary services. Pumped storage has the proven ability to provide the firming benefits needed to support the growth of other variable renewable technologies, such as wind and solar.

Federal research, development and deployment programs are critical to bringing these technologies and new projects to fruition and to build the human and technological capital needed to perform breakthrough research and transfer those innovations to the market. As we have testified in the past, NHA analyzed the 2007 EPRI report[4] and has concluded that it provided a useful model and roadmap from which to guide activities under the DOE Waterpower R&D program. As such, this statement recommends, and incorporates by reference, the suite of initiatives identified in NHA's FY 2010 statement to the House and Senate Appropriations Committees. These directives are intended to address the needs left unfunded by the previous DOE R&D program for hydropower and would expand the Department's efforts.

NHA also encourages Congress and the Department to pursue new horizon initiatives, like climate forecasting and modeling and additional energy/water nexus issues that may affect energy production in the coming years.

Congress has recognized the need for research, development and deployment of new advanced technologies, both for conventional hydropower and the ocean, tidal and instream hydrokinetic industries. NHA directs attention to Title IX, Section 931 in the Energy Policy Act of 2005 as well as the Energy Independence and Security Act of 2007.

The importance of the DOE Waterpower program

The Obama Administration and the Congress are setting ambitious and aggressive goals for renewable energy development in the U.S. Such aggressive goals require aggressive funding for research into renewable energy technology development and assistance in technology deployment.

The Department of Energy is the government agency charged with meeting these goals and ensuring that cost-effective technologies are brought to market and add to a

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[4] *Assessment of Waterpower Potential and Development Needs*, Number 1014762, EPRI, March 2007, http://my.epri.com/portal/server.pt?Abstract_id=000000000001014762

diversified energy portfolio and NHA strongly supports their work particularly that of the Waterpower program.

At this critical time when we are relying on our innovate industries to deliver power from renewable resources in an efficient and economical way, we cannot allow initiatives to fall victim to funding setbacks. Throughout the years, the hydropower R&D program has been severely underfunded. This was felt most acutely during the middle of the last decade when the program was zeroed out – the only renewable resource to receive such treatment.

Looking forward, we see the mission of the Waterpower program as one that conducts R&D to improve the technical, societal, and environmental benefits of hydropower and hydrokinetic resources, and that also coordinates with other federal agencies and industry, including both private and public entities involved with development, is also critical.

One example of the important areas of growth for the hydropower industry is increasing capacity at existing projects operated by the Army Corps of Engineers and the Bureau of Reclamation.

Project developers are reporting a need for better coordination, more resources and process improvements for working with the federal system. Toward that end, DOE's ability to facilitate communication across the various government agencies – from the federal hydropower operators to the Federal Energy Regulatory Commission to the resource protection agencies – is crucial and funding should be directed to support its work in providing information and technical support to assist project development.

Conclusion

While funding levels for DOE's Waterpower research and development program have increased from zero funding in FY 2006 to $50 million in FY 2010, more is required to fully support this important resource.

Under a comprehensive R&D program funded at $100 million for FY 2011, hydropower will be positioned to offer economic, environmental, and energy benefits simultaneously through comprehensive, well-designed initiatives. Funds are needed to support all technologies through important on-going and new work on resource assessments, advanced hydropower turbine designs, technology testing for new ocean, tidal, and instream hydrokinetic applications, environmental impact studies, climate and hydrology modeling, grid integration and the role of hydro in firming variable energy resources.

By accelerating the funding for the DOE Waterpower R&D program, the U.S. could soon realize the tremendous energy and environmental benefits of maximizing our existing hydropower projects and infrastructure as well as the suite of emerging wave, tidal, and hydrokinetic technologies.

SUBMITTED FOR THE RECORD
BY
THE INDUSTRIAL ENERGY CONSUMERS OF AMERICA

HEARING ON

DEPARTMENT OF ENERGY:
ENERGY EFFICIENCY AND RENEWABLE ENERGY
FOSSIL ENERGY, ELECTRICITY DELIVERY AND RELIABILITY

FY2011 BUDGET

MARCH 18, 2010

Industrial Energy Consumers of America
The Voice of the Industrial Energy Consumers

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March 17, 2010

The Honorable Peter J. Visclosky
Chairman
Subcommittee on Energy and Water Development

The Honorable Rodney P. Frelinghuysen
Ranking Member
Subcommittee on Energy and Water Development

Re: Department of Energy FY 2011 Budget for the Industrial Technologies Program

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

On behalf of the Industrial Energy Consumers of America (IECA), we urge the Congress to reevaluate its FY 2011 funding priorities within the Department of Energy and the Energy Efficiency and Renewable Energy Program (EERE). We believe spending priorities do not reflect the greatest potential to retain or increase jobs and reduce GHG emissions which are central priorities to the Congress and the Administration. We believe that the DOE research funding of technology in the manufacturing sector offers the greatest opportunity to significantly increase good paying jobs, reduce GHGs and increase exports.

This letter urges you to leverage federal dollars with private sector dollars to invest in next generation technology in the industrial sector. We request that the FY2011 funding for the Industrial Technology Program be increased from $100 million or 4.2 percent of the EERE Budget, to $200 million.

We would also like to point out that the FY2011 Budget does not fund the Energy Independence and Security Act (EISA), Section 451 and 452 which called for funding of $200 million per year. Both provisions were to fund valuable research and development and grants for energy efficiency for the industrial sector.

Last week, President Obama announced an initiative to significantly increase exports. We applaud his actions. Simultaneously, the Congress is debating a climate bill that has the potential to raise energy costs. The reason we bring this up is that investing in technology that increases industrial competitiveness - is the only sure way to assure a strong and vibrant manufacturing sector.

Making the Case for Greater Funding for the Industrial Technologies Program

Developing next generation technology is a significant challenge for the manufacturing sector. Even though large companies make substantial investments in research, break-through technologies require long term, higher risk and more expensive investments.

These are often too great for any one company to accept on its own. It was with this understanding that the DOE Industrial Technologies Program was created many years ago.

The DOE Industrial Technologies Program strategy includes "sponsoring collaborative RD&D of high risk, high impact industrial technologies and processes that radically reduce energy intensive and carbon emissions." The program, rightfully directs its limited funding toward major energy intensive industry sectors like steel, chemical, plastics, paper, glass, aluminum and cement.

These sectors provide the building block products from which essentially "all" commercial and retail products are made. If these building block products cannot be competitively produced in the US, it becomes more attractive to produce the downstream customer products offshore as well. Our point is that the success of the Industrial Technologies Program in developing new technology that is globally competitive is fundamental to the country's ability to retain and increase jobs.

No other sector of the economy offers the opportunity to increase good paying jobs. Producing more manufactured goods in the US to displace $1.5 trillion in imports provides a significant opportunity to increase jobs to revive economic growth.

Finally, the industrial sector emits about 24 percent of the US GHG emissions yet only receives 4 percent of the Energy Efficiency and Renewable Energy Budget. We do not accept the premise that other programs receiving substantially more would be able to retain and increase jobs and reduce GHG emissions as much as this sector. Please consider the important impact additional funding could have on US manufacturing competitiveness as well as GHG emission reductions.

We look forward to working with you to reprioritize spending in the FY2011 Budget.

Sincerely,

Paul N. Cicio
President

The Honorable Steven Chu
The Honorable Gary Locke
House Sub Committee on Energy and Water Development

Energy Efficiency and Renewable Energy
(Dollars in Thousands)

	FY 2010 Current Approp.	FY 2011 Congressional Request	FY 2011 vs. FY 2010 $	%
Hydrogen Technology	$174,000	$0	-$174,000	-100.0%
Hydrogen and Fuel Cell Technologies	$0	$137,000	+$137,000	N/A
Biomass and Biorefinery Systems R&D	$220,000	$220,000	-	-
Solar Energy	$247,000	$302,398	+$55,398	+22.4%
Wind Energy	$80,000	$122,500	+$42,500	+53.1%
Geothermal Technology	$44,000	$55,000	+$11,000	+25.0%
Water Power	$50,000	$40,488	-$9,512	-19.0%
Vehicle Technologies	$311,365	$325,302	+$13,937	+4.5%
Building Technologies	$222,000	$230,698	+$8,698	+3.9%
Industrial Technologies	**$96,000**	**$100,000**	**+$4,000**	**+4.2%**
Federal Energy Management Program	$32,000	$42,272	+$10,272	+32.1%
RE-ENERGY SE (Regaining Our Energy Science and Engineering Edge)	$0	$50,000	+$50,000	N/A
Facilities and Infrastructure	$19,000	$57,500	+$38,500	+202.6%
Advanced Battery and Manufacturing	$0	$0	-	-
Alternative fueled Vehicles	$0	$0	-	-
Transportation Electrification	$0	$0	-	-
Information and Communication Efficiency	$0	$0	-	-
Program Direction	$140,000	$200,008	+$60,008	+42.9%
Program Support	$45,000	$87,307	+$42,307	+94.0%
Weatherization and Intergovernmental	$270,000	$385,000	+$115,00	+42.6%
Energy Efficiency and Conservation Block Grants – Competitive	$0	$0	-	-
Energy Efficiency and Conservation Block Grants, Subtitle E title V EISA	$0	$0	-	-
Congressionally Directed Projects	$292,135	$0	-$292,135	-100.0%
Subtotal, Energy Efficiency and Renewable Energy	$2,242,500	$2,355,473	+$112,973	+5.0%
Use of Prior Year Balances and Other Adjustments	$0	$0	-	-
Total, Energy Efficiency and Renewable Energy	$2,242,500	$2,355,473	+$112,973	+5.0%

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS
Geoscience & Energy Office – Washington, D.C.

Written testimony submitted to:
House Appropriations Subcommittee on
Energy & Water Development and Related Agencies
in support of Department of Energy programs

by

John C. Lorenz, Ph.D.,
President,Am erican Association of Petroleum Geologists

To the Chair and Members of the Subcommittee:

Thank you for this opportunity to provide testimony on the importance and need for strong federal R&D efforts in the fields of oil and natural gas, coal, and geothermal technologies. These activities reside in the U.S. Department of Energy's fossil energy program (oil, natural gas, coal) and energy efficiency and renewable energy program (geothermal). They are an essential investment in this nation's energy security.

The American Association of Petroleum Geologists (AAPG) is the world's largest scientific and professional geological association. The purpose of AAPG is to advance the science of geology, foster scientific research, and promote technology. AAPG has nearly 34,000 members around the world, with roughly two-thirds living and working in the United States. These are the professional geoscientists in industry, government, and academia who practice, regulate, and teach the science and process of finding and producing energy resources from the Earth.

AAPG strives to increase public awareness of the crucial role that geosciences, and particularly petroleum geology play in energy security and our society.

It is a widely accepted view that United States energy supplies will come from increasingly diverse sources over coming decades. New and alternative energy sources will supplement conventional energy sources to meet the nation's growing energy needs at affordable prices. Diversity in energy supplies enhances U.S. energy security by reducing our reliance on any single energy source.

Science and technology are necessary to ensure that this energy diversification occurs without economically damaging disruptions. This is very much in the public interest and a compelling reason why federal research and development (R&D) investment is needed.

What is frequently misunderstood, however, is that this R&D investment cannot be solely focused on new and alternative energy sources. Ensuring the uninterrupted availability of conventional energy, which provides the bulk of the nation's energy, also requires new scientific

insights and technological breakthroughs. That's an important point, because our nation is not facing a choice between conventional and alternative energy sources, although that is often how the energy debate is framed. Instead oil, natural gas, and coal currently supply 85% of the nation's energy. These resources are the foundation of our energy future. Upon this foundation we are now developing and deploying new and alternative energy sources.

Our nation's R&D policies must recognize the need to keep this foundation strong while simultaneously investing in the energy sources of the future.

Oil and natural gas technologies program
AAPG strongly urges the restoration of the DOE oil and natural gas technologies programs. They have been targeted for elimination by the previous and current Administrations, which is ironic considering oil and natural gas deliver 65% of our nation's energy.

Oil supplies the overwhelming volume of all transportation fuels. Natural gas heats homes and businesses, generates electricity, is a chemical feedstock, and has potential as a transportation fuel. Supplying the oil and natural gas consumed today and in the future requires significant technological advancements.

Several commonly overlooked trends in the oil and natural gas sectors support a federal role in oil and natural gas technologies R&D:

1. **The independent oil and gas producer is responsible for finding and producing most U.S. oil and natural gas resources.** According to the Independent Petroleum Association of America (IPAA), a trade association, independent producers produce 68% of the nation's oil, 85% of the nation's natural gas, and drill 90% of the nation's oil and natural gas wells. The median-sized independent producer is the epitome of American small business.
2. Independents typically work on projects that are too small for vertically-integrated "major" oil and gas companies to develop commercially. Technology is vitally important for locating these resources underground, but **these producers do not have the capacity to conduct independent research.**
3. **Increasingly domestic oil and natural gas production is coming from non-traditional (unconventional) resources**, such as the Barnett Shale of Texas or the Bakken formation of the Willison Basin. These resources play a vital role in building our nation's energy future, and their development requires significant R&D investment.
4. **Federal R&D has historically provided support for the nation's universities and colleges**, which have proven to be a rich source of technological innovation. But as federal support for oil and natural gas technology development has waned, so has the ability to conduct this type of research and train the next generation of U.S. scientists and engineers. There is a serious workforce shortage rapidly approaching both industry and government.

The goal of a robust federal R&D program in oil and natural gas technologies is to enable and encourage the environmentally-responsible development of the nation's petroleum resources on behalf of the American people. This includes conventional oil and natural gas, non-traditional

resources, and emerging resources, such as methane from methane hydrates, which according to a forthcoming study by the National Research Council "could help to provide greater energy security for the United States and to help address future energy needs globally."

We request the Subcommittee on Energy & Water Development and Related Agencies appropriate $100 million for oil and natural gas technology programs to be administered by the Department of Energy's Office of Fossil Energy to support research projects that target increased production of domestic oil and natural gas resources.

Coal program
The nation's coal resource is essential to U.S. energy security. AAPG supports research and development funding for coal, including clean coal technologies such as carbon capture and sequestration. ***AAPG supports the President's budget request of $404 million for these activities.***

Again, these investments must be balanced. In evaluating the DOE coal program, I urge you to review the findings of the National Academy's report entitled Coal: Research and Development to Support National Energy Policy, released in June 2007. The study finds that while there are significant uncertainties in U.S. coal reserve and resource estimates, there is sufficient coal at current consumption to last for more than 100 years.

However, there is a real need for more "upstream" coal research to increase our understanding of the nation's resource base. The study group observed that presently over 90% of federal R&D spending for coal is on the "downstream" side, focused on utilization, carbon capture and sequestration, and transport and transmission. Only 10% goes to resource and reserve assessment, mining and processing, environment/reclamation, and safety and health.

Geothermal energy technologies program
Geothermal energy is an important alternative energy resource that provides baseload power to the nation's electrical grid. Significant expansion of geothermal power production may be possible through the development of enhanced or engineered geothermal systems, but developing and proving these technologies requires R&D investment.

AAPG supported the nearly $400 million for geothermal energy R&D and deployment in the American Reinvestment and Recovery Act of 2009. ***AAPG supports the President's budget request of $55 million for the DOE geothermal program.***

Summary
Thank you for the opportunity to present this testimony to the Subcommittee. Our nation has the resources and capacity for a bright energy future. Ensuring this future requires prudent investment in R&D to deliver the science and technology needed to supply the conventional energy sources we will rely on in coming decades, and the breakthroughs in new and alternative energy sources that will power the future.

Please contact me through our local office at 202-684-8225, fax 703-379-7563, or 4220 King Street, Alexandria, VA 22302.

THE FY 2011 FOSSIL ENERGY RESEARCH AND DEVELOPMENT BUDGET

Testimony of Kerry W. Bowers - Director, National Carbon Capture Center
Southern Company Generation - P.O. Box 2641, Birmingham, AL 35291
Phone: 205.670.5073, Fax: 205.670.5843; email: kwbowers@southernco.com
To the Committee on Appropriations, Subcommittee on Energy and Water Development
U.S. House of Representatives
March 10, 2010

Mr. Chairman and Members of the Committee:

Southern Company operates the U. S. Department of Energy's (DOE's) National Carbon Capture Center (NCCC) (http://nationalcarboncapturecenter.com) at the Power Systems Development Facility (PSDF) in Wilsonville, AL for DOE's National Energy Technology Laboratory (NETL) and several industrial participants[1]. The PSDF was conceived as the premier advanced coal power generation research and development (R&D) facility in the world and has fulfilled this expectation. NETL responded to the need for cost-effective carbon dioxide (CO_2) capture technologies by establishing the NCCC with a focus on conducting R&D to advance emerging CO_2 control technologies to commercial scale for effective integration into either combustion or Integrated Gasification Combined Cycle (IGCC) processes. The NCCC will accomplish this goal by providing a test-bed for government, industrial, and university projects to conduct meaningful tests in an industrial setting. I would like to thank the House of Representatives for its past support of the NCCC and request the committee's continued support as the NCCC responds to the need for developing cost-effective CO_2 capture technology for coal-fueled power generation. This statement supports the Administration's budget request for DOE coal R&D which includes about $39.6 million for work at the NCCC. These funds are necessary to conduct the future test program developed in collaboration with DOE which includes wide-ranging support of the DOE Carbon Sequestration Technology Roadmap.

A key feature of the NCCC is its ability to test new carbon capture technologies for coal-based power generation systems at an integrated, semi-commercial scale. Integrated operation allows the effects of system interactions, typically missed in un-integrated pilot-scale testing, to be understood. The semi-commercial scale allows the maintenance, safety, and reliability issues of a technology to be investigated at a cost that is far lower than the cost of commercial-scale testing. Capable of operating at pilot to near-demonstration scales, the NCCC is large enough to produce data to support commercial plant designs, yet small enough to be cost-effective and adaptable to a variety of technology research needs.

In addition to semi-commercial scale testing, the NCCC will serve as a test bed for cost-effective technology screening by providing slipstreams of actual syngas from coal gasification and flue gas from coal combustion. Future test work at the NCCC will include the scale-up and continued development of several CO_2 capture technologies being developed either at DOE's NETL facility, at private R&D laboratories or at the NCCC. The DOE program for CO_2 capture in coal-fueled power plants is divided into three areas: post-combustion capture for conventional pulverized coal

[1] Current NCCC participants include Southern Company, the Electric Power Research Institute (EPRI), American Electric Power, Luminant, NRG, Peabody Energy, Arch Coal, Inc., and Rio Tinto.

plants, pre-combustion capture for coal gasification power plants, and oxy-combustion processes which produce a more CO_2-rich flue gas than conventional combustion for easier CO_2 capture. The NCCC's CO_2 capture efforts would address all three areas.

Southern Company also supports the goals of the Clean Coal Technology Roadmaps developed by DOE, EPRI, and the Coal Utilization Research Council (CURC). These Roadmaps identify the technical, economic, and environmental performance that advanced clean coal technologies can achieve over the next 20 years. Over this time period coal-fired power generation efficiency can be increased to over 50 percent (compared to the current fleet average of ~32 percent) while producing *de minimis* emissions and developing cost-effective technologies for CO_2 management.

Summary

The United States has historically been a leader in energy research. Adequate funding for fossil energy research and development programs, including environmental and climate change technologies will provide our country with secure and reliable energy from domestic resources while protecting our environment. Current DOE fossil energy research and development programs for coal, if adequately funded, will assure that a wide range of electric generation options are available for future needs. Congress faces difficult choices when examining near-term effects on the Federal budget of funding energy research. However, continued support for advanced coal-based energy research is essential to the long-term environmental and economic well being of the U. S. Prior DOE clean coal technology research has already provided the basis for $100 billion in consumer benefits at a cost of less than $4 billion. Funding the Administration's budget request for DOE coal R&D and long-term support of the Clean Coal Technology Roadmap can lead to additional consumer benefits of between $360 billion and $1.38 trillion.[2] But, for benefits to be realized, the critically important R&D program in the Clean Coal Technology Roadmap must be conducted.

One of the key national assets for achieving these benefits is the NCCC. The FY 2011 funding for the NCCC needs to be about $39.6 million to complete the construction and begin operation of new facilities to test technologies that are critical to the goals of the DOE Carbon Sequestration Technology Roadmap and to the success of the development of cost-effective climate change technologies that will enable the continued use of coal to supply the nation's energy needs. The major accomplishments at the NCCC to date and the future test program planned by DOE and the NCCC's industrial participants are summarized below.

NCCC (Formerly the PSDF) Accomplishments

The NCCC test-bed has operated successfully for many years in support of US-DOE's advanced coal program. Skilled staff from disciplines essential for a successful research program has gained experience by designing and operating the test equipment and by working with vendors to develop and improve their technologies. The NCCC has developed testing and technology transfer relationships with over 50 vendors to ensure that test results and improvements developed at the NCCC are incorporated into future plants. In some instances, testing has eliminated technologies

[2] EPRI Report No. 1006954, "Market-Based Valuation of Coal Generation and Coal R&D in the U.S. Electric Sector", May 2002

from further consideration. Such screening is valuable in that it concentrates R&D effort on those technologies most likely to succeed and is an essential part of managing the US-DOE's financial resources. Major subsystems tested and some highlights of the test program at the NCCC include:

Transport Reactor: The Transport Reactor has been operated successfully on sub-bituminous, bituminous, and lignite coals as a pressurized combustor and as a gasifier in both oxygen- and air-blown modes and has exceeded its primary purpose of generating gases for downstream testing. Since modifications were made in 2006, subsequent testing with air-blown gasifier operations has indicated substantial improvements in syngas heating value and carbon conversion. This transport technology is projected to be the lowest capital cost coal-based power generation option, while providing the lowest cost of electricity and excellent environmental performance.
Advanced Particulate Control: Two advanced particulate removal devices and 28 different filter elements types have been tested to clean the product gases, and material property testing is routinely conducted to assess their suitability under long-term operation. The material requirements have been shared with vendors to aid their filter development programs.
Filter Safe-Guard Device: To enhance reliability and protect downstream components, "safe-guard" devices that reliably seal off failed filter elements have been successfully developed.
Coal Feed and Ash Removal Subsystems: A key to successful pressurized gasifier operation is reliable operation of the coal feed system and ash removal systems. Developmental work on the pressurized coal feed systems has increased the understanding and optimization of their performance. Modifications developed at the NCCC and shared with equipment suppliers allow current coal feed equipment to perform in a commercially acceptable manner. An innovative, continuous process has also been designed and successfully tested that reduces capital and maintenance costs and improves the reliability of fine and coarse ash removal.
Syngas Cooler: Syngas cooling is of considerable importance to the gasification industry. Devices to inhibit erosion, made from several different materials, were tested at the inlet of the gas cooler and one ceramic material has been shown to perform well in this application.
Advanced Syngas Cleanup: A slipstream unit has provided flexibility in testing numerous syngas contaminant removal technologies to improve emissions and reduce costs in IGCC gas clean-up.
Sensors and Automation: Significant progress with sensor development and process automation has been achieved. More than 20 instrumentation vendors have worked with the NCCC to develop and test their instruments under realistic conditions. Development of reliable and accurate sensors for the gasification process has concentrated on coal feed, Transport Gasifier, and filter systems. Automatic temperature control of the Transport Reactor has been successfully implemented.
Fuel Cell: Two test campaigns were successfully completed on 0.5 kW solid oxide fuel cells manufactured by Delphi on syngas from the Transport Gasifier marking the first time that a solid oxide fuel cell (SOFC) has been operated on coal-derived syngas. Also, a NETL-erected SOFC multi-cell array test skid was successfully tested at NCCC directly on coal syngas.
CO_2 Capture – Slipstream CO_2 capture testing has been completed on both simulated and actual syngas and results have been used to design larger test equipment.

NCCC Future Test Program

Developing technology options that will reduce CO_2 emissions is a primary goal for future work at NCCC. These technologies will be screened in close collaboration with NETL for selection for testing at the NCCC. This facility will serve as a productive test-bed for developing advanced technology and is capable of operating from bench- and pilot-scale to near demonstration scales

allowing results to be scaled to commercial application. The NCCC will concentrate on developing cost-effective, commercially viable carbon capture technology for coal-fueled power plants through scale-up and continued development of several technologies (including for example those being developed either at DOE's facilities or by third party technology developers).

For both new and existing power plants, post-combustion capture technology must be made more efficient and cost-effective. In post-combustion capture, CO_2 is separated from the flue gas in a conventional coal-combustion power plant downstream of the pulverized coal boiler. Many post-combustion capture technologies need to be proven and integrated in an industrial power plant setting. Activities at the NCCC for post-combustion capture technology will include:

Pilot-Scale Test Modules: Pilot-scale test modules of advanced post-combustion technologies will be designed, installed, and operated in an existing pulverized coal plant adjacent to the NCCC. The test modules' flexible design will allow the testing of a wide range of technologies on actual flue gas.
Technology Screening: Available solvents developed by NETL, third party developers and the NCCC will be screened to assess readiness for testing at the site using improved contacting devices that are now under development.
Alternative Solvent Processes: Alternative solvents with lower heats of regeneration and more compact, lower cost gas-liquid contacting equipment will be developed and tested.
Advanced Technology: Compact membrane contactors and solid phase CO_2 sorbents, currently being investigated by DOE-NETL and private companies, will be assessed and installed. NCCC will provide such technologies a scaled-up testing platform as development progress warrants.

In pre-combustion capture, CO_2 is separated from the syngas in a coal gasification power plant upstream of combustion in the gas turbine. Research & development activities at NCCC for pre-combustion capture technology for application to gasification-based power generation include:

Advanced CO_2 Capture Systems: New solvents and gas-liquid contacting devices will be assessed on air-blown and oxygen-blown syngas. New CO_2 separation technologies (sorbents or membranes) will be scaled-up and tested based on fundamental R&D progress by third party developers.
Water Gas Shift Enhancements: New water gas shift reactor configurations and sizes are planned for testing at the NCCC. The operation of shift catalysts when exposed to syngas at the NCCC will be optimized and their technical and economic performance will be evaluated.
Advanced Syngas Cleanup: New advanced syngas cleanup systems will be tested for reducing hydrogen sulfide, hydrochloric acid, ammonia, and mercury to near-zero levels.

Regarding oxy-combustion, system studies will be used to evaluate the commercial feasibility of operating the Transport Reactor in oxy-combustion mode. Based on study results, oxy-combustion test priority will be determined in collaboration with NETL.

In developing a cost-effective advanced coal power plant with CO_2 capture, all process blocks within the power plant must be optimized in addition to the capture block. Including CO_2 capture in an advanced coal power plant will increase the plant cost of electricity, so opportunities to reduce cost in every part of the process will be explored. With highest priority being given to low-cost CO_2 capture process development, projects that reduce overall capital and operating costs will also be included in the NCCC test plan to partially offset incremental cost increases from CO_2 capture addition. These cost reduction projects include technology development for syngas cleanup, particulate control, fuel cells, sensors and controls, materials, and feeders.

San Diego County Water Authority
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March 18, 2010

The Honorable Peter Visclosky, Chair
Subcommittee on Energy and Water Development
House Committee on Appropriations
United States House of Representatives
2362B Rayburn
Washington, D.C. 20515-6020

Re: Support for Fiscal Year 2011 federal funding of $17.5 million for the Bureau of Reclamation's basin-wide salinity control program

Dear Chairman Visclosky:

Your support is needed to secure adequate Fiscal Year 2011 funding for the U.S. Bureau of Reclamation's participation in the federal/state Colorado River Basin Salinity Control Program. Reclamation is the lead agency for this successful and cost-effective program, which mitigates problems caused by excess salinity in the Colorado River.

The Colorado River is the primary source of drinking and irrigation water for more than 3 million people in San Diego County. Excess salinity causes economic damages in the San Diego region worth millions of dollars annually. It also hinders local water agency efforts to stretch limited supplies by recycling and reusing water. The local impacts of excess salinity include:

- reduced crop yields for farmers, who produce more than $1 billion of agricultural products in the San Diego region;
- reduced useful life of commercial and residential water pipe systems, water heaters, faucets, garbage disposals, clothes washers, and dishwashers;
- increased household use of expensive bottled water and water softeners;
- increased water treatment facility costs;
- difficulty meeting federal and California wastewater discharge requirements; and
- fewer opportunities for water recycling due to excess salt in the product water, which limits usefulness for commercial and agricultural irrigation.

Reclamation has been successful in implementing projects that prevent salt from entering the river system. Additional projects for salt reduction have been identified that could further improve river water quality. Some of the most cost-effective salinity control opportunities occur when Reclamation can improve irrigation delivery systems at the same time that the U.S. Department of Agriculture's (USDA) program is working with landowners (irrigators) to improve the on-farm irrigation systems. Adequate funding is needed to maximize Reclamation's effectiveness.

The Colorado River Basin Salinity Control Forum, the interstate organization responsible for coordinating the seven Colorado River Basin states' salinity control efforts, in October 2009 recommended a funding level of $17,500,000 for Reclamation's Basin-wide salinity control program for Fiscal Year 2011. This funding would allow Reclamation to continue its coordinated efforts to reduce salinity in the Colorado River. The Water Authority agrees with the Forum's recommendation, and urges your support for these needed funds. The seven Colorado River Basin states are sharing costs for salinity control, contributing 43 cents for every appropriated federal dollar.

The Water Authority appreciates your support of the Colorado River Basin Salinity Control Program and asks for your assistance in securing adequate funding for Fiscal Year 2011.

Sincerely,

Maureen A. Stapleton
General Manager

GAS TURBINE ASSOCIATION

STATEMENT TO: U.S. House of Representatives Appropriations Committee Subcommittee on Energy and Water Development
REGARDING: Department of Energy Turbine R&D Programs
SUBMITTED BY: Dr. William H. Day, Managing Director, Gas Turbine Association

March 19, 2010

The Gas Turbine Association appreciates the opportunity to provide the United States House of Representatives Committee on Appropriations Subcommittee on Energy and Water Development with our industry's statement recommending FY11 funding levels for the Department of Energy.

GTA recommends that the FY11 appropriation for Fossil Energy **include $45 million** for the Advanced Turbines Program to meet critical national goals of fuel conservation, greenhouse gas reduction, fuel flexibility (including syngas and hydrogen), and criteria pollutant reduction. **We also recommend** that Congress take appropriate action to ensure the Office of Energy Efficiency and Renewable Energy, Industrial Technologies Program FY11 appropriation **include $10 million,** directed towards small gas turbine research, as part of the Distributed Energy program to achieve goals similar to those referenced above for the Fossil Energy initiative. **In both cases a public-private partnership is needed to ensure success.**

It is clear that dramatic reductions in greenhouse gas emissions are in the national interest. It is also clear that our economy needs more electric generation capacity to resume and promote further growth. Without new technology, the power generation industry will be hard pressed to produce additional electric capacity, while at the same time meeting the strict greenhouse gas emissions standards being set by states and the federal government.

Federal investment in research and technology development for advanced gas turbines that are more efficient, versatile, cleaner, and have the ability to burn hydrogen-bearing reduced carbon synthetic fuels and carbon-neutral alternative fuels is needed to ensure the reliable supply of electricity in the next several decades. Domestic coal based Integrated Gasification Combined Cycle (IGCC) with carbon capture and sequestration is one such approach that would significantly supplement available supplies of domestic natural gas to guarantee an adequate supply of clean and affordable electric power. Alternative fuel choices range from imported LNG, coal bed methane, and coal-derived synthetic or process gas to biogas, waste-derived gases and hydrogen. Research is needed to improve the efficiency, reduce capital and operating costs, and reduce emissions.

Technologies for Advanced IGCC/H_2 Gas Turbine – Reducing the Penalty for CO_2 Capture

At current rates of research and development it is unlikely that the nation will have available the gas turbine technologies to meet the needs of FutureGen type power plants. The advancement of these technologies must be undertaken by the DOE since there is currently no pathway to the development, insertion, and maturation of these technologies into the nation's electric power infrastructure based on market forces. Thus, a combined effort by the public and private sectors is necessary.

The turbines and related technologies being developed under the DOE FE Advanced Turbines program will directly advance the performance and capabilities of future power generation with CO_2

capture and sequestration. Advances are needed to offset part of the power plant efficiency and output reductions associated with CO_2 capture. Program funding is required to cost-share in the technology development of advanced natural gas/hydrogen/syngas combustors and other components to realize the DOE goals.

Several GTA member companies are working cost-share programs with the DOE to develop technologies for advanced gas turbine power plants with carbon capture. These technologies will: 1) increase plant efficiency; 2) increase plant capacities; and 3) allow further reductions in combustion emissions of hydrogen rich fuels associated with CO_2 capture and sequestration. This will help offset some of the efficiency and output penalties associated with CO_2 capture. These programs are funding technology advancement at a much more rapid rate than industry can do on their own.

The need for increased levels of Federal cost-share funding is immediate. The funding levels in past years for the Advanced Turbines program has been inadequate to meet DOE's Advanced Power System goal of an IGCC power system with high efficiency (45-50% HHV), near-zero emissions and competitive capital cost. To meet this goal, the researchers must demonstrate a 2 to 3 percentage point improvement in combined cycle efficiency above current state-of-the-art Combined Cycle turbines in IGCC applications.

The plan for the IGCC-based FutureGen-type application is to develop the flexibility in this same machine with modifications to operate on pure hydrogen as the primary energy source while maintaining the same levels of performance in terms efficiency and emissions. The goal is to develop the fundamental technologies needed for advanced hydrogen turbines and to integrate this technology with CO_2 separation, capture, and sequestration into a near-zero emission configuration that can provide electricity with less than a 10 percent increase in cost over conventional plants by 2012.

The Advanced Turbines program is also developing oxygen-fired (oxy-fuel) turbines and combustors that are expected to achieve efficiencies in the 44 – 46% range, with near-100 percent CO_2 capture and near-zero NOx emissions. The development and integrated testing of a new combustor, turbine components, advanced cooling technology, and materials in oxy-fuel combustors and turbines is needed to make these systems commercially viable.

The knowledge and confidence that generating equipment will operate reliably and efficiently on varying fuels is essential for the deployment of new technology. Years of continued under funding of the Advanced Turbines program has already delayed the completion dates for turbine R&D necessary for advanced IGCC, as well as timing for a FutureGen-type plant validation.

Mega-Watt Scale Turbine R&D

In the 2005 *Enabling Turbine Technologies for High-Hydrogen Fuels* solicitation, the Office of Fossil Energy included a topic area entitled "Development of Highly Efficient Zero Emission Hydrogen Combustion Technology for Mega-Watt Scale Turbines". Turbine manufacturers and combustion system developers responded favorably to this topic, but DOE funding constraints did not allow any contract awards. The turbine industry recommends a follow-up to this solicitation topic that would allow the developed combustion technology to be tested in machines at full scale conditions and allow for additional combustion technology and combustor development for both natural gas and high-hydrogen fuels.

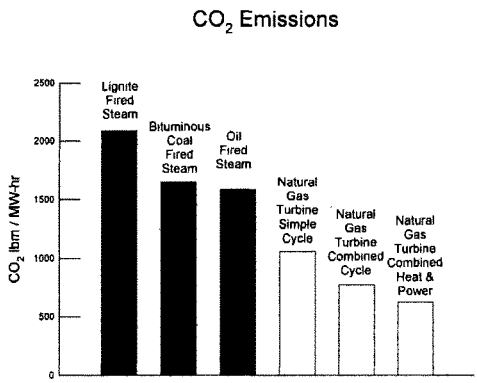
The turbine industry believes that this technology is highly relevant to industrial coal gasification applications including: 1) site-hardened black-start capability for integrated gasification combined cycle applications [the ability to restart an IGCC power plant when the electric grid has collapsed]; 2) supplying plant electric load fueled on syngas or hydrogen; 3) increasing plant steam cycle capacity on hot days when large amounts of additional power are needed; and 4) in gas turbines for compression of high-hydrogen fuels for pipeline transportation. The development of MW-scale turbines (1 - 100 MW) fueled with either natural gas or high-hydrogen fuels will promote the sustainable use of coal. In addition, highly efficient aeroderivative megawatt scale engines operate under different conditions than their larger counterparts and are installed for peaking or distributed generation applications. Funding is required to design efficient and low emissions combustors that accommodate the new fuels.

High-Efficiency, Low Carbon, Fuel Flexible Small Gas Turbines for Distributed Energy

The Distributed Energy Program of EERE's Industrial Technologies program should **include $10 million** to initiate small gas turbine research and development programs to dramatically increase their fuel efficiency (and thus reduce their carbon footprint) and to make them fuel flexible. Distributed energy is critical to building a efficient, diverse, and robust electric power infrastructure. Specifically, this program should set a goal of 42% efficiency (on a lower heating value basis) for advanced small gas turbines while enhancing their fuel flexibility to include dual fuel and alternative fuel utilization. These programs should build on the success of the Advanced Micro-turbine program of past years to overcome the barriers to insertion of Distributed Energy into our nation's electrical infrastructure and to build on potential synergies between advanced small gas turbines and the advances in waste heat capture such as combined heat and power (CHP) and organic Rankine cycle (ORC).

Gas Turbines Reduce Greenhouse Gas Emissions

The gas turbine industry's R&D partnership with the federal government has steadily increased power plant efficiency to the point where natural gas fired turbines can reach combined cycle efficiencies of 60%, and quick-start simple cycle peaking units can reach 46%. The gas turbine's clean exhaust can be used to create hot water, steam, or even chilled water. In such combined heat and power applications, overall system efficiency levels can reach 60 to 85% LHV. This compares to 40-45% for even the most advanced thermal steam cycles (most of which are coal fired).



Gas turbines already play a very significant role in minimizing greenhouse gas emissions worldwide. Gas turbines are both more efficient and typically burn lower carbon fuels compared to other types of combustion-based power generation and mechanical drive applications. The nation needs to reinvigorate the gas turbine / government partnership in order to develop new, low carbon power plant solutions. This can be done by funding research to make gas

turbines both efficient and more capable of utilizing hydrogen and synthetic fuels as well as increasing the efficiency, durability and emissions capability of natural gas fired turbines. If Congress provides adequate funding to DOE's turbine R&D efforts, technology development and deployment will be accelerated to a pace that will allow the U.S. to achieve its emissions and energy security goals.

The GTA respectfully requests $45 million in FY11 appropriations for the Fossil Energy Advanced Turbines Program, and $10 Million for the Energy Efficiency & Renewable Energy ITP/Distributed Energy Program directed towards small turbines research in FY11 to meet critical national goals of fuel conservation, fuel flexibility (including natural gas, syngas and hydrogen), greenhouse gas reduction, and criteria pollutant reduction.

GTA MEMBER COMPANIES

Alstom Power, GE Energy,
Florida Turbine Technologies, Rolls-Royce, Siemens Energy, Solar Turbines,
Pratt & Whitney Power Systems, Strategic Power Systems, VibroMeter

Gas Turbine Association awrobart@gmail.com 301.762.7027 www.gasturbine.org

TESTIMONY OF ROBERT S. LYNCH, COUNSEL AND ASSISTANT SECRETARY/TREASURER,
IRRIGATION & ELECTRICAL DISTRICTS ASSOCIATION OF ARIZONA,
BEFORE THE HOUSE COMMITTEE ON APPROPRIATIONS,
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT,
ADDRESSING FY 2011 APPROPRIATIONS FOR THE BUREAU OF RECLAMATION
AND THE WESTERN AREA POWER ADMINISTRATION

MARCH 18, 2010

The Irrigation & Electrical Districts Association of Arizona (IEDA) is pleased to present written testimony regarding the fiscal year 2011 (FY 2011) proposed budgets for the Bureau of Reclamation (Reclamation) and the Western Area Power Administration (Western).

IEDA is an Arizona nonprofit association whose 26 members and associate members receive water from the Colorado River directly or through the facilities of the Central Arizona Project (CAP) and purchase hydropower from federal facilities on the Colorado River either directly from Western or, in the case of the Boulder Canyon Project, from the Arizona Power Authority, the state agency that markets Arizona's share of power from Hoover Dam. IEDA was founded in 1962 and continues to represent water and power interests of Arizona political subdivisions and other public power providers and their consumers.

Bureau of Reclamation

IEDA has reviewed the Reclamation Budget and found, not unexpectedly, that it does not address the enormous backlog of needs of the agency's aging infrastructure. We are aware, for example, that the Imperial Dam Electrification Project needs five million dollars ($5M), money that will be repaid to the Treasury with interest. However, we do support important projects and programs that are included in the proposed budget. We are especially mindful that the Yuma Desalting Plant is undergoing a pilot project, which is an essential element of the problem solving mechanisms being put in place for the Colorado River and especially the Lower Colorado River. Problem solving on the Lower Colorado River will be substantially improved by using the plant as a management element.

We also wish to call to the Subcommittee's attention the issue concerning increased security costs at Reclamation facilities post-9/11. Legislation has passed Congress addressing that issue and a budget approved for Reclamation for FY 2011 should reflect that this legislation became law and affects Reclamation operations. We believe security costs under that legislation should be reduced because of a declining Consumer Price Index.

Western Area Power Administration

IEDA has reviewed the testimony submitted by Western's Administrator, Tim Meeks. We note that both this Subcommittee and the House Natural Resources Committee Water and Power Subcommittee have a concern over the limited appropriation for construction funding proposed for FY 2011. We believe this shortfall is irresponsible. Western has over 15,000 miles of

transmission line for which it is responsible. It has on the order of 14,000 megawatts of generation being considered for construction that would depend on that federal network. The existing transmission facilities cannot handle all of these proposals. Moreover, the region is projected, by all utilities operating in the region, to be short of available generation in the ten-year planning window that utilities and Western use.

Moreover, the appropriation proposed in this category cannot come even close to keeping existing transmission construction going. Repairs and replacements will have to be postponed and considerable hardships to local utilities that depend on the federal network are bound to occur. In Western's Desert Southwest Region, our region, work necessary just to maintain system reliability will have to be postponed.

We would be the first to support additional customer financing of federal facilities and expenses through the Contributed Funds Act authority under Reclamation law that is available to Western. However, programs utilizing non-federal capital formation require years to develop. One such program being proposed by the Arizona Power Authority in a partnership with Western died because it was enmeshed in bureaucratic red tape at the Department of Energy. There is no way that Western customers can develop contracts, have them reviewed, gain approval of these contracts from Western and their own governing bodies, find financing on Wall Street and have monies available for the next fiscal year. It is just impossible, especially in this economy.

There are impediments to using existing federal laws in facilitating non-federal financing of federal facilities and repairs to federal facilities and Congress should examine them. Artificially designating customer funding for construction, in lieu of real solutions, is bad public policy and should not be countenanced. We urge the Subcommittee to restore a reasonable amount of additional construction funding to Western so it can continue to do its job in keeping its transmission systems functioning and completing the tasks that it has in the pipeline that are critical to its customers throughout the West.

Conclusion

Thank you for the opportunity to submit this written testimony. If we can provide any additional information or be of any other service to the Subcommittee, please do not hesitate to get in touch with us.

STATEMENT

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

REQUEST FOR APPROPRIATIONS
MISSISSIPPI RIVER AND TRIBUARIES PROJECT
FISCAL YEAR 2011

THE MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION RESPECTFULLY REQUESTS THAT THE SUM OF $550,000,000 BE APPROPRIATED IN FISCAL YEAR 2011 FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT.

IN VIEW OF THE FACT THAT THERE ARE SOME NEW MEMBERS OF THE SUB-COMMITTEE, IT SEEMS APPROPRIATE TO VERY BRIEFLY EXPLAIN A LITTLE OF THE HISTORY OF THE FLOOD CONTROL ASSOCIATION THAT WAS FIRST ORGANIZED IN 1922 BY A GROUP OF INTERESTED CITIZENS FROM THE STATES OF ARKANSAS, MISSISSIPPI AND LOUISIANA. FROM THAT FIRST MEETING, HELD IN MEMPHIS, TENNESSEE, A GROUP WAS SELECTED TO COME TO WASHINGTON IN AN ATTEMPT TO CONVINCE BOTH THE CONGRESS AND THE EXECUTIVE BRANCH THAT THE PREVENTION OF CATASTROPHIC FLOODS IN THE LOWER MISSISSIPPI RIVER VALLEY WAS BEYOND THE CAPABILITIES OF THE LOCAL PEOPLE AND WAS IN FACT TOO LARGE FOR ANY GROUP OTHER THAN THE UNITED STATES GOVERNMENT. THIS GROUP OF DEDICATED CITIZENS WAS WITHOUT LUCK UNTIL THE RECORD FLOOD OF 1927 SWEPT THROUGHT THE MISSISSIPPI RIVER VALLEY WITH THE FURY OF DEVASTATION NOT SEEN BEFORE. AN UNKNOWN NUMBER OF PEOPLE PERISHED ALONG WITH THOUSANDS OF HEADS OF LIVESTOCK AND ALL MANNER AND LARGE NUMBERS OF WILDLIFE. SOME SEVEN (7) PERCENT OF ALL THE PRODUCTIVE LAND ON THIS PLANET WAS UNDER WATER FOR A PERIOD OF ALMOST HALF A YEAR. THE CONGRESS, AFTER EXTENSIVE HEARINGS, PASSED THE FLOOD CONTROL ACT OF MAY 15, 1928 THAT WAS SIGNED INTO LAW BY THEN PRESIDENT CALVIN COOLIDGE.

THE FLOOD CONTROL ASSOCIATION, ACTING UNDER THE ERRONEOUS ASSUMPTION THAT THE UNITED STATES GOVERNMENT WOULD PROVIDE ALL THAT WAS NEEDED TO PREVENT FLOODING IN THE VALLEY, DISBANDED. IN 1935 IT BECAME APPARENT THAT ADDITIONAL LEGISLATION WAS REQUIRED AND THE ASSSOCIATION, UNDER THE LEADERSHIP OF THEN SENATOR JOHN OVERTON FROM LOUISIANA, WAS RE-ORGANIZED AND HAS BEEN IN CONTINUOUS AND ACTIVE EXISTENCE SINCE. THIS IS OUR 75TH YEAR TO HOLD A MEETING IN WASHINGTON, TO REQUEST FUNDS FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT.

WE HAVE BEEN FORTUNATE SINCE 1935 TO HAVE AS OUR PRESIDENT AND TWO VICE PRESIDENTS, MEMBERS OF THE UNITED STATES CONGRESS WITH CONGRESSMAN ED WHITFIELD FROM THE COMMONWEALTH OF KENTUCKY SERVING AS OUR PRESIDENT AND CONGRESSMEN MIKE ROSS FROM ARKANSAS AND PHIL HARE FROM ILLINOIS SERVING AS OUR VICE PRESIDENTS.

WE APPEAR BEFORE YOU TODAY AFTER HAVING CAREFULLY CONSIDERED THE PRESIDENT'S FISCAL YEAR 2011 BUDGET FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT. WE FIND, AS USUAL, THAT THE EXECUTIVE DEPARTMENT HAS SADLY UN-FUNDED THE CORPS OF ENGINEERS CIVIL WORKS BUDGET FOR THE UP-COMING FISCAL YEAR. WE ALSO NOTE THAT THE CORPS HAS STATED THAT THEY HAVE A CAPABILITY UNDER THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT TO USE $550,000,000 IN FISCAL YEAR 2011. WE WOULD RESPECTFULLY REQUEST THAT THE CONGRESS APPROPRIATE THE AMOUNT OF $550,000,000 FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT.

THIS NATION IS STILL FACED WITH A WAR ON TERROR AND THE ECONOMIC SITUATION IS POOR TO SAY THE LEAST. WE ARE EVER MINDFUL OF THESE FACTS BUT WE FEEL THAT WE ARE JUSTIFIED IN REQUESTING ADDITIONAL APPROPRIATIONS FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT BECAUSE THE ASSETS AND RESOURCES OF THIS GREAT NATION MUST NOT BE NEGLECTED AT THIS TIME. WE ARE UNAWARE OF ANY OTHER APPROPRIATION THAT CONTRIBUTES AS MUCH TO NATIONAL WEALTH AND RESOURCES AS DOES FLOOD CONTROL AND NAVIGATION FOR THE MAJOR RIVERS OF THIS COUNTRY AND THAT IS CERTAINLY TRUE FOR THE MIGHTIEST OF THEM ALL, THE MISSISSIPPI, THE THIRD LARGEST WATERSHED ON THE PLANET.

MILLIONS OF ACRES OF WHAT WERE ONCE OVERFLOW LANDS ARE NOW HIGHLY PRODUCTIVE AND CONTRIBUTES TO OUR NATIONAL WEALTH. THESE LANDS BY REASON OF THEIR GEOGRAPHIC LOCATION ARE THE MOST FERTILE OF THE NATION AND AMPLE WATER IS AVAILABLE SO THAT THEY CAN PRODUCE AN ABUNDANCE OF FOOD AND FIBER FOR THE GENERAL WELFARE AND PROSPERITY OF THE COUNTRY. THIS IS ONLY POSSIBLE BECAUSE OF THE COORDINATED WORK PERFORMED BY THE TRIAD OF THE UNITED STATES CORPS OF ENGINEERS, THE UNITED STATES CONGRESS AND THE LOCAL PEOPLE. THE APPROPRIATIONS MADE BY THE CONGRESS FOR THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT ARE INVESTMENTS IN THIS NATION'S FUTURE.

WE ARE AWARE OF THE EVER INCREASING DEMAND ON THE FEDERAL DOLLARS AND THE MANY COMPLEX PROBLEMS THAT THE CONGRESS IS CONFRONTED WITH, BUT WE BELIEVE THAT THIS PROJECT IS ECONOMICALLY SOUND, ENVIRONMENTALLY NECESSARY, AND WE URGE ITS COMPLETION WITH ALL DELIBERATE HASTE. OUR REQUEST OF $550,000,000 IS REQUIRED TO MEET THIS GOAL.

THE ULTIMATE GOAL TO BE ACCOMPLISHED WITH THE PASSAGE OF THE ACT OF 1928 WAS THAT THE LOWER VALLEY WOULD NEVER AGAIN BE DESTROYED BY A FLOOD SUCH AS THAT OF THE FATEFUL YEAR OF 1927. BY LAW, THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT PROVIDES PROTECTION AGAINST THE "GREATEST POSSIBLE FLOOD" EVEN THOUGH NOT YET COMPLETED. FOR OVER EIGHTY (80) YEARS THE PROJECT HAS WORKED TO PERFECTION WITH NOT ONE ACRE FLOODED THAT WAS DESIGNED NOT TO BE FLOODED. THE PROJECT HAS ALSO INSURED THE PERMANENCY OF LOCATION FOR HARBOR FACILITIES AND INDUSTRIAL SITES AND TO OBTAIN A MORE RELIABLE NAVIGATION CHANNEL. WITH THE HELP OF THE CONGRESS WE HAVE MADE

GREAT STRIDES IN THE MISSISSIPPI RIVER VALLEY BUT THE JOB IS NOT YET COMPLETED. ALL THE PEOPLE OF THE VALLEY WILL NOT FEEL OR BE SAFE UNTIL THE JOB IS COMPLETED.

Richard W. Parsons
Dredging Program Manager
Ventura Port District of California

March 18, 2010

Mr. Chairman:

Thank you for the opportunity to present testimony on behalf of the Ventura Port District of California. My name is Richard W. Parsons. I am the Dredging Program Manager of the Port. The President's FY 2011 request within the operations, maintenance and dredging component of the civil works budget for the U.S. Army Corps of Engineers is $2,840,000 for the annual dredging of Ventura Harbor. Informal communications with the Corps indicate that $4,300,000 will be required to meet dredging needs of the port between October 1, 2010 and September 30, 2011. This higher amount is consistent with the dredging requirements of the past several years. Accordingly, it is respectfully requested that the Congress appropriate an additional $1,460,000 beyond the President's request to meet anticipated Corps of Engineer requirements. It is worthy of note that employment associated with the commercial fishing industry in the Port of Ventura area is directly related to the dredging activities of the Corps. An estimated 71 million pounds of seafood were unloaded at the facilities associated with the Port of Ventura which provides significant employment in the area. Thank you very much for your favorable consideration of this request.

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Statement of
The American Society of Civil Engineers
On The FY 2011 Budgets
For The U.S. Army Corps of Engineers Civil Works Program
and the U.S. Bureau of Reclamation
Before
The Subcommittee on Energy and Water Development
House Committee on Appropriations
March 19, 2010

The American Society of Civil Engineers (ASCE) is pleased to submit this statement for the record to the Subcommittee on Energy and Water Development on the proposed budget for the U.S. Army Corps of Engineers Civil Works program for fiscal year 2011.

In January 2009, ASCE released the latest edition of its *Report Card for America's Infrastructure.* That report gave the nation's public works systems an overall grade of D due to years of neglect in basic capital investments. Decades of delayed maintenance and modernization have left Americans with an outdated and failing infrastructure that cannot meet the nation's demands.

Levees received a D–. More than 85 percent of the nation's estimated 100,000 miles of levees are locally owned and maintained. The reliability of many of these levees is unknown. Many are more than 50 years old and were originally built to protect crops from flooding. With an increase in development behind these levees, the risk to public health and safety from failure has increased. Rough estimates put the cost at more than $100 billion to repair and rehabilitate the nation's levees.

The nation's 12,000 miles of inland waterways received a grade of D– as well. Of the 257 locks still in use on the nation's inland waterways, 30 were built in the 19th century and another 92 are more than 60 years old. The average age of all federally owned or operated locks is nearly 60 years, well past their planned design life of 50 years.

A. ASCE Recommends a Budget of $7 Billion for the U.S. Army Corps of Engineers Civil Works program in FY 2011.

In the face of the Corps' aging infrastructure needs, the president's budget for the Civil Works Program in FY 2011 reduces—not increases—federal investments in essential national civil works systems.

The budget proposal totals only $4.9 billion, a reduction of 9.3 percent from the FY 2010 enacted level of $5.4 billion. The administration request represents a 51 percent decrease from the FY 2009 enacted total of $10 billion through regular appropriations and the American Recovery and Reinvestment Act.

Moreover, the trend is not likely to improve in future years. The Corps estimates that its budget proposals will continue to decline through FY 2015, with a low estimate of $4.5 billion for FY 2013. The Corps expects that inflation will reduce actual spending on key infrastructure programs by a further $3 billion over the next five years.[1] ASCE believes that these levels of spending are inadequate to meet the nation's security, economic and environmental demands in the 21st century.

In an appearance before this subcommittee last month, the assistant secretary testified to the president's intentions in cutting the civil works budget. "In keeping with President Obama's commitment to limit the overall level of non-security discretionary spending, the level of funding in the 2011 Civil Works budget is a reduction from both the 2010 budget and the 2010 appropriations."[2]

The secretary explained that this year's budget proposal funds four principal objectives: construction of the highest performing water resources infrastructure investments that provide the best returns from a national perspective; the nation's 12,000-mile navigation system by financing capital investments; aquatic-ecosystem-restoration efforts; and critical maintenance and operational reliability of the existing Corps infrastructure. The president's plan emphasizes commercial navigation, flood and coastal storm damage reduction and aquatic ecosystem restoration, the secretary said.

The proposed construction budget for FY 2011 would assign $1.7 billion to 99 construction projects, only two of them new starts. The administration's request represents a reduction of $341 million from the FY 2010 appropriation for this account. These funds are used for the construction of river and harbor, flood control, shore protection, environmental restoration, and related projects specifically authorized or made available for selection by law.

Increased funding to the states for water resource planning is vitally important to encourage statewide collaborative efforts to avert future crisis such as flooding or drought. Preparedness is a cornerstone for ensuring future water supply availability for population and economic growth and

[1] U.S. Army Corps of Engineers, The Fiscal Year 2011 Budget and an Alternative View of the Civil Works Mission 11 (Mar. 9, 2010) (unpublished PowerPoint presentation, on file with ASCE).

[2] CQ.com, House Appropriations Subcommittee on Energy and Water Development Holds Hearing on President's Fiscal 2011 Budget Request for the Army Corps of Engineers, http://www.cq.com/display.do?productId=4&dockey=/cqonline/prod/data/docs/html/transcripts/congressional/111/congressionaltranscripts111 (testimony of Assistant Secretary Jo-Ellen Darcy) (last visited Mar. 15, 2010).

new challenges to address environmental needs. At least $100 million should be provided on a cost-shared basis in the Civil Works program to help states develop strategies to address their future challenges and needs.

We urge the removal of the prohibition on "new starts" in future Appropriations bills. We believe this is not in the best interest of the Corps' work on the nation's waterways, flood control needs and ecosystems restoration. Congress took a strong stand and made a serious commitment to the American people when it voted to override President Bush's veto of the 2007 Water Resources Development Act and authorized more than $23 billion in new projects for the Corps of Engineers. It is time to meet that commitment by addressing this backlog of funding needs and provide additional funding for this critically important program. Failing to move on new projects that have been authorized will stop the Corps from addressing pressing needs.

B. Congress Should Solve the Problem of Declining Balances in the Inland Waterways Trust Fund.

Of the 257 locks still in use on the nation's inland waterways, 30 were built in the 19th century and another 92 are more than 60 years old. The average age of all federally owned or operated locks is nearly 60 years, well past their planned design life of 50 years.

The government needs to set a priority system for restoring locks that have outlasted their design lives, with an initial focus on all locks built in the 19th century. The current federal budget process does not differentiate between expenditures for current consumption and long-term investment. This causes major inefficiencies in the planning, design and construction process for long-term investments. In the interim, Congress must provide new revenues for the Inland Waterway Trust Fund (IWTF) to begin reducing the maintenance backlog.

The IWTF finances construction and maintenance of the nation's 12,000-mile inland waterways system. The trust fund is supported by a 20-cent per gallon tax on commercial fuel used on specified inland waterways. The fund is used to pay for half of the federal cost of constructing navigation improvements on those waterways; the remaining half is paid from general revenues. In recent years, the Corps has been steadily spending down the Inland Waterways Trust Fund.

The IWTF balance has declined each year for more than a decade. In FY 2011, the Office of Management and Budget estimates fund revenues at $85 million, with a year-end balance of approximately $30 million.

The administration's budget request notes that the administration will propose to replace the current fuel tax with a new funding mechanism that will raise the revenue needed to meet the authorized non-federal cost-share of these capital investments "that is more efficient and more equitable than the fuel tax" for traffic on the inland waterway system.

If the administration's proposal is enacted, the budget forecasts additional receipts of $72 million

for the IWTF for FY 2011. Together with the $85 million in estimated receipts from the current excise tax and interest income, total receipts for the Inland Waterways Trust Fund would be $157 million under the administration's budget request in FY 2011.

According to the Inland Waterways Users Board, large project cost overruns and delays in project schedules on the waterways have drawn down the IWTF balance. Project completion delays result from a federal budgeting and appropriations model that provides funding in annual and often-insufficient increments rather than a more reliable multi-year funding mechanism that would provide the certainty needed to more efficiently contract and build these capital projects.[3]

C. Increase Funding For Bureau of Reclamation to at Least $1.2 Billion for FY 2011.

The Bureau has a broad portfolio of responsibilities for natural resource management. Additional funding would allow the agency to address aging water resource facilities and to make significant progress on environmental restoration, irrigation structures, water recycling, and rural drinking water systems.

As with providing additional funding for the Corps of Engineers, additional funding for the Bureau of Reclamation could be put to use over the next two years to put shovels in the ground, fortifying critical pieces of infrastructure and creating good-paying construction jobs that would stimulate the economy.

The Bureau of Reclamation has played an important role in the development of the 17 western states over the past one hundred years. ASCE recognizes the importance of such investment given the aging of the infrastructure and the harsh climatic conditions of the western United States. 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.

D. Congress Needs to Develop a Long-Term Strategy to Close the Infrastructure Investment Gap for Water Resources.

In recent years, national investment in water resources projects has not kept pace with the level of economic and social expansion. Over the last 30 years, the U.S. population has increased more than 40 percent while GDP has grown from $2.5 trillion to $7.5 trillion. Capital investment in public water resources infrastructure, however, has decreased by 70 percent. The combination of an expanding population and economy coupled with a decline in infrastructure investment has created a substantial investment gap.

With each passing day, the inability of our nation's aging infrastructure to meet the needs of our growing population further threatens our economy. To complete ongoing infrastructure projects in

[3] IWUB, Annual Report to Congress (2009), http://www.iwr.usace.army.mil/usersboard/AnnualReportToCongress.htm (last visited Mar. 15, 2010).

a timely and efficient manner and to save future costly repairs by adequately addressing the existing backlog of critical deferred maintenance, Civil Works funding must increase to at least $10 billion for FY 2011. Notwithstanding the administration's current spending freeze, annual increases of at least $400 million to $600 million will be required in subsequent years to reduce the "benefits foregone," keep the Civil Works program on schedule and save the nation the costs of paying for more expensive "crisis" repairs in the future.

One element of a new strategic investment plan would be enactment of legislation to permit the Corps to fully fund water resources projects, particularly those for locks and dams on the inland waterways and for port dredging, through a multiyear appropriation at the time the project is authorized.

The current funding system of annual appropriations allows projects to be financed on a piecemeal basis to the detriment of the overall civil works program. Because each project is judged independently of the needs of the nation's total water resources program, far too many projects start and thereby starve current projects of money needed to complete them. The result has been poor program and project management, inefficient design and construction schedules and a consequent growth in project costs.

This concludes our statement for the record on the Corps' budget for FY 2011. For further information, please contact:

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Statement of Peter Nimrod
Chief Engineer
Board of Mississippi Levee Commissioners
to the
House Committee on Appropriations
Subcommittee on Energy and Water Development
on Behalf of the
Appropriation for Flood Control
Mississippi River and Tributaries Project
Request for Fiscal Year 2011

March 18, 2010

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

This statement is prepared by Peter Nimrod, Chief Engineer for the Board of Mississippi Levee Commissioners, Greenville, Mississippi, and submitted on behalf of the Board and the citizens of the Mississippi Levee District. The Board of Mississippi Levee Commissioners is comprised of 7 elected commissioners representing the counties of Bolivar, Issaquena, Sharkey, Washington, and parts of Humphreys and Warren counties in the Lower Yazoo Basin in Mississippi. The Board of Mississippi Levee Commissioners is charged with the responsibility of providing protection to the Mississippi Delta from flooding of the Mississippi River and maintaining major drainage outlets for removing the flood waters from the area. These responsibilities are carried out by providing the local sponsor requirements for the Congressionally authorized projects in the Mississippi Levee District. **The Mississippi Levee Board and the Mississippi Valley Flood Control Association support an appropriation of $550 Million for FY 2011 for the Mississippi River & Tributaries Project.** This is the minimum amount that we consider necessary to allow for an orderly completion of the remaining work in the Valley and to provide for the operation and maintenance, as required, to prevent further deterioration of the completed flood control and navigation work.

It is apparent that the Administration loses sight of the fact that the Mississippi River & Tributaries Project provides protection to the Lower Mississippi Valley from waters generated across 41% of the Continental United States. These waters flow from 31 states and 2 provinces of Canada and must pass through the Lower Mississippi Valley on its way to the Gulf of Mexico. We will remind you that the Mississippi River & Tributaries Project is one of, if not the most cost effective project ever undertaken by the United States government. The foresight of the Congress in their authorization of the many features of this project is exemplary.

The many projects that are part of the Mississippi River & Tributaries Project not only provide protection from flooding in the area, but the award of construction contracts throughout the Valley provides assistance to the overall economy of this area. The employment of the local workforce and purchases from local vendors by the contractors help stabilize the economy in one of the most impoverished areas of our country.

Thanks to the additional funding provided by the Congress over the last several years over and above the Administration's budget, work on the Mainline Mississippi River Levee Enlargement Project is continuing. Of the original 69 miles of deficient levees in the Mississippi Levee District, 32.0 miles of work has been completed and 8.1 miles are currently under contract. We are requesting $56.238 Million for construction on the Mainline Mississippi River Levees in the Lower Mississippi Valley Division which will allow the Vicksburg and Memphis districts to keep existing contracts on schedule and award contracts to avoid any future unnecessary delays in completing this vital project. We are all well aware that the Valley some day will have to endure a Project Flood, we just don't know when. We must be prepared.

The President's FY 2011 Budget did not include funding for any construction projects within the Yazoo Basin. This action is especially difficult to understand during a time when our Nation needs an economic boost. These are all projects authorized and funded so wisely by the Congress. All of these projects are encompassed in the footprint of the Delta Regional Authority, an area recognized by the Congress as requiring special economic assistance to keep pace with the rest of our great Nation. We can not lose sight of the fact that all of these projects are required to return more than a dollar in benefits for each dollar spent.

The recommended plan for the Yazoo Backwater Project includes a pump that will lower the 100-year flood event by 4.5 feet thereby reducing urban and rural structural damages, providing benefits to the remaining agricultural lands, and reducing the frequency and duration of floods. The plan also includes reforestation easements to be purchased on up to 55,600 of existing agricultural land which will provide benefits in every environmental category - wetlands, terrestrial, aquatics, and waterfowl resources as well as vastly improving water quality. This is a model project that should be the standard for future public works projects in the United States. On August 31, 2008, the Environmental Protection Agency (EPA) wrongly used it's authority under Section 404(c) of the Clean Water Act (CWA) to veto the Yazoo Backwater Project even though it is exempt by Section 404(r) of the CWA. The Mississippi Levee Board is currently engaged in a lawsuit against EPA asking the Federal Court to determine if this project is indeed exempt from an EPA 404(c) veto by the exemption in Section 404(r) of the CWA. The Administration has ordered the cancellation of $52 Million in reserves for the Yazoo Backwater Project. If we lose this money, we will have to start from scratch with the appropriations cycle. **Please do everything you can to keep the $52 Million for the Yazoo Backwater Project and prevent this cancellation from happening.** These funds will allow the Corps to begin acquisition of the reforestation easements and initiate the award of the pump supply contract.

Work on the Delta Headwaters Project has proven effective in reducing sediments to downstream channels. To discontinue this project will only diminish water quality by increasing sediment, reducing the level of flood protection to the citizens of the Delta and increasing required

maintenance. We are requesting $23.2 Million to continue this project.

Maintenance of completed works can not be over looked. The four flood control reservoirs overlooking the Delta have been in place for 50 years and have functioned as designed. Required maintenance must be performed to avoid any possibility of failure during a flood event. We are asking for $14.418 Million for Arkabutla Lake, $13.537 Million for Enid Lake, $9.764 Million for Grenada Lake, and $16.394 Million for Sardis Lake.

We are requesting $20.27 Million for Maintenance of the Mainline Mississippi River Levees in the Lower Mississippi Valley Division which will provide for repair of levee slides, slope repair, and repair of the gravel maintenance roadway which is so vital to access during high water.

The Environmental Protection Agency (EPA) has been given too much power under Section 404(c) of the Clean Water Act (CWA) which allows EPA to veto Congressionally authorized projects. During the early 1990's, due to abuse of the 404(c) power by EPA, Congress considered removing this authority from EPA. EPA has again invoked this veto power on the Yazoo Backwater Project. EPA is saying that you can't lower the water level with a flood control project! By killing this project with 404(c) veto authority, EPA is drawing a line in the sand over the future of flood control in our great nation. EPA has vetoed the Yazoo Backwater Project even though it was approved, authorized and funded by Congress and exempt from a 404(c) veto by 404(r). **It is now time to again take up this issue and remove the 404(c) veto power from EPA before they kill another flood control project that has been authorized by Congress.**

The Council of Environmental Quality (CEQ) draft proposal of changes to the Principals and Guidelines (P&G) for Federal Agencies fails to establish a clear, concise, and workable framework to guide development of water resources projects. It is incoherent and inconsistent - and thus not implementable in a practical sense. It substantially fails to comply with the explicit directions in Section 2031 of WRDA 07 as well as the large body of previous law and policy related to water resources. It is written so as to not require or even encourage use of proven analytical tools to distinguish among alternatives. It elevates environment considerations over economic benefits, social well-being and public safety. Because of these critical and extensive failings, we recommend that this effort be put aside and restarted from the beginning.

On June 15, 2009, the White House sent out a memo to override P&G by revising a 1977 Executive Order (EO 11988) on management of flood prone areas. This EO could prevent future structural projects on floodplains. Also included is the movement from protection of the 100-yr floodplain to the 500-yr floodplain. The White House is pushing non-structural flood control measures over structural flood control.

In January, 2009 the National Levee Safety Committee released a report containing recommendations for a National Levee Safety Program. Among the recommendations is mandatory requirement of risked based flood insurance for those who live in an area protected by a levee. Approximately 40% of the United States citizens live behind a levee! We believe this is an attempt by FEMA to re-coup their losses from Hurricane Katrina.

From 1959-2005 the MS Levee Board received an Outstanding Performance award from the Corps for our work on maintenance on Levees and Interior Streams. After Hurricane Katrina the Corps changed the award from "Outstanding" to a "Certificate of Merit." Now the Corps of Engineers Headquarters has issued new guidance to its District offices to change the way they evaluate and grade all Levee systems. The new guidance states that if a levee has any seepage it must be classified as "Minimally Acceptable." All levees will experience underseepage. Landside seepage berms and relief wells are part of the design of our levee to deal with that reality. These new Corps regulations will move virtually all Levees into a "Minimally Acceptable" rating. The next step is for the Levee to be classified as "Unacceptable." Once a levee is classified as "Unacceptable" it will be de-certified and everyone living and every business operating behind this de-certified levee will be forced to purchase full flood insurance premiums from FEMA.

The current Levees that were built and/or enlarged as part of the Mississippi River & Tributaries (MR&T) Project are designed to not only hold back a 100-year or 500-year flood but they are designed to hold back the "project design flood" which is the worst case scenario of rainfall events happening again and again over the entire Mississippi River Basin. In the past few years the Mississippi Levee Board has done everything to comply with their assurances of general maintenance and have also significantly improved their Levees by enlarging, building seepage berms and installing relief wells. At the same time, because of technical issues beyond the Levee Boards' control and jurisdiction, the Corps will lower their rating from an "Outstanding" to "Minimally Acceptable." MR&T Levees are not in the "one-size fits all" category that FEMA and the Corps are trying to adopt. The Corps of Engineers Headquarters needs to revisit these new guidelines and bring back practical sense and good engineering judgement to their Levee Evaluation Program for MR&T Levees.

As members of the Congress representing the citizens of our Nation who live with the Mississippi River everyday, you clearly understand both the benefits provided by this resource and the destructive force that must be controlled during a flood. On behalf of the Mississippi Levee Board, I can not express enough, our appreciation for your efforts in providing adequate funding over the last several years that has allowed construction to continue on our much needed projects and thank you in advance for your kind consideration of our requests for fiscal year 2011.

Alan Lauder
Executive Director
Coalition for the Commercial Application of Superconductors (CCAS)

CCAS respectfully requests that $45 million be included as a line item for High Temperature Superconductivity R&D in the FY 2011 Department of Energy, Office of Electricity Delivery and Energy Reliability, budget.

The President's proposed FY 2011 budget for the DOE Office of Electricity Delivery and Energy Reliability (OEDER) contains a greatly reduced budget for High Temperature Superconductivity (HTS) of $4,860,000 under the label Advanced Cables and Conductors. Further, the intent is to eliminate all spending on HTS R&D and demonstrations in FY 2012.

Since its inception in 1988, the HTS program has enjoyed the strong, bipartisan support of Congress. Substantial progress towards commercialization has been achieved. Over this period, American taxpayers have made a major investment, alongside private capital, to ensure that the dramatic HTS materials discoveries made in the U.S. in the late 1980s are translated into beneficial products for United States consumers. We have also supported this investment to ensure a strong U.S. position in an emerging, very large, globally competitive field involving multiple applications and the concomitant high quality research and manufacturing jobs that will be realized.

HTS is a game changing development for energy generation, transmission and distribution for the 21st century and many thousands of high quality research and manufacturing jobs hang in the balance. While the U.S. still leads the world in HTS R&D and pre-commercial demonstrations, the leadership position in this critical technology has eroded substantially over the past five years as many foreign governments, particularly Korea, China, Japan, and Europe are increasing their support for HTS R&D as they realize the large number of jobs and the export value of the high tech products that potential leadership will bring.

HTS R&D has brought the technology from a laboratory materials discovery in Houston in 1987 to pre-commercial demonstration insertions in the U.S. electric power grid. Benefits are a 60-70% reduction in resistive power losses versus any

other conductor; substantial reduction in right-of-way requirements; extremely high power transmission capability at reduced voltages; improved aesthetics and security from underground cable location; and a major reduction in carbon footprint from greatly improved power transmission and distribution efficiency. HTS R&D is also bringing major size and weight benefits to transformers and generators and creating unique opportunities to limit the spread of fault currents and attendant grid system blackouts thereby enabling a smarter transmission and distribution grid. These developmental products are at the prototype demonstration stage. The HTS R&D conducted in OEDER has also underpinned advances in superconductor wire development that are being used in other applications. Examples are a degaussing system for the Navy, now being tested at sea as a means to reduce or eliminate the magnetic signature of ships making them invisible to mines; and a full size HTS electric ship drive motor also under evaluation by the Navy at the Philadelphia shipyard. Both of these products effect a 50% reduction in both size and weight versus conventional approaches, gains typical of superconductor based products. In science, HTS is the only way in which to achieve higher magnetic field strength essential to advance today's accelerator and collider technology. This high magnetic field capability is equally applicable to advances in NMR and MRI for scientific and medical research. For more information: www.ccas-web.org

The U.S. is in an international race to commercialize HTS wire and cable applications for the power grid. Now is not the time to cut HTS R&D funding when the technology is just a few years from large scale commercialization. The fledgling industry cannot afford to bear the total cost of development at this time, which makes U.S. Government support essential. The $45 million annually over the next few years is needed to ensure an internationally competitive position for the U.S. in a technology, invented and largely developed here, that will be a major commercial jobs creator with attendant benefits for national security. Funding of demonstration projects within DOE has typically been allocated on a competitively bid, cost share basis.

CCAS is a U.S. non-profit organization and members are involved in the end-use, manufacture, development and research of superconductor based systems, products and related technologies. Members comprise large and small corporations, research institutions, National Laboratories and universities with operations in most states.

Public Witness Testimony for the Record.

Paula Rychtar

The Richton Salt Dome project must be stopped.

We will likely never use the oil that would be stored in the dome considering that only 1.5% of the current reserves were needed when Hurricane Katrina shut down 25% of the total domestic production of oil for months (According to the DOE). The economic and environmental impacts cover a long list including:

- 50 million gallons of fresh water removed from the Pascagoula River each day for 5 years will cause major environmental impacts and put the cooling water resources for all the large Jackson Co. Industries at risk for operation and or expansion.

- According to the DOE, there will be at least 56 brine spills in the discharge pipeline. The DOE's report also shows the average size of those spills in their previous sites was 282,000 gallons per spill.(Picture a 5 gallon bucket with 11 pounds of salt in it for a description of the brine. Multiply that bucket by 56,400 for the size of the DOE predicted spills.)

- Loss of recreational and commercial fishery resources from the discharge of 50 million gallons of brine per day for 5 years into the Gulf just south of Horn Island. These losses include shrimp, crabs, oysters, and all types of fish.

- In this hard economic time do we really need a $20 billion Project that turns billions of gallons of fresh water into salt brine that is dumped into a prime fisheries habitat? The kicker is that the Project will likely never be used.

- This money should be used for job creation not reduction. The DOE says that they expect on 120 permanent jobs to result from the Project. South Ms. could potentially lose more jobs than that from the Project impacts.

Regards,

Paula Rychtar

Testimony of Mayor Sara Presler, City of Flagstaff, Arizona
Fiscal Year 2011 Energy and Water Development Appropriations Bill
Rio de Flag Flood Control project
March 19, 2010

Chairman Visclosky, Vice Chairman Pastor, Ranking Member Frelinghuysen, and distinguished members of the Subcommittee, thank you for allowing me to testify on behalf of the City of Flagstaff, Arizona in support of $8 million in the Army Corps of Engineers budget for the Rio de Flag flood control project in fiscal year 2011. The Rio de Flag flood control project is critically important to the City, to northern Arizona, and, ultimately, to the nation.

As you may know, Mr. Chairman, with this subcommittee's help over the last several fiscal years, Rio de Flag received more than $20 million to continue construction on this important project. We are extremely grateful that the Subcommittee boosted this project well above the President's request every year, and we would appreciate your continued support for this project in FY 2011.

Like many other projects under the Army Corps's jurisdiction, Rio de Flag received no funding in the president's FY 2011 budget, although the Corps has expressed a capability of $8 million to continue construction on the project and have been unwavering in their support of it. ***We are hopeful that the subcommittee will fund the Rio de Flag project at $8 million when drafting its bill in order to keep the project on an optimal schedule.***

Flooding along the Rio de Flag dates back as far as 1888. The Army Corps has identified a federal interest in solving this long-standing flooding problem through the Rio de Flag, Flagstaff, Arizona – Feasibility Report and Environmental Impact Study (EIS). The recommended plan contained in this feasibility report was developed based on the following opportunities: (1) flood control and flood damage reduction; (2) environmental mitigation and enhancement; (3) water resource management; (4) public recreation; and (5) redevelopment opportunities. This plan will result in benefits to not only the local community, but to the region and the nation.

The feasibility study by the Corps of Engineers has revealed that a 500-year flood could cause serious economic hardship to the City. In fact, a devastating 500-year flood could damage or destroy approximately 1,500 structures valued at more than $450 million. Similarly, a 100-year flood would cause an estimated $100 million in damages. In the event of a catastrophic flood, over half of Flagstaff's population of more than 60,000 would be directly impacted or affected.

In addition, a wide range of residential, commercial, downtown business and tourism, and industrial properties are at risk. Damages could also occur to numerous historic structures and historic Route 66. The Burlington Northern & Santa Fe Railway (BNSF), one of the primary east-west corridors for rail freight, could be destroyed, as well as U.S. Interstate 40, one of the country's most important east-west interstate links. Additionally, a significant portion of Northern Arizona University (NAU) could incur catastrophic physical damages, disruptions, and closings. Public infrastructure (e.g., streets, bridges, water, and sewer facilities), and franchised utilities (e.g., power and telecommunications)

could be affected or destroyed. Transportation disruptions could make large areas of the City inaccessible for days.

Mr. Chairman, the intense wildfires that have devastated the West during the last several years have only exacerbated the flood potential and hazard in Flagstaff. An intense wildfire near Flagstaff could strip the soil of ground cover and vegetation, which could, in turn, increase runoff and pose an even greater threat of a catastrophic flood.

In short, a large flood could cripple Flagstaff for years. This is why the City believes it is important to ensure that this project remains on schedule and that the Corps is able to utilize its expressed capability of $8 million in FY 2011 for construction of this flood control project.

In the City's discussions with the Corps, both the central office in Washington and its Los Angeles District Office also believe that the Rio de Flag project is of the utmost importance and both offices believe the project should be placed high on the Subcommittee's priority list. We are hopeful that the Subcommittee will consider this advice and also place the project high on its priority list and fully fund the project at $8 million for FY 2011.

It is important to note that the City has secured the necessary property rights to begin construction, and the City is prepared to assume the costs for the non-federal portion of the cost-sharing agreement.

The City of Flagstaff, as the non-Federal sponsor, is responsible for all costs related to required Lands, Easements, Rights-of-Way, Relocations, and Disposals (LERRD's). The City had already secured the necessary property rights to begin construction in 2004. Implementation of the City's Downtown and Southside Redevelopment Initiatives ($100,000,000 in private funds) are entirely dependent on the successful completion of the Rio de Flag project. The Rio de Flag project will also provide a critical missing bike/pedestrian connection under Route 66 and the BNSF Railroad to replace the existing hazardous grade crossings.

Mr. Chairman, the Rio de Flag project is exactly the kind of project that was envisioned when the Corps was created because it will avert catastrophic floods, it will save lives and property, and it will promote economic growth. In short, this project is a win-win for the federal government, the City, and the surrounding communities.

Furthermore, the amount of money invested in this project by the federal government and the city – approximately $54 million (as authorized by WRDA) – will be saved exponentially in costs to the federal government in the case of a large and catastrophic flood, which could be more than $450 million. It will also promote economic growth and redevelopment along areas that are currently underserved because of the flood potential.

In conclusion, the Rio de Flag project should be considered a high priority for this subcommittee, and I encourage you to support full funding of $8 million for this project in the fiscal year 2011 Energy and Water Development Appropriations bill. Thank you in advance for your consideration.

Testimony of Mayor Anthony Smith
City of Maricopa (Arizona)
Fiscal Year 2011 Energy and Water Development Bill
Lower Santa Cruz River Watershed
March 19, 2010

Chairman Visclosky, Vice Chairman Pastor, Ranking Member Frelinghuysen, and distinguished members of the subcommittee, thank you for allowing me to testify in support of **$150,000 for the City of Maricopa, Arizona for a Flood Plain Management Services (FPMS) study under General Investigations for the Army Corps of Engineers in the fiscal year 2011 Energy and Water Development bill.**

Maricopa is a small but thriving community 35 miles south of Phoenix. Incorporated in 2003 with a population of approximately 1,000 people, Maricopa is now a burgeoning community of more than 40,000 and growing at the rate of approximately 200 people per month. Maricopa is located in Pinal County, which is one of the fastest growing regions in one of the fastest growing states in the nation. With this newfound growth has brought increased risk of death and the loss of public and private property due to flooding of the Santa Cruz River that splits the city. Mitigating this potential flood hazard is critical to this area's growth and prosperity. A major flood today would devastate homes, businesses, schools, infrastructure and more. It is only a matter of time before another devastating flood hits this area. Flood control improvements are urgent and necessary to protect the public health and safety.

The Santa Cruz River Basin consists of 8,200 square miles in southern Arizona and 400 square miles in Sonora, Mexico. The Basin has a long history of damaging floods. Damages included a broad range of categories, including agricultural, commercial and residential structures, utility lines, and transportation facilities. These flooding problems have been studied repeatedly by Federal, State, and local agencies, but no comprehensive solution has been implemented due to a lack of economic viability.

The Bureau of Reclamation had previously carried out appraisal investigations of the Santa Cruz River in 1965 when the City and areas within the basin were largely agricultural. It became apparent at that time that the municipal and industrial water-supply needs of the Santa Cruz River Basin were of far greater magnitude and urgency than had been previously estimated.

In 1976, Congress, under the authority of the Flood Control Act of 1938 funded a Corps of Engineers/Bureau of Reclamation study of the Lower Santa Cruz River from the Red Rock area to the river's confluence with the Gila River. The Corps was tasked with evaluating the flood control problems, and the Bureau of Reclamation was tasked with evaluating the development potential of water resources. The results of this study, released in August 1983 found no economically justified solution. Benefits to cost ratios (BCR) ranged from 0.3 to 0.7 for three different alternatives for diversion of floodwaters from the Greene's Canal area to the Tat Momolikot Dam reservoir. In October 1983, a flood along the Santa Cruz River caused over $45 million (1994 dollars) in damages, including extensive damage to many of the channel and dike improvements constructed by the agricultural flood control districts in the area. A similar devastating flood occurred in 1993. At this time, the City of Maricopa had very little residential or commercial infrastructure and less than 1,000 residents.

After the floods, the Corps reevaluated the alternatives in their study and were able to develop a BCR of 1.03. Since the 1983 and 1993 floods, construction of the Central Arizona Project lateral canals, and associated irrigation infrastructure, have added additional potential damages from future events due to changes in the hydraulic characteristics of the flood prone areas. In addition, extreme land subsidence is extensive over portions of the Santa Cruz River Basin.

In June 1989, Pinal County requested a flood control study of the Lower Santa Cruz River from the Corps of Engineers. The Corps released the Lower Santa Cruz River Feasibility Analysis Summary Report in September 1994. This report developed several alternative plans and found that the best alternative was still diversion to the Tat Momolikot Dam with a BCR of 1.05. The 1994 report concluded that additional engineering work was needed due to geotechnical issues in the area and also the altered hydraulic characteristics of the area due to the Central Arizona Project and irrigation district infrastructure. The study was terminated without a recommendation.

With the recent influx of residential growth into Maricopa and most of Pinal County since 2001, the flood prone areas of the Lower Santa Cruz River had become candidates for development. Several large master planned residential projects have been proposed along the Lower Santa Cruz River from the Red Rock area to the City of Maricopa, which has, at this point, the largest and most expansive development. These projects have been planned in Maricopa, Casa Grande, and many other flood prone locations in Pinal County's Santa Cruz River Basin. The loss of life and property has increased exponentially since the Corps conducted its initial studies. The time to act is now.

Maricopa is one of the fastest growing communities in Arizona. By 2020, it is estimated to have nearly 200,000 residents. Similarly, other cities, such as Eloy and Casa Grande are expected to see similar growth of their communities. Larger communities will translate into larger damages and loss of life in the event of a catastrophic flood event. An FPMS study would help us begin to address this problem before its too late.

It is important to note that a large stakeholder group is being formed to work on a collaborative solution for this growing problem. Stakeholders include the City of Maricopa, the Ak-Chin Indian Community, the Gila River Indian Community, Pinal County, numerous irrigation and flood control districts, and the University of Arizona. Realizing the importance of this endeavor, the City of Maricopa has committed $9 million over the next three years to begin this important project.

Therefore, I respectfully request that the subcommittee includes **$150,000 for the City of Maricopa, Arizona for a Flood Plain Management Services (FPMS) study under General Investigations for the Army Corps of Engineers in the fiscal year 2011 Energy and Water Development bill.**

Thank you for the opportunity to testify, as well as your time and attention to this important matter.

Statement
Of
John Bridley, Waterfront Director
City of Santa Barbara, California

For the
Committee on Appropriations
Subcommittee on Energy and Water Development
U.S. House of Representatives

March 2010

Operations and Maintenance Dredging – Funding Request

As your distinguished Subcommittee writes the fiscal year 2011 Energy and Water Resources Appropriations Bill, I would like to bring a very important Corps of Engineers' project to your attention. The City of Santa Barbara requests $3,700,000 from the Army Corps of Engineers' (ACOE) Operation and Maintenance (O&M) Account in FY 2011 Energy and Water Development Appropriations Bill for essential annual maintenance dredging of Santa Barbara Harbor's Federal Navigational Channel.

Project Justification

In 1970 Congress authorized (P.L. 91-611, Sec. 114) full funding for ACOE maintenance dredging for the Harbor's Federal Channel to reduce storm damage, shoaling and navigational hazards. Today more than ever, the Harbor continues to serve and support our National interests. The Harbor is home port for the 87' U.S. Coast Guard Cutter *Blackfin* and NOAA *R/V Shearwater* serving Channel Islands National Marine Sanctuary (CINMS). *Blackfin's* harbor location is crucial to its mission of patrolling waters all the way to Morro Bay (100 miles north) and is critical to ocean safety and rescue, together with emerging Homeland Security Defense System (USCG) requirements along the California coastline. Santa Barbara Harbor also provides a staging area, facilities and resources required for oil spill prevention and response, and is a designated harbor of safe refuge.

Santa Barbara Harbor was constructed in the late 1920's providing the closest harbor of refuge to the notoriously dangerous waters off Pt. Conception. Various improvements over the years have created an all-weather harbor with 1,133 slips for vessels ranging from 20' to 150' in length serving hundreds of thousands of people annually. The Harbor serves as a key economic engine for the city. In addition, the Harbor both directly and indirectly creates several thousand jobs, which are vital to the local economy, commercial fishing, businesses and maritime industry.

Santa Barbara Harbor impedes the transport of sand downcoast resulting in shoaling of the Federal Channel and potential coastal erosion at several nearby coastal

communities. The Corps of Engineers conducted comprehensive studies of the harbor in the 1950's and determined that annual dredging of the harbor was necessary to maintain navigability and nourish downcoast beaches preventing erosion. It is essential to dredge approximately 250,000 cubic meters (c.m.) of sand from the Federal Channel every year to maintain access for the commercial fishing fleet (annual catch is valued at $25 million), U.S. Coast Guard Cutter *Blackfin,* NOAA *R/V Shearwater* serving Channel Islands National Marine Sanctuary as well as thousands of recreational vessels.

Annual dredging costs of the Federal Channel have recently been as low as $1,650,000 for minimal critical maintenance dredging and can cost over $3 million depending on winter storms and sand accumulation. Army Corps of Engineers (Corps) contracts with a private dredge company to undertake annual dredging between October and March of the fiscal year.

A recap of the last several years demonstrates the continuing trend of reduced dredge funding, which could impact Harbor operations and eventually accumulated sand could close the channel during winter storms.

FY 2008: Conference:	$1,940,000
FY 2009: Omnibus Bill:	$1,940,000
FY 2010: Conference Report:	$1,606,000

Funding Request

The President's FY 2011 Budget Recommendation includes $2,040,000 for operations and maintenance dredging for Santa Barbara Harbor. I respectfully request that the U.S. House of Representatives, through your Subcommittee, support that level of funding contained in the President's Budget submittal for dredging of the Harbor. In addition, the City of Santa Barbara is requesting that the Subcommittee recommend an additional, $1.7 million for maintenance dredging for FY 2011 (Total $3.7 million).

Dredging costs per cubic yards removed, have increased dramatically in recent years. Due to these escalating costs, the Corp of Engineers has increased the project costs to $3.7 million for maintaining the Federal Channel in Santa Barbara Harbor.

We respectfully request your support for this requirement to maintain the Federal Channel and thank you for the opportunity to submit this statement.

Respectfully submitted,

John N. Bridley
Waterfront Director
City of Santa Barbara | Waterfront Department
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Email: jbridley@santabarbaraca.gov

Colorado River District
Protecting Western Colorado Water Since 1937

Name: Eric Kuhn
Title: General Manager
Organization: Colorado River District

February 16, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

I am requesting your support for appropriations in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species in compliance with the Endangered Species Actm, while maintaining water use and development in the West.

I greatly appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

R. Eric Kuhn

201 Centennial Street / PO Box 1120 * Glenwood Springs, CO 81602
(970) 945-8522 *(970) 945-8799 Fax
www.ColoradoRiverDistrict.org

STATEMENT BY
MS. RUTH COX, EXECUTIVE DIRECTOR, US FUEL CELL COUNCIL
AND
MR. JEFFREY SERFASS, PRESIDENT, NATIONAL HYDROGEN ASSOCIATION
SUBMITTED TO THE SUBCOMMITTEE ON
ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS
MARCH 19, 2010

On behalf of the members of the fuel cell and hydrogen industries, we thank you for consistently funding the Department of Energy's (DOE) hydrogen and fuel cell technology programs. **As the Committee develops the FY2011 Energy and Water Appropriations recommendations, we urge you to provide $390 million for the Fuel Cell and Hydrogen Technologies Programs managed by the Energy Efficiency and Renewable Energy (EERE), Science, Fossil Energy (FE) and Nuclear Energy (NE) organizations at the Department of Energy**—a 23% increase vs. $316 million appropriated for 2010. This amount would fully fund the critical research, development, demonstration and deployment (RDD&D) of these technologies in order to make them competitive with current technologies in cost, reliability and performance, and respond to our industry's number one priority: deployment of early commercial systems and an advanced fuel cell vehicle demonstration. A detailed list of our program priorities and funding requirements are included in this testimony.

The FY 2011 request for EERE is $137 million, down $43 million from the current 2010 Appropriation of $180.1 M—including last year's funded earmarks (-24%). These cuts propose eliminating funding for market transformation for fuel cells in early markets; education activities; and federal purchase initiatives, while curtailing all new vehicle deployments under the Technology Validation program. DOE also chose to reduce the Fossil Energy coal to hydrogen program by $5.8 million. Similarly, at a time when funding for the Solid State Energy Conversion Alliance (SECA) program should be increased to support the megawatt-class demonstration effort, the DOE request is flat. This budget sends a damaging message to our industry, our nation and the world, threatens to weaken US leadership and unbalances the nation's energy portfolio.

More importantly, by making cuts to fuel cell and hydrogen technologies, especially hydrogen infrastructure, fuel cell vehicle and early market deployment, and FE fuel cell programs, DOE is sending negative signals to investors, hydrogen gas suppliers, auto makers, supply chain partners, potential customers, and other federal agencies, local, state and foreign governments. The lead US energy agency should fully embrace fuel cells and hydrogen infrastructure as a part of a comprehensive clean energy package to meet our national greenhouse gas reduction targets. Even worse, hydrogen and fuel cell industries could move offshore and the United States could lose an estimated 677,070 potential net, new jobs.

Fuel cell and hydrogen technologies are a crucial part of the portfolio of advanced energy technologies that will help achieve the nation's oil and greenhouse gas reduction goals. DOE and other supporting estimates show that domestic hydrogen fuel cells in light duty vehicles, for instance, could reduce oil imports by as much as 3.5 billion barrels per year within 40 years, reduce greenhouse gas emissions by 1.1 billion tons per year, and save consumers $25 trillion over the succeeding 50 years.

A robust public-private partnership, exemplified by DOE Technology Validation and Market Transformation programs focused on cost reduction and early deployment, will accelerate commercialization and the benefits that accrue with marketplace success.

Thank you for your consideration of our request.

STRENGTHEN FEDERAL HYDROGEN AND FUEL CELL PROGRAMS

PROPOSAL: Fund DOE Hydrogen and Fuel Cell program at an historical level; revise to reflect program success and current priorities. Restore reductions proposed by the Obama Administration for FY 2011.

EERE Programs: $220 Million

The hydrogen and fuel cell programs in the Department of Energy's Hydrogen, Fuel Cell and Infrastructure Technologies Program supports the development of fuel cells, their fuels and supporting infrastructure. The program has made exceptional progress in a few short years, helping dramatically reduce the volume production cost of fuel cells and the consumer cost of hydrogen fuel, testing and evaluating more than 125 fuel cell vehicles in real world operation (US-wide, over 300 vehicles have driven 3 million miles) , and helping deploy more than a thousand fuel cell systems to federal agencies and early private sector adopters to improve energy efficiency and security of supply with low or zero emissions.

Hydrogen and fuel cells have been a largely domestic suite of technologies, and, over the past two decades, the US has continued to be the recognized leader in their development. Indifference to encouraging commercialization allows other nations, particularly Germany, South Korea, Japan, and China, to capture the lead in establishing and commercializing these technologies, reaping the economic benefits and associated job growth. DOE analysis projects that transitioning to a hydrogen economy would yield a net increase in U.S. employment of 58,010 to 182,840 by 2020 and 184,560 to 677,070 by 2035.

Fuel cell technologies are a crucial part of the portfolio of advanced energy technologies that will achieve the nation's energy policy and greenhouse gas reduction goals. The Department of Energy estimates that fuel cells can reduce oil imports by nearly 8 billion barrels over the next 40 years, reduce CO_2 emissions by 2.4 billion tons, and save consumers *$1.6 trillion.*

A robust public-private partnership focused on cost reduction and early deployment will accelerate commercialization and the benefits that accrue with marketplace success.

1. **Vehicle and Infrastructure Market Deployment: $45 Million**
   Support for initial sales, backed by a real-world vehicle and fuel testing and evaluation program, is essential to accelerating the transition to commercial market. DOE should extend the Technology Validation program for an additional year with technology insertion ($15 million), and initiate a Vehicle and Infrastructure Market Deployment program. As their Technology Validation program is winding down, DOE now needs to evolve to support early market volumes of FCVs and related infrastructure consistent with a commercial transition.

   DOE Proposal: $11.0 M

2. **Market Transformation: $45 Million**
   The Market Transformation Program provides technical and financial support for purchase or lease of fuel cell systems entering the marketplace. The program creates U.S. jobs, improves security of air travel and communications, and enables a commercial transition in early markets. DOE supports the program but has deferred funding - and thus deferred job creation -- to 2012. DOE should continue Market Transformation activities in all market sectors. Congress should expand the program to include State agencies and private sector customers and clarify that all fuel cell technologies are eligible.
   DOE Proposal: $0.0

3. **Fuel Cell R&D: $67 Million**
   DOE's robust program of cost reduction via research into materials, catalysts and components should continue. Distributed fuel cells systems provide energy efficiency and security benefits; DOE's program should continue.
   DOE Proposal: $67.0 M

4. **Hydrogen Fuels R&D: $40 Million**
   Hydrogen is one of a portfolio of fuels that together will achieve U.S. energy security while meeting greenhouse gas reduction goals. Improved hydrogen storage will reduce vehicle cost and improve capability, and will enable efficient use of hydrogen as a storage strategy for intermittent renewable resources, such as wind and solar power. Hydrogen from biomass uses a renewable domestic energy source and provides greater greenhouse gas reductions than biofuel combustion.
   DOE Proposal: $40.0 M

5. **Enabling Activities: $18 Million**
   These programs prepare local communities for fuel cell installations, fueling stations and fuel cell vehicles, and help DOE evaluate program options
   - Systems Analysis gives DOE tools to evaluate the program and calculate public benefits. ($5 M)
   - Safety, Codes and Standards development sets safety rules and product standardization guidelines, and trains local enforcement officials and first responders ($9 M)
   - Education informs the public and potential customers about these technologies to break down awareness barriers ($2 M)

   DOE Proposal: $14.0 M

6. **Manufacturing research: $10 Million**
   Improvements in manufacturing are a critical component in cost reduction; DOE's program should continue and expand.
   DOE Proposal: $5.0 M

Fossil Energy Programs: $118.8 Million

1. **SECA Program: $70 Million**
   The Solid State Energy Conversion Alliance (SECA) is a cost shared public-private partnership developing high temperature Solid Oxide fuel cells for power generation. SECA's development

targets to date have been met ahead of schedule, but continued support is needed to move to the megawatt scale demonstration phase. Commercial Solid Oxide fuel cells will make possible a 60% efficient coal fired power plant and kilowatt-scale solid oxide fuel cell modules for grid-independent distributed generation. Additionally it will make it easier and cheaper to sequester CO2 from coal. Fully funding the SECA program at $70 million would assure continued progress and save jobs threatened by the Administration's proposal.

DOE Proposal: $50.0 M

2. **Fuels – Hydrogen from Coal Research: $17.8 Million**
   The Fuels activity helps reduce technological market barriers for the reliable, efficient and environmentally friendly conversion of coal to hydrogen. This specifically focuses on developing technologies that reduce costs and facilitate the production of ultra high-purity hydrogen from coal. Research for both stationary and transportation applications should continue.

   DOE Proposal: $12.0 M

3. **Hydrogen Turbines: $31.0 Million**
   Hydrogen turbine development efforts implement projects that will enable efficient, clean, and cost effective hydrogen fueled turbines for coal-based integrated gasification combined cycle power systems that capture and store CO2. DOE program should continue.

   DOE Proposal: $31.0 M

Nuclear Energy Programs: $8.5 Million

1. **Advanced Reactor Concepts: $8.5 Million**
   The Advanced Reactor Concepts program, an expanded version of the Generation IV research and development (R&D) program, sponsors research and development for further safety, technical, economical, and environmental advancements of innovative nuclear energy technologies. Specific guidance encouraging DOE to continue R&D on High Temperature Electrolysis and thermochemical cycles from the former Nuclear Hydrogen Initiative should be included.

   DOE Proposal: $0.0

Science Programs: $38 Million

The Office of Science includes funding for a variety of important materials activities with applications for hydrogen and fuel cell technologies, and which is spread between a numbers of Science program areas.

DOE Proposal: $38 M

Total FY 2011 Proposed: $390 Million
Total FY 2011 DOE Request: $268 Million
Total FY 2010 appropriation: $316 Million

STATEMENT OF MR. BRAD OBERG
CHIEF TECHNOLOGY OFFICER - IBACOS, INC.
SUBMITTED TO THE SUBCOMMITTEE ON
ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS
MARCH 19, 2010

IBACOS (Integrated Building And Construction Solutions) urges the Subcommittee on Energy and Water Development to provide $46 million for the Building America Program at the Department of Energy's (DOE) Office of Building Technologies in Fiscal Year 2011 Appropriations under the Office of Building Technologies, Residential Building Integration, Energy Efficiency and Renewable Energy. We further urge that the following language is included to ensure that the competitively selected Building America teams are funded at a percentage comparable to their historic funding: Of these funds, $35 million shall be provided for the research activities of the competitively selected Building America research teams, the Building America lead research laboratory, and other national laboratories conducting research to achieve Building America's specified energy performance targets.

Executive Summary

Residential Buildings currently account for over 20% of the primary energy consumed by the United States. Since 2000, over 12 million new homes have been constructed, and each year over a million homes are remodeled. Significant energy savings can be achieved at minimal increases in construction costs provided that a long term and consistent commitment is made to work in partnership with the housing industry. DOE's Building America Program has developed an industry-driven research approach to develop solutions that can reduce the average energy use in new housing by 50% by 2015, providing significant benefits to homeowners in terms of reduced utility bills and significant benefits to the U.S. economy by maintaining housing as a major source of jobs and economic growth. If building in significant energy savings isn't done now, the nation risks using an extravagant amount of energy in the future. In order to reduce reliance on foreign energy supplies and to support the stabilization of greenhouse gas emissions, we must invest appropriately in research in the areas of technology, systems integration, and building and renovating processes to upgrade the performance of our housing stock, otherwise, *we are mortgaging our future.*

Research, development, and outreach activities performed by the competitively selected industry Teams in the Building America Program are *the* key element in the DOE strategy to reduce energy consumption in residential buildings. The Teams' activities focus on increasing the performance of new and existing homes by developing advanced energy systems that can be implemented on a production basis, while meeting consumer and building performance requirements.

The Teams have been working on improving efficiency in housing since 1992, with successes being embodied in EPA's Energy Star Home program and DOE's Builders Challenge, and they are now focused on the more difficult task of meeting DOE's goals to create strategies to achieve

50% whole house savings by 2015, and ultimately Zero Energy Homes (ZEH) - homes that produce as much energy as they use on an annual basis – broad spread in the market by 2025.

A New Frontier in Research – Zero Energy Homes

The research needed to develop systems and strategies to achieve DOE's short and longer term goals is not simply applying lessons learned; rather, fundamental research is still required. This R&D, performed by the Building America Teams, is truly high-need, high-risk, high-payoff research.

The research required to meet the goals of 50% savings and ZEH is costly and high risk:

- Significant basic research is required to develop and integrate new technologies into homes before they are proven effective enough to be applied in the field.
- This research is costly and risky, and will never be undertaken by the industry alone.
- The life cycle of this research is significantly longer than that of comparable industries.
- The homebuilding industry is extremely fragmented, with homebuilders having little ability to drive research, and a significantly lower than average financial commitment to investing in research.
- Builders need successful business models to apply related to effectively and profitably integrating new technologies and strategies.

The research required to meet the goals of 50% savings and ZEH is also high-payoff for the following reasons:

- Once constructed, homes have a long lifespan, providing the opportunity for a durable long term reduction in energy use.
- Effective strategies to reduce energy use will positively impact consumers, as well as the nation's energy demand.
- Successful research into integration strategies will allow new, high-risk technologies to be adopted more quickly and effectively, and can identify code barriers that might prevent energy efficiency and market adoption.

Building America Competitive Teams: Successes in the Real World

The work of the Teams allows industry leadership to drive cost effective solutions that move us towards Zero Energy Homes. Building America Builder partners have shown that homes with energy savings up to 40% can be cost competitive and valued by consumers in today's marketplace. These homes have lower energy bills and operating costs, and increased building durability as well as occupant safety, health, and comfort. The teams have been instrumental developing cost effective solutions at the 30% and 40% energy saving levels currently used by regional builders and divisions of national builders such as Pulte Homes, David Weekly Homes, K Hovnanian Homes, Beazer Homes, Centex Homes, Imagine Homes, Ideal Homes, Veridian Homes, Tommy Williams, to name a few. The more than 500 private sector partners who work with the Teams are experts in home construction, building products and supply, architecture, engineering, community planning, and mortgage lending. All construction material and labor costs for homes and communities constructed by Building America Teams' builders are provided by DOE's private sector partners.

In addition to performing the fundamental research needed to advance the energy efficiency of our nation's housing stock, the Building America Teams also provide recommendations to a broad range of residential deployment partners including the EPA's Energy Star Homes Program, HUD's Partnership for Advancing Technologies in Housing Program, DOE's Builders Challenge, and many industry associations and universities.

DOE's Role in the Residential Buildings Research Partnerships:

- Catalyzing research in residential construction necessary to increase the energy performance, and bringing together industry partners to leverage research dollars and expertise
- Matching advanced product research programs to the system integration efforts of the Building America Teams to ensure realistic approaches to increasing energy performance
- Reducing risk and increasing reliability of emerging technologies
- Providing scientific expertise through the involvement of the National Renewable Energy Laboratory (NREL) and other national laboratories
- Sharing critical information about research with several thousand associated building industry professionals and leveraging information through EPA, HUD, and private sector energy efficiency programs.

Program Goals:

- Reduce energy use in America's housing stock by 50% by 2015 and provide ZEH broad spread in the market by the year 2025, integrating renewable energy when and where practical.
- Research and develop the systems and strategies necessary to allow our nation to deliver high performance houses in order to increase our national energy security.

Program Status:

Through the competitively selected Teams, Building America works closely with America's lead production builders, who produce approximately 50% of the nation's new housing stock. More than 30,000 homes have been constructed in thirty-four states with energy savings up to 40%. While potentially up to 30% of the nation's builders could reasonably achieve a 30% energy saving target, it is estimated that less than 1% of the builders can achieve 50%. To develop solution sets to help builders move forward to the 50% level, all areas of energy use in the house must be addressed. This means increased complexity on the part of the builder and all associated trade partners, suppliers, and manufacturers, which translates to significantly more effort on the part of each Building America Team lead. Increased funding is needed to address DOE's energy efficiency goals, and provide the increased need for technical support to lead builders, contractors, and suppliers for effective research and participation in the program. The Building America research to date has shown that to achieve the 50% and ZEH goals, every energy related system in the house must be analyzed and strategies for energy savings developed. This level of effort is significantly greater than for the 30% or 40% goals, where only major energy end uses in the house needed to be addressed. On a forward moving basis, the stated DOE goals of the program are unreachable without significant Team funding.

Recommendation for FY11 Funding:

Provide $46 million, for the Building America Program at the DOE's Office of Building Technologies in Fiscal Year 2011 Appropriations (under the Office of Building Technologies,

Residential Building Integration). This does not include new funding to initiate a retrofit research and development program. Additionally, include language as follows to ensure that the competitive teams are funded at a percentage comparable to their historic funding:

> "Of these funds, $35 million shall be provided for the research activities of the competitively selected Building America research teams, the Building America lead research laboratory, and other national laboratories conducting research to achieve Building America's specified energy performance targets"

March 19, 2010

From: Eric Richards, Spokesman for Gulf Conservation Coalition

Subject: Public Witness Testimony for the Record
Re. Department of Energy Budget for Expanding the Strategic Petroleum Reserve

Dear House Appropriations Subcommittee members::

I am writing in regard to the Department of Energy budget that is being studied in the House Appropriations Subcommittee on Energy and Water Development. I am very much opposed to the Department of Energy's plan to develop a salt dome at Richton, Ms. into a Strategic Petroleum Reserve. The plan will have serious environmental and economic impacts on south Mississippi.

In addition to the negative impacts on the lower counties of Ms., this project does not seem fiscally responsible. According to the D.O.E. the current reserves have only been used twice since constructed 25 years ago. A draw of 1.5% of the total reserve was all that was needed when Hurricane Katrina shut down 25% of total domestic production of oil for months. The D.O.E. estimates the cost of the Project at $4 billion. The cost of the oil, at $100/barrel would be an additional $16 billion. This $20 billion should be focused on job creation.

The D.O.E. predicts only 120 permanent jobs will result from this $20 billion in cost. Compared to the $38 billion jobs bill passed yesterday that is expected to create up to 250,000 jobs by year end, the SPR Project moves us away from job creation.

Spending $20 billion on a project that will likely never be used, that will harm the environment and economy of south Ms., that will turn billions of gallons of fresh water into salt brine that will be pumped into a fisheries habitat, yet will only create 120 permanent jobs, is not what this country or Mississippi needs.

Sincerely

Eric Richards
Gulf Conservation Coalition
1211 Lake Ave.
Pascagoula, Ms.
228-596-9541

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
8900 JIMMY WEDELL, ROOM 100, BATON ROUGE, LA 70807

Statement Presented To: **Subcommittees on Energy and Water Development**
U.S. Army Corps of Engineers, Civil Works Appropriation
Fiscal Year 2011

On behalf of LADOTD, Office of Public Works and Intermodal Transportation, we present recommendations for FY 2011 appropriations for U.S. Army Corps of Engineers Civil Works Projects in Louisiana.

Louisiana contains the terminus of the Mississippi River, third largest drainage basin in the world, draining 41 percent, or 1 ¼ million square miles, of the contiguous United States and parts of two Canadian provinces. Consequently, a comprehensive and extensive flood control system is required to ensure that these drainage flows are contained and safely passed to the Gulf. Almost 3,000 miles of levees (1500 in the MR&T system) constructed jointly by federal, state and local entities allow Louisiana to be habitable year-round. Concentrated behind these levees are the vast majority of Louisiana's urban centers and petro-chemical complexes. Nearly 75% of the population lives and works in those same areas. Approximately 60% of the State's agricultural products are produced in these protected areas. Louisiana has the second largest refining capacity in the nation, producing 15 billion gallons of gasoline annually at 19 refineries. Louisiana ranks second in produced natural gas and third for oil production. The pipeline system which supplies much of this nation with natural gas and refined petroleum products originates in Louisiana. It is important to note that the petrochemical, oil and gas industries in Louisiana that contribute significantly to the economic well being of the entire nation are almost totally dependent on this Federally constructed flood control system to protect their facilities.

It is equally important to note that this same river drainage system forms the backbone of the federally constructed Inland Waterway System which provides the nation's heartland cost effective access to the global marketplace via the 230 mile deepwater channel of the lower Mississippi River from Baton Rouge to the Gulf. This strategic gateway to international markets is the largest port complex in the world. The Inland Waterway System – the whole system – allowed industrial facilities scattered throughout the central portion of the nation to obtain raw materials and fuel from distant locations and to reach worldwide markets. These industries, and most of the agricultural industries in mid-America, are heavily dependent on the federally maintained navigable waterways to remain globally competitive in transporting their products. Unfortunately, the Administration's budget proposals in recent years indicate a lack of concern for the preservation and efficient operation of this system which is rapidly deteriorating due to lack of maintenance and is in desperate need of renovation and modernization.

The Mississippi River and Tributaries Project (MR&T), which encompass both flood control and navigation features, has been underway since 1928 and isn't scheduled for completion until beyond 2031. We strongly support the Mississippi Valley Flood Control Association's request for the MR&T Project and urge your support of this level of funding.

SUMMARY OF RECOMMENDED APPROPRIATIONS FY 2011 FOR LOUISIANA FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION & WATER RESOURCES PROJECTS

LOUISIANA PROJECTS	LOUISIANA REQUEST
GENERAL INVESTIGATIONS STUDIES	
Amite River-Ecosystem Restoration, LA	$500,000
Calcasieu Lock, LA	$2,000,000
Red River (JBJWW) Recon Study	$100,000
Southwest Coastal LA Hurricane Protection, LA	$1,500,000
St. Charles Parish Urban Flood Control, LA	$445,000
West Shore – Lake Pontchartrain, LA	$500,000
Bossier Parish Levee & FC	$250,000
Cross Lake Water Supply	$50,000
Ouachita River and Tribs	$200,000
Ouachita and Black	$100,000
PED	
Bayou Sorrel Lock, LA	$2,239,000
Calcasieu River Basin, LA	$250,000
Calcasieu River & Pass Navigation, LA	$1,000,000
Port of Iberia, LA	$1,000,000
NEW STUDIES	
South Central LA Coastal Protection	$100,000
Port Fourchon Enlargement, LA	$100,000
Cameron Loop, Calcasieu Pass	$100,000
East Fork, Calcasieu Pass	$100,000
University Lakes	$200,000
Bayou Rigaud Ext. Dredging & Breakwater Prot.	$100,000
Chenier Caminada Levee Ext. & Levee Armoring Grand Isle, LA	$100,000
Laurel Ridge Levee Ext., Ascension Parish	$100,000
CAP	
Kenner Environmental Infrastructure	$500,000
Lafourche Parish Environmental Infrastructure	$500,000
Plaquemines Parish Environmental Infrastructure	$500,000
St. Bernard Environmental Infrastructure	$500,000
St. Charles Environmental Infrastructure	$500,000
St. James Environmental Infrastructure	$500,000
St. John the Baptist Environmental Infrastructure	$500,000
St. Tammany Environmental Infrastructure	$500,000
West Baton Rouge Environmental Infrastructure	$500,000

CONSTRUCTION GENERAL	
Comite River, LA	$25,000,000
East Baton Rouge Parish, LA	$25,000,000
Larose to Golden Meadow	$5,500,000
IHNC Lock	$13,000,000
Red River Below Den Dam (AR, LA)	$12,000,000
Ouachita River Levees	$2,600,000
J Bennett Johnston WW, Miss. R. to Shreveport	$20,000,000
Calcasieu River & Pass, Dredged Material Management Program	$12,000,000
Southeast Louisiana	$21,200,000
Violet Freshwater Diversion	$5,500,000
West Bank & Vicinity, LA	$5,000,000
Ascension Parish Environmental Infrastructure	$2,000,000
East Baton Rouge Environmental Infrastructure	$2,000,000
Livingston Parish Environmental Infrastructure	$2,000,000
OPERATIONS & MAINTENANCE GENERAL	
Atchafalaya River, Bayous Chene, Boeuf & Black	$36,700,000
Barataria Bay Waterway	$135,000
Bayou Lafourche	$4,300,000
Bayou Segnette	$37,000
Bayou Teche	$8,900,000
Bayou Teche & Vermilion	$650,000
Calcasieu River & Pass	$57,233,000
Freshwater Bayou	$14,875,000
Gulf Intracoastal Waterway	$41,000,000
Houma Navigation Canal	$7,100,000
Mermentau River	$11,410,000
Mississippi River, Baton Rouge to the Gulf	$170,169,000
Mississippi River Gulf Outlet at Venice	$8,338,000
Waterway Empire to the Gulf	$47,000
WW. IWW to Bayou Dulac	$30,000
Ouachita & Black Rivers (AR, LA)	$24,135,000
Bayou Bodcau	$6,922,000
Caddo Lake	$347,000
Wallace Lake	$886,000
Bayou Pierre	$49,000
J Bennett Johnston Waterway	$23,864,000
Lake Providence Harbor	$1,200,000
Madison Parish Port	$150,000
Inspection of Completed Works (N.O.)	$1,161,000
Inspection of Completed Works (V)	$1,000,000

SUMMARY OF RECOMMENDED APPROPRIATIONS FY 2010 FOR LOUISIANA MISSISSIPPI RIVER AND TRIBUTARIES

LOUISIANA PROJECTS	LOUISIANA REQUEST
FC, MR&T GENERAL INVESTIGATIONS	
Alexandria to the Gulf (PED)	$0
Donaldsonville to the Gulf	$1,200,000
Houma Navigation Canal Deepening (PED)	$500,000
Morganza to the Gulf (PED)	$3,000,000
Spring Bayou Area, LA	$50,000
FC, MR&T CONSTRUCTION	
Atchafalaya Basin	$25,000,000
Atchafalaya Basin Floodway System	$2,631,000
Channel Improvement (N.O. Dist.)	$11,861,000
Mississippi Delta Region	$0
Mississippi River Levees, LA (N.O. Dist.)	$15,338,000
Mississippi River Levees (LA) (V. Dist.)	$30,000,000
Channel Improvement (LA) (V. Dist.)	$27,930,000
FC, MR&T MAINTENANCE	
Atchafalaya Basin	$39,900,000
Atchafalaya Basin Floodway System	$1,878,000
Baton Rouge Harbor (Devil's Swamp)	$42,000
Bayou Cocodrie and Tributaries	$47,000
Bonnet Carre Spillway	$5,300,000
Channel Improvement (N.O. Dist.)	$14,128,000
Dredging (N.O. Dist.)	$700,000
MS Delta Region	$1,921,000
Old River	$12,755,000
Mississippi River Levees (LA) (N. O. Dist.)	$6,500,000
Mississippi River Levees (LA) (V. Dist.)	$4,400,000
Revetments & Dikes (LA) (V. Dist.)	$21,052,000
Dredging (LA) (V. Dist.)	$5,023,000
Boeuf & Tensas Rivers	$3,244,000
Red River Backwater	$9,496,000
Lower Red River	$498,000
Inspection of Completed Works (V)	$681,000
Inspection of Completed Works (N.O.)	$940,000

It is on behalf of the Pascagoula River that I am writing. The river is the longest unimpeded river in the lower 48 United States. To promote conservation, it has been designated a scenic stream. I run a boat tour of the Pascagoula River, Eco-Tours of South Mississippi, LLC, and I am intimately familiar with the river and its flora and fauna. There is an endangered species of turtle whose only habitat is the Pascagoula River. The Gulf Sturgeon is also endangered and calls the Pascagoula River its home. Over 50% of endangered species rely on wetlands, such as the Pascagoula River swamp, as their habitats.

It appears that the Department of Energy's plan is to proceed, as it originally intended, with the Strategic Petroleum Reserve in the Richton Mississippi Salt Domes. My understanding is that storing oil in a salt dome, in an of itself, is not particularly hazardous to the environment. However, it is my understanding that 50,000,000 (that is, Fifty Million) gallons of water per day are to be pumped out of the river, piped to Richton to wash out the domes, and the resulting super-salinated brine piped out into the Gulf of Mexico. There is no question in my mind that this is hazardous to the health of the Pascagoula River.

I know there have been "studies" done as to the impact on the environment, but, it does not take a scientist to realize that lowering the flow of the river will allow salt to intrude into the marsh and the swamp and the Pascagoula River as we know it today will cease to exist. There are times during the summer when the flow is low and salt water intrudes allowing fishermen (people I know) to catch blue crabs, redfish and specks north of I-10. During those times, I frequently see bottlenosed dolphins above I-10.

There is also the issue leaks on the pipeline carrying the brine out to the Gulf. These leaks could go undetected for some time and result in a spill of hundreds of millions of gallons of super salty water into the bottomland hardwood forest that makes up the Pascagoula River Swamp. The damage from such a spill would be catastrophic.

We have heard that "Louisiana does it." We're not similarly situated to Louisiana. Louisiana's salt domes are closer to the coast. They've already destroyed their wetlands. We don't want to be like Louisiana.

There are other means by which the salt domes can be readied for use as an oil repository. Pumping water from the Pearl or the Mississippi and deep well injection of the brine is one alternative. So what if it's costly? This project is

ridiculously expensive already just to preserve a few days' supply of oil. If it must be done (and I don't believe it's truly necessary at all) then spend the extra money to spare the Pascagoula River and its swamp.

Please, please, please do whatever you can to stop the destruction of the Pascagoula River.

If you would like to tour of the River, I would be honored to take you. Please call me at 228-297-8687 to set it up.

Please do not fund this project as proposed. And please call me if you have any questions.

Capt. Kathy Wilkinson
ECO-TOURS OF SOUTH MISSISSIPPI, LLC
228-297-8687
www.ecotoursofsouthmississippi.com

Written Testimony of Rob Wallace, GE Energy
Submitted to the
Subcommittee on Energy and Water Development
Committee on Appropriations, U.S. House of Representatives
March 19, 2010

Overview: The following testimony is submitted on behalf of GE Energy (GE) for the consideration of the Committee during its deliberations regarding the FY 2011 budget requests for the Department of Energy (DOE). In particular, GE recommends: 1) in the Renewable Energy budget, support for the new Offshore Wind Technology program to address needs for drive train and blade technology advancements and to support pilot projects; 2) in the Fossil Energy program, a greater focus on carbon capture technologies for new, rather than existing plants, coupled with increased investment in cost and performance enhancements for integrated gasification combined cycle technology; 3) in Nuclear Energy, support for the requested additional nuclear loan guarantee authority; and 4) support for funding in Electricity Delivery and Energy Reliability to accelerate the deployment of smart grid technologies.

Renewable Energy: GE supports DOE's inclusion of a line item for *Offshore Wind Technology* in the FY 2011 budget request. The request for $49 million in funding for offshore wind marks an important step toward accelerating the development of this high-potential source of renewable energy. Investment in drive train and blade technology is critical to increase reliability and energy yield, particularly for offshore applications. In addition, investment in pilot projects will enhance learning, improve infrastructure, and pave the way for commercial scale offshore wind to become a reality in the US. GE urges the Committee to provide full funding for offshore wind in the FY 2011 appropriations bill.

For emerging offshore as well as maturing onshore applications, blades and drive trains are the most critical wind turbine components. Research and development into advanced materials, advanced manufacturing, design for logistics, advanced power conversion, and drive train systems can increase energy production, increase reliability, reduce material cost, and lower overall cost of energy. New power generation technologies, such as higher torque density generators, can be adapted to wind. As penetration of wind energy increases, significant advances are needed to develop solutions for grid integration of this variable resource. Government investment in these areas, when combined with industry cost share, can significantly accelerate technology advancements beyond what industry can accomplish on its own.

Fossil Energy: In *Coal R&D*, GE is concerned that, within the Fuels and Power Systems line item, an $8 million reduction is being proposed for the Advanced Integrated Gasification Combined Cycle program while funding for the Innovations for Existing Plants program would be increased by $13 million. These funding changes indicate a fundamental shift in DOE focus that we believe has negative implications for the broad deployment of carbon capture and storage (CCS) technology, and for the future of coal.

The increased funding for Existing Plants will be focused on small-scale pilots – essentially returning to the bench. This is a flawed strategy. It implies DOE's acceptance of the long time span – over a decade or more – from bench to commercial deployment. Over this time frame,

while the creation of jobs associated with commercializing CCS is delayed, the existing plants that would benefit will be moving closer to retirement, and therefore unlikely to warrant investment in new technology to extend their lives.

Rather than focusing taxpayer dollars in numerous small pilot scale cleaner coal experiments, the time has come to invest in technology enhancements applicable to new cleaner coal plants and proven technologies for carbon capture such as gasification within integrated gasification combined cycle (IGCC). In contrast to combustion technology, gasification is well suited for carbon capture and proven in commercial chemical applications. IGCC with carbon capture is commercially available to the utility industry today. However the higher initial capital cost of IGCC combined with the additional cost and parasitic loads from carbon capture currently place it at a disadvantage relative to power generation from natural gas. If coal with its economic, jobs and infrastructure benefits is to continue in our energy mix, improvements in IGCC cost and performance are needed to reach cost-parity with natural gas. While we believe much of the cost gap can be closed with through deployment of IGCC with carbon capture, further technology improvements in IGCC have the highest chance of making their way to commercial deployment and reducing the ultimate costs of CCS.

We therefore recommend that the FY 2011 budget for IGCC be increased by $25 million for total funding of $80 million, with the increase focused on the development of key cost and performance enhancements consisting of 1) IGCC construction optimization ($6 million); 2) syngas cooler fouling prevention ($4 million); 3) fundamental gasification modeling ($4 million); 4) startup and shutdown optimization ($2 million); 5) HAPS characterization ($2 million); 6) advanced instrumentation and controls ($4 million) and 7) trace metals balance and detection ($3 million).

Water Management (Innovations for Existing Plants): Large amounts of water are needed to produce or extract energy, and large amounts of energy are needed to treat or transport water. This co-dependency is called the Energy-Water Nexus. In order for the DOE to achieve its aggressive goals of reducing freshwater withdrawals and consumption 50% by 2015 and 70% by 2020, while also helping to secure America's energy independence, water-related R&D funding is needed. DOE has requested no new funding for the water management subprogram under the Innovations for Existing Plants program in FY 2011. This is an area on which the Innovations for Existing Plants program should focus, and GE believes that funding for this important effort should be restored and increased significantly above the $12 million allocated under the FY 2009 budget. FY 2011 funding in the amount of $40 million should be provided for innovative water reuse technologies and demonstration projects including: cooling tower blowdown reuse, Flue Gas Desulphurization (FGD) wastewater reuse and recovery, ash pond solids reduction, and treatment and reuse of produced water from unconventional oil and natural gas production to further reduce environmental impacts and operational costs of upstream energy processes. Per DOE's Cost and Performance Baseline for Fossil Energy Plants Final Report (May 2007), CO2 capture increases raw water usage by up to 125%, depending on the underlying technology. This further supports the need for research to find ways to reduce water consumption or employ alternative water sources. Support also is needed to advance reuse/treatment technologies for the conversion of impaired wastewater streams into sources of renewable water in areas of water scarcity, reducing the need to use energy to transport water over long distances and to support electricity generation. It is estimated that up to 3,200 direct and 47,000 indirect jobs could be created over the next 4 years via investments in industrial water reuse and reduction.

Clean Coal Power Initiative (CCPI): GE supports the CCPI and its vital role in validating and testing advanced technology. The significant number of applications in response to the CCPI-3 solicitation demonstrates industry's interest in undertaking CCS-related coal projects. DOE should move forward with a new CCPI-4 solicitation. Any future CCPI solicitations must acknowledge current economic realities, including constriction in the capital markets and the difficulty that utilities have in justifying rate recovery for any non-compulsory additional capital or operating cost. DOE should 1) increase emphasis and evaluation weighting on the financial viability of projects; 2) tailor technical requirements so that they do not compromise financial viability; and 3) structure the program so that sufficient time and funding are available to complete front-end engineering designs (FEEDs) and sequestration site characterizations and access evaluations. The latter will allow a utility to provide accurate cost data to its regulators and demonstrate that it has a sequestration resource with sufficient capacity for the life of its plant.

Advanced Turbines: GE recommends funding of $45 million in FY 2011 to maintain needed progress in the Advanced Turbines program. This program is focused on development of enabling technologies for high efficiency hydrogen turbines for advanced gasification systems with carbon capture. It is on target to enable future advanced coal-fueled IGCC power plants to offset much of the performance penalties associated with carbon capture while also achieving very low NOx emissions.

In addition, GE recommends that the Congress consider new opportunities to develop technologies to drive efficiency in new turbines and the nation's existing gas turbine fleet, as proposed in H.R. 3029 and S. 2900. Natural gas fired generation will play a critical part in the country's transition to a lower carbon future, and improved efficiency in gas turbines will result in reduced emissions and reduced CO2 for the same power output. Efficiency improvements could be realized either by implementing the technology on new advanced products or retrofitting existing gas turbines. A one percent improvement in efficiency on GE's existing F-class fleet would result in CO2 reductions of 4.4 million tons per year. GE urges the Committee to consider an annual investment of $85 million as envisioned in H.R. 3029/S. 2900.

Nuclear Energy: GE Hitachi Nuclear Energy (GEH) continues to support the use of nuclear energy as part of a diverse portfolio of power generation technologies. A single nuclear plant each year can avoid the production of up to 8 million tons of CO2; the total U.S. fleet of 104 reactors can avoid the production of over 650 million tons of CO2.

New Plant Activities and Loan Guarantees: Although there has been significant interest in new plant development, only a fraction of the utilities that applied for Combined Operating Licenses (COLs) in the United States are proceeding with new plant projects on their original timelines. GEH commends DOE for the highly successful NP2010 program to license and assist in the development of standardized advanced plant designs, but more needs to be done, and the FY 2011 budget request recognizes a new focus that we support.

In particular, GEH supports the President's call to significantly grow the nuclear loan guarantee program, as it underscores the benefits of nuclear power while addressing the capital-intensive nature of nuclear plant deployment. Congress should provide the requested $36 billion in loan

guarantee authority for nuclear power projects in FY 2011, and should also recognize that providing loan guarantees for other advanced nuclear technologies is critical to ensuring a competitive landscape in the U.S.

GEH recommends that the new Nuclear Energy Enabling Technologies (NEET) program be expanded to address near term challenges such as domestic nuclear manufacturing capabilities, simulation and training programs to support near term deployment of generation III+ reactor designs, and the application of advanced modularization and construction techniques to help reduce new plant capital costs.

The Reactor Concepts RD&D and Fuel Cycle R&D requests are both critical for the deployment of new technologies such as PRISM and Global Laser Enrichment (GLE), and GEH believes that the programs should be provided sufficient funding.

Non-proliferation and Spent Fuel Minimization: GEH supports used nuclear fuel recycling as a means to fully close the nuclear fuel cycle, minimize nuclear proliferation risks and provide an alternative to a large permanent repository. The GEH team has decades of experience in the methods and designs that are available to close the nuclear fuel cycle. It is in the best interest of national security that U.S. technology be used to close the fuel cycle in a manner that does not result in separated plutonium. GEH looks forward to working with the Blue Ribbon Commission on America's Nuclear Future and the Congress to discuss ways to address fuel cycle challenges and to support the further development of advanced small modular reactors like GEH's PRISM reactor.

International Nuclear Energy Cooperation: As interest in civil nuclear power grows around the world, it is critical that the U.S. lead in efforts to insure that the industry grows in a responsible manner. DOE must have resources to support President Obama's call for a new framework for civil nuclear cooperation. GEH supports the funding request to initiate this new program.

RE-ENERGYSE/Workforce Development: GEH applauds the recognition that the government can be a partner in encouraging students to pursue careers in clean energy. GEH is a strong supporter of the industry program for a uniform nuclear curriculum and also has a Nuclear Maintenance Technicians Program with the local community college. These kinds of programs are critical to our continued development of the next generation of nuclear workers.

Electricity Delivery and Energy Reliability: *Clean Energy Transmission and Reliability:* GE strongly supports the inclusion of funding for R&D on the dynamic analysis capability of a phasor measurement unit (PMU)-based network in the Transmission Reliability and Renewables Integration subprogram. Phasor data can enable early detection of power quality problems, including poorly-damped power, voltage or frequency oscillations and excursions. When coupled with power electronic devices, phasor data can provide grid operators with the capability to rapidly respond to and correct power quality problems. Government investment in PMU-based networks can significantly improve the ability of grid operators to maintain reliability, particularly as operators struggle to balance increasing levels of intermittent generation with new and variable load sources.

GE commends DOE for establishing the new Advanced Modeling Grid Research subprogram. Advanced modeling capabilities will serve as a critical tool in the modernization of the electric grid. Not only can these capabilities assist grid operators in identifying the technical limits of conventional grid technologies, but they can also facilitate the development of new technologies and solutions to meet the challenges associated with a changing energy mix and an increasingly responsive consumer base. In addition, advanced modeling capabilities can enable grid operators and power systems planners to aggregate, analyze, and act upon the vast quantities of data collected by smart grid technologies, thereby unlocking the full potential of the smart grid. DOE should expand industry participation in this program to fully leverage work already underway.

Smart Grid Research and Development: GE endorses DOE's proposal to focus FY 2011 Smart Grid Research and Development on advanced control methods; improved interfaces and decision support; advanced components; and integrated communications. The smart grid can fundamentally change the way electricity is generated, transmitted, and consumed, thereby delivering substantial improvements in the efficiency and reliability of our nation's electric grid. A recent report by Pacific Northwest National Laboratory found that the full deployment of a smart grid could directly reduce energy usage in the electricity sector by 12% in 2030. Additional research is needed in areas such as the integration of plug-in hybrid electric vehicles and advanced management of distribution voltage. The Smart Grid Research and Development program will prove critical to advancing these capabilities. In addition, GE views as essential DOE's continued support for ongoing efforts to establish smart grid standards through the National Institute of Standards and Technology. This standards-setting initiative can accelerate technology development and help to ensure interoperability across the grid.

GE is concerned that the Power Electronics subprogram emphasizes basic science over technology application. While GE concurs that additional research is needed to improve cost, performance, and production scalability, such research should not displace government investment in advanced applications of existing technologies. As noted above, power electronics – when combined with phasor data – can provide grid operators with the capability to rapidly identify and correct power quality problems across the grid. Accordingly, GE recommends that Congress provide support for DOE to conduct research into applications of power electronics to support smart grid technologies.

Energy Storage: While GE supports further research into energy storage technologies, we are concerned that this program places disproportionate emphasis on lithium-ion battery technology. Industry has conducted a great deal of research and development into a range of advanced battery technologies, including sodium-metal-halide, zinc bromide, and vanadium redox. To foster further innovation in this promising field, GE recommends that the focus of the energy storage program be broadened to encompass a range of battery storage chemistries and technologies. The inclusion of compressed air energy storage in this line item is welcome, but the program should cover all potential storage modalities, including flywheel technology.

Cyber Security for Energy Delivery Systems: GE is concerned with DOE's proposed $10 million reduction in this vital program. Cyber security is critical to the smart grid, as advanced communications and control technologies require adequate protection to ensure grid reliability and resilience. GE recommends that Congress restore funding to the FY 2010 level, and that DOE, to support smart grid deployment, determine the most appropriate next-generation communications and control system technologies, as well as the cyber security requirements for each.

House Committee on Appropriations Subcommittee on Energy and Water Development
RE: Fiscal Year 2011 Budget Request for the DOE/Fossil Energy Program

Written Statement Submitted by
Ben Yamagata, Executive Director
Coal Utilization Research Council (CURC)

Introduction:
This statement is submitted on behalf of the membership of the Coal Utilization Research Council (CURC), an organization of coal-using utilities, coal producers, equipment suppliers, universities and institutions of higher learning, and several state government entities interested and involved in the use of coal resources and the development of coal-based technologies.[1]

The Importance of the DOE/FE RD&D Program:
CURC continues to believe there is a serious disconnect in public policies regarding CCS technology. On one hand, we observe general agreement among policy makers that large reductions in GHG emissions in the 2030 to 2050 time frame are essential to meet the climate goals being discussed in this country and elsewhere, that improved technologies are key to meeting those goals, that CCS is a crucial technology, and that public sector-private sector collaboration is necessary to launch CCS technology. On the other hand, based on budgets requested and enacted for the past several years and proposed for FY 2011, we observe an unwillingness to provide the public share of resources necessary to develop and enable deployment of CCS within the timeframe set forth by those defining emission reduction targets. Insufficient public resources means we are falling farther and further behind and there is less expectation each passing year that CCS will be ready for widespread commercial use by 2020.

With the advent of a greenhouse gas regulatory program in this country, it is vitally important that affordable and reliable carbon capture and storage (CCS) technologies be available to minimize the economic impacts upon the American consumer while continuing to allow the nation to reap the economic and energy security benefits associated with using our most abundant domestic fossil fuel resource. Recent analyses by both the EPA and the DOE/EIA have concluded that successful development and deployment of CCS technology can reduce the cost of compliance with GHG legislation by one-half. Hence, an effective coal-CCS RD&D program is essential for meeting environmental goals, enhancing our country's energy security, insuring adequate supplies of energy at affordable prices, as well as preserving American industrial competitiveness and growing American jobs in domestic and global markets.

Specific Recommendations:
CURC offers the following recommendations for FY 2011 funding for the Coal RD&D program.

Clean Coal Power Initiative: DOE did not request any funding in FY 2010 or FY 2011 for large scale commercial applications of CCS technology, noting that $800 million was provided in the

[1] Several members of CURC are not-for-profit organizations designated as such for federal tax law purposes. Such organizations are prohibited in whole or in part from undertaking advocacy activities with respect to federal government appropriations. This written statement could be construed as such an activity. Membership contributions made to CURC by these organizations are not used for these advocacy purposes; rather such contributions are utilized to undertake analyses and other educational activities as provided by CURC.

American Recovery and Reinvestment Act (ARRA) for the CCPI Round 3 program. The number of CCS-related projects that are underway is insufficient to meet the programmatic goal of establishing CCS technologies ready for commercial deployment by 2020. CURC believes that an expanded CCPI program is integral to the commercialization of CCS technologies, and therefore, in the strongest terms possible, CURC recommends that the FY 2011 budget include funding to initiate a CCPI Round 4 program. Congress is encouraged to appropriate at least $50 million in FY 2011 to be augmented in FY 2012 with funds sufficient to then conduct a CCPI 4 solicitation.

FutureGen: Funding for FutureGen has been made available through the ARRA. CURC reiterates its support for this project as an important and necessary step in the demonstration of an integrated CCS system. This integration of electricity generation with CCS is fundamental to the learning necessary to make CCS a commercial reality.

Fuels & Power Systems:

1.I nnovations for Existing Plants (and Advanced Combustion). The Administration's request for FY 2011 includes an increase in this line item to $65 million, compared to $52 million enacted in FY 2010. CURC recommends a budget of $84 million that should be used to support technologies that increase the efficiency of coal conversion to energy and that contribute to reducing the costs of carbon capture from combustion-based power generation – for both new and existing steam power plants. To achieve these goals funds should be allocated to address specific needs for advanced combustion, including oxy-combustion and next generation oxy-combustion process cycles, advanced solvents for post combustion capture, the high temperature materials program for ultrasupercritical cycles, as well as emphasis on other new power plant efficiency-improving techniques which do not depend on steam temperature and pressure leaving the boiler. Finally, the implementation of post-combustion carbon capture will place increased demands on what are already scarce supplies of cooling water, and, as a result, research on water management technologies for coal-fired power plants need to be an important component of the IEP program; recommend $4 to $6 million for water management programs.

2. Advanced Integrated Gasification Combined Cycle.[2] Funding provided for IGCC technology has consistently fallen short of the amounts deemed necessary to launch the next generation of this technology as defined in the CURC-EPRI Technology Roadmap. The Administration's request for FY 2011 is a further decrease from these already insufficient funding levels. CURC recommends that the funding for this line item be increased from the requested $55 million to at least $80 million. This increased budget is important to achieve –
   - advances in coal feed systems,
   - low-cost oxygen production (such as ITM oxygen)[3],

[2]It is also important to note that advances in this area not only support advanced IGCC but support all gasification programs in general, including industrial gasification, hydrogen and fertilizer production, SNG, and coal-to-liquids programs and to these ends this program should encompass the concept of advanced gasification technology.

[3] This program should include sufficient funding to insure that the 100-ton per day ITM Intermediate Scale Test Unit will be completed and operations commenced.

- advanced gasifier designs (including the gasifier itself; its major components such as feed injection/pumping and refractory materials, as well as gasifier modifications to achieve less costly air separation),
- warm syngas cleanup for sulfur and other coal-based syngas contaminants (such as mercury and arsenic),
- hydrogen/CO_2 separation and recovery (including advanced membrane systems),
- CO_2 capture at elevated pressure (to reduce CO_2 compression costs), and
- studies and RD&D aimed at the integration of these advanced gasification technologies to significantly reduce overall gasification capital costs and improve overall efficiencies.

3. Tur bines. The latest generation of advanced gas turbines (the "G" and "H" class of turbines) is not ready to meet the demands of IGCC plants with high levels of CO_2 capture. Reduced funding in the last few years has delayed progress and jeopardized DOE's 2012 goal of developing advanced turbines capable of operating on 100% hydrogen. The Turbines program needs an additional $14 million, for a total of $45 million in FY 2011. Technical focus areas for this funding should include:
   - promising material systems (base alloys, bond coats and thermal barrier coatings) for hot gas path parts including rotating and stationary airfoils
   - technology for enhanced cooling effectiveness of hot gas path parts
   - methods for containing by-pass flows in the combustor-expander transition piece and the airfoil tip-casing interface
   - continuation of work with the NETL in-house research group, other national laboratories and U.S. universities to assess combustor designs and the fundamentals associated with hydrogen combustion and turbine subsystems.

   It is important to note that all carbon fuels, including natural gas, will need to capture CO_2 in order to achieve the levels of reduced CO_2 concentrations being proposed in various climate change legislation now under consideration by Congress.

4. Carbon Sequestration. Funding under this program offers the appearance of being slightly below the $160 million level recommended by CURC. However, this DOE program includes approximately $50 million for CO_2 capture, whereas the CURC roadmap places capture activity with the IGCC and IEP programs. The result is that CURC believes the FY 2011 Carbon Sequestration request falls significantly short of needs, and this shortfall will result, for example, in the slow-down of some of the Regional Carbon Sequestration Partnership projects . Ultimately, the vast majority of CO_2 sequestration will likely take place in saline formations and even under the seabed. As a consequence the majority of funding for this program should be focused on sequestration into saline formations rather than for CO_2 hydrocarbon recovery or other CO_2 re-use projects. Moreover, some ongoing tests are with non-anthropogenic CO_2, or non-power system CO_2, whereas experience integrating commercial scale capture at power systems with injection into saline formations is the foundation for broad deployment of CCS. At a minimum the funding level for this program should be increased to $150 million versus the $143 million requested.

5.F uels. CURC supports the President's budget recommendation for hydrogen from coal, research for hydrogen separation membranes for power production, and developing components for process intensification to reduce the capital cost of power systems. CURC believes that coal-to-substitute natural gas (C-SNG) systems are commercial and that these systems may provide a relatively low cost mechanism to provide the large volume of CO_2 needed to simulate commercial power plant CO_2 injection processes. Also, gasification of coal and biomass (zeroed out in the FY 2011 Request) combined with CCS may be a useful pathway to provide transportation fuels with a lower CO_2 footprint than conventional sources of these fuels.

6.Adva nced Research. The budget request for Advanced Research focuses on sensors and controls, advanced materials, and new computer simulation activities for capture and storage of CO_2. The new computer simulation activities would boost overall Advanced Research funding by $20 million from $28 million (FY 2010) to $48 million (FY 2011). CURC supports a balanced advanced research program at DOE or through the newly created ARPA-E program where use of a portion of the funds is tightly integrated with the overall coal R&D program with clear deliverables which will address barriers or any technology "gaps" to meeting DOE's objective of commercial deployment of CCS by 2020. To achieve this end this program directly supports externally funded applied research programs carried out by university and industry-based organizations that are seeking research results which are responsive to the current marketplace. The AR program or an ARPA-E program also should vigorously support new initiatives that promise ways to cost-effectively prevent or capture CO_2 from the use of carbon-based fuels. This type of basic research looks beyond today's technologies to the next generation and private sector funds may not be readily available. Again, we believe a strong relationship between industry, academia and DOE is vital.

7. University and Workforce Training and Education. CURC additionally recommends that the DOE budget be available to support academic or university based programs to build up the expertise that is declining in coal technology research and development activities. A well funded advanced research program, as well as university based programs, can help replenish the scientists and engineers needed to create the coal utilization systems and carbon management systems of the future. Also, appropriations should be made to reinstate programs to train the skilled trades workforce needed to construct and operate the energy industry of tomorrow including the utilization of CCS technologies.

8. Fuel Cells. The DOE Solid State Energy Conversion Alliance (SECA) program is ready to move into MW-scale demonstrations. A primary objective of the program is the development of high temperature solid oxide fuel cells (SOFC) for integration with advanced coal gasification systems. Fuel cells offer the promise of a step change in the way electricity is generated in the future and, if successful, could provide highly efficient, cost-competitive systems capable of capturing nearly all of the CO_2 from the conversion process, minimizing water requirements for the system and greatly reducing emissions of other criteria pollutants

Title XVII Loan Guarantee Program
Consistent with the loan guarantee capacity already provided or sought for other energy sources ($65.5 billion for renewables and energy efficiency and $56.5 billion for nuclear power) and given the potential impact of widely deployed CCS technology upon CO_2 reductions globally, it is recommended that loan guarantee authority for fossil energy and CCS projects be increased by $20 billion. There appears to be very significant interest among CCS-related fossil fuel projects for use of loan guarantees if made available.

Summary and Comments on Significant Issues Related to the FY 2011 Budget Request:
The programs administered and supported through the Department's Fossil Energy office have been distinguished by efforts to foster collaboration with industry research, development and demonstration efforts, as well as a broad spectrum of university research organizations. These collaborative programs between industry, government and the academic community have enabled all participants to actively engage in each part of the technology development chain from basic research to applied research and development and then demonstration and early commercial deployment. Implementing a restructuring of the FE budget into four new cross cutting program areas could facilitate even greater partnering opportunities, focus programs upon the critical issues surrounding CCS development, quickly identify and address technology gaps, and create greater transparency in defining and exhibiting program goals and accomplishments. During this restructuring, the benefits of collaboration should be an important consideration if it is contemplated that there will be any new and significant involvement of other federal laboratories that have little or no historical ties to the industries that rely upon coal and benefit from collaboration through the FE program.

CURC supports the request to increase the Department's advanced research budget so long as increases are inclusive and extend funding support to research efforts at universities and industry participants in all regions of the country wherever the competency and excellence exists. Secondly, CURC supports the request to increase the computationally based research (subject to the comments below) budget. The new emphasis upon computational modeling is conceptually attractive as a means to reduce the amount of time and funding required in fully developing, demonstrating and deploying technology. This funding should be implemented through existing structural models already established by NETL for industry – university collaborative research and we recommend such an approach which will use structures in place and further support already successful collaboration. Finally, if these new programs are to be accepted by industry as a tool to create substitutes for "steel in the ground" then it is essential that industry be involved in the development of the computer models to insure that **practical** considerations in the construction and operation of power plants or industrial facilities are taken into account. Therefore, industry should be consulted to determine if computer models are an appropriate surrogate for actual plants being constructed and if yes, and funding is to be provided, then direct industry input is recommended when constructing the models themselves.

Beyond basic research CURC is expressly concerned that no funding is requested to initiate a next CCPI solicitation for advanced coal and CCS demonstrations. If we are to successfully develop a portfolio of advanced technologies to utilize coal efficiently and with minimal environmental impact then we must continue support for demonstration projects.

TESTIMONY OF PHILIP GIUDICE, COMMISSIONER, MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES AND CHAIR, THE NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS, BEFORE THE HOUSE ENERGY AND WATER DEVELOPMENT APPROPRIATIONS SUBCOMMITTEE IN SUPPORT OF FY'11 DEPARTMENT OF ENERGY FUNDING
March 19, 2010

Mr. Chairman and members of the Subcommittee, I am Phil Giudice of Massachusetts and Chair of the National Association of State Energy Officials (NASEO). NASEO is submitting this testimony in support of funding for a variety of U.S. Department of Energy programs. Specifically, we are testifying in support of no less than $125 million for the State Energy Program (SEP), which is equal to the authorization. SEP is the most successful program operated by DOE in this area. This should be base program funding, with no competitive portion. SEP is focused on direct energy project development, where most of the resources are expended. SEP has set a standard for state-federal cooperation and matching funds to achieve critical federal and state energy goals. We also support $300 million for the Weatherization Assistance Program (WAP). These programs are successful and have a strong record of delivering savings to low-income Americans, homeowners, businesses, and industry. We also support an increase in the budget for the Energy Information Administration (EIA) to $145 million, including an increase for EIA's State Heating Oil and Propane Program, in order to cover the added costs of increasing the frequency of information collection, the addition of natural gas, and increasing the number of state participants. EIA's state-by-state data is very helpful. EIA funding is a critical piece of energy emergency preparedness and response, and there are significant new EIA responsibilities under the Energy Independence Security Act of 2007 ("EISA"). EIA conducted a study of their capabilities and resources under Section 805 of EISA, and this study supports increased funding. NASEO continues to support funding for a variety of critical buildings programs, including Building Codes Training and Assistance, Energy Star, the commercial buildings initiative, residential energy efficiency and Building America, at a level of $257 million in FY'11. NASEO also supports base funding (in addition to any Congressionally-directed projects) for the Office of Electricity Delivery and Energy Reliability ("OE"), at least at the FY'11 request of $186 million. Specific funding should be provided for the Division of Infrastructure Security and Energy Restoration of no less than $18 million, which funds critical energy assurance activities. We also strongly support the R&D function and Operations and Analysis function within OE. The industries program should be funded at a $150 million level to promote efficiency efforts and to maintain U.S. manufacturing jobs, especially in light of the loss of millions of these jobs in recent years. Additionally funding should be provided to support Sections 451 and 453 of EISA, relating to combined heat and power and other waste heat recovery programs.

Formula SEP funding provides a basis for states to share best practices among themselves. These best practices (even without stimulus funds) allow states to get a great deal accomplished. These types of activities include revolving loans, utility-based programs, energy service performance contracts, etc.

In January 2003, Oak Ridge National Laboratory (ORNL) completed a study and concluded, "The impressive savings and emissions reductions numbers, ratios of savings to funding, and payback periods . . . indicate that the State Energy Program is operating effectively and is having a substantial positive impact on the nation's energy situation." ORNL updated that study and found that $1 in SEP funding yields: 1) $7.22 in annual energy cost savings; 2) $10.71 in leveraged funding from the states and private sector in 18 types of project areas; 3) annual energy savings of 47,593,409 million source BTUs; and 4) annual cost savings of $333,623,619. The annual cost-effective emissions reductions associated with the energy savings are equally significant: (1) Carbon – 826,049 metric tons; (2) VOCs – 135.8 metric tons; (3) NOx –6,211 metric tons; (4) fine particulate matter (PM10) – 160 metric tons; (5) SO2 – 8,491 metric tons; and (6) CO – 1,000 metric tons. The energy cost savings is much higher today, in light of higher prices.

Stimulus Funding Implementation

We want to thank the Subcommittee for the tremendous support provided in the stimulus package for a variety of state and local funding initiatives, including $3.1 billion for the State Energy Program, $5 billion for the Weatherization Program, $3.2 billion for the Energy Efficiency and Conservation Block Grant and $300 million for the Energy Star appliance rebate program, etc.

This is a major task. We are working closely with the Department of Energy's, Energy Efficiency Renewable Energy Division (Cathy Zoi), the Office of Weatherization and Intergovernmental Programs (Claire Johnson), Matt Rogers in the DOE Secretary's office, NETL and Golden, the DOE General Counsel (Scott Harris), to implement these programs as quickly as possible. We have had regular calls with all the state energy officials to address implementation questions. We have also had a series of regional conference calls among the states, and we have seven regional coordinators helping to share "best practices" among the states. NASEO is cooperating with the other state and local organizations to share best practices and provide information to officials at all levels of government in order to more effectively coordinate this effort. We are convinced that these funds are helping to engineer major positive changes in the U.S. economy and as the economy rebounds this will help create "Green Jobs" and major energy improvements that will improve all sectors of the economy.

NASEO believes it is important to maintain base levels of appropriations for critical programs, such as SEP and Weatherization, in order to avoid a huge decrease in funding after a rapid stimulus increase.

With respect to ARRA spending for SEP, of the $3.1 billion appropriated, over $1 billion is now under contract and work is being implemented. Another $1 billion has been committed to projects, including awards. We expect the remainder to move quickly. We and DOE are working through the barriers that slowed spending, including NEPA compliance, Davis-Bacon wage rates, Buy-American clauses, historic preservation, lead paint requirements and general procurement issues. It is important to stress that the key figures are the "commitment" and "contracted" amounts, because that is when people get hired and work commences. States generally do not pay until projects are actually completed and milestones are met. We do not

pay-up front in most cases. In economics jargon, the federal spending figure is actually a lagging indicator.

Industrial Energy Program: A funding increase to a level of $150 million for the Industrial Technologies Program (ITP) is warranted. This is a public-private partnership in which industry and the states work with DOE to jointly fund cutting-edge research in the energy area. The results have been reduced energy consumption, reduced environmental impacts and increased competitive advantage of manufacturers (which is more than one-third of U.S. energy use). The states play a major role working with industry and DOE in the program to ensure economic development in our states and to try to ensure that domestic jobs are preserved. State energy offices are working effectively with DOE on the "Save Energy Now" campaign. Funding for distributed generation and specific funding for Sections 451 (including the Clean Energy Applications Centers) and 453 of EISA is critical and should be included above the $150 million proposal.

Examples of Successful State Energy Program Activities: The states have implemented thousands of projects. We have previously supplied to subcommittee staff examples of programs implemented under ARRA. Here are a few representative examples.

Arizona: $19 million has been committed to energy efficiency and renewable energy projects in schools and over 90% of these funds are actually awarded to specific schools. $10 million has been allocated for solar electricity and solar water heating projects through the Arizona utilities. $9 million has been committed to state building energy performance contracts. Additional funds are included for agricultural renewable energy programs and energy programs for non-profits.

Arkansas: Funds have been allocated for advanced lighting initiatives, industrial energy technology loans, employer-assisted home energy assistance loans, a loan program for K-12 schools and job training for "green jobs" community and technology colleges.

California: The state has committed to a comprehensive residential building retrofit program, retrofits for municipal and commercial buildings, a finance program for municipalities, state building retrofits through revolving loans ($25 million), clean energy business financing, low-interest loans for local governments and "Green Jobs" work force training ($20 million), etc.

Colorado: The state committed to $19 million for financial and capital investments for renewable energy finance, new energy economy development grants, revolving loans and a cooperative effort with NREL for technology commercialization. $5.6 million has been committed to residential programs, $9.8 million for a variety of renewable energy development programs and $5 million for schools and commercial buildings.

Idaho: The state committed funds for K-12 school energy efficiency, an LED demonstration project, the creation of renewable energy enterprise zones and solar school programs.

Indiana: The state has expanded energy efficiency efforts for schools, an expanded economic development initiative, alternative energy system grants and biofuels efforts. The state has created a green and renewable energy low interest loan program, focusing on solar, wind,

biomass and integration of new technologies. They also have residential revolving loans. Additional funds are targeted for building energy efficiency retrofits. An additional amount has been directed to battery storage and supply chain energy efficiency.

Louisiana: $25.7 million has been committed to energy efficiency retrofits in higher education buildings. $15.7 million is dedicated to retrofits of commercial buildings and energy efficiency for new and existing homes. $10 million has been committed to renewable energy development.

Massachusetts: $20 million has been allocated for a major solar energy stimulus program. $20 million is committed to energy efficiency in commercial buildings. A separate "leading by example" program has used $3.3 million in SEP funding to fund the project management for $237 million in energy efficiency projects in state buildings using bond funds. The state is also promoting an aggressive residential energy efficiency program, including implementation of "stretch" energy efficient building codes.

Montana: $22.3 million has been allocated to state universities, community colleges and other state facilities for energy efficiency projects; 87 projects are underway. A revolving loan program has been set up for homeowners and small businesses to install alternative energy systems. Additional funds have been dedicated to renewable energy demonstration projects.

New Jersey: $7 million has been committed to fund solar installations on multi-family buildings, $4 million for residential energy efficiency financing, $4 million for multi-family energy efficiency loans, $17 million for municipal energy efficiency incentives, $6 million for state building energy efficiency and an additional $15 million for grants and loans for energy efficiency and renewable energy applications.

New York: $74 million was allocated to energy efficiency projects in municipalities, public universities, K-12 schools, hospitals and non-profits. $10 million was committed to help promote installation of solar photovoltaic capacity. $5 million is being used to enhance building energy codes.

Ohio: $42.6 million has been allocated for a variety of renewable energy activities, including manufacturing, waste-to-energy and biofuels. $8 million has been dedicated to energy efficiency and geothermal for new and existing buildings. $30 million is capitalizing a revolving loan program for all sectors. $15 million is committed to energy efficiency for industry.

Pennsylvania: $52.4 million has been allocated for Green Energy Works grants for wind, CHP, solar and biogas projects. For innovative technology projects for business, $10 million has been committed. $12 million is helping schools, universities and others with Green Development Loans and Grants. $14.8 million has capitalized a revolving loan fund for geothermal projects.

Tennessee: This state has committed its resources to three major solar initiatives including a solar and economic development program, creating a Tennessee Solar Institute at ORNL and creating a large solar farm.

Texas: $137.8 million has been allocated for public sector building energy efficiency, including revolving loans for schools, hospitals, municipalities, public colleges, etc. $52 million has been allocated for a competitive renewable energy grant program. Energy sector training projects have been granted to junior colleges and technical institutes. Transportation efficiency programs have also been funded.

Wisconsin: The state established a clean energy revolving loan fund for clean energy projects. They have also created a Clean Energy Supply Chain development program and a program to create clean energy jobs through manufacturing. Additional funds were committed to an industrial facilities energy efficiency program. They have already helped 5 companies to expand solar panel production, cellulose insulation manufacturing, advanced battery product manufacturing, upgrade of PV equipment and a green jobs manufacturing equipment company.

March 18, 2010













The Honorable Ed Pastor
Co-Chairman
Subcommittee on Energy and Water
Committee on Appropriations
United States House of Representatives
Washington, DC 20515

The Honorable Rodney Frelinghuysen
Ranking Member
Subcommittee on Energy and Water
Committee on Appropriations
United States House of Representatives
Washington, DC 20515

Dear Co-Chairman Pastor and Ranking Member Frelinghuysen:

We write today as representatives of America's natural gas industry to urge you to support and increase funding for development of energy efficient natural gas technologies at the Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE). In particular, we support an addition of $14.4 million in the Buildings Technologies Program, and $30 million in the Vehicle Technologies program.

Over the past several years, there has been almost no federal investment in natural gas technologies for residential and commercial buildings, the Combined Heat and Power Program in the Industrial Technologies Program has been dramatically reduced, and the research and development program for natural gas vehicles were totally eliminated in FY 2006 through 2009. At a time when the value of natural gas for reducing carbon emissions is being recognized as never before, this is unfortunate.

We feel that it is past time for the country's entity responsible for furthering energy efficiency, the Office of EERE, to re-engage in developing energy efficient natural gas-based technologies. We must continue to make them as efficient as possible so that they will continue to be viable in a carbon constrained environment.

Developing building, industrial and vehicle technologies that utilize the least amount of total energy; provide superior performance and take advantage of renewable opportunities can dramatically reduce the carbon emissions footprint of the residential, commercial, industrial and transportation sectors, while ensuring the most efficient use of important domestic energy resources such as natural gas. The natural gas industry, manufacturers and research and development (R&D) partners will identify and capture financial support for this effort with 20 to 40 percent co-funding expected, depending on the type of R&D performed. Attached, please find the areas of research emphasis proposed for buildings, industrial and vehicular technologies.

As you put together the FY2011 Energy and Water Appropriations recommendations, we urge you to fully fund this request, which will lead to development of end use technologies that are efficient, clean and will ensure the best use of domestically produced natural gas.

Natural Gas Research and Development Program
At DOE's Office of Energy Efficiency and Renewable Energy

Areas of research and development emphasis in Buildings include:

- Space Conditioning and Water Heating Efficiency and Operational Improvements Solar/Natural Gas Hybrid Systems
- Breakthrough Technology Development
- Building Systems and Community Energy System Technologies
- Development of higher-efficiency and Energy Star-rated commercial food service equipment

Areas of R&D and demonstration emphasis in Industrial are combined heat and power and include:

- Gas Heat Pump (GHP) Technology: Development and demonstration of various sizes below 25 tons/kW, as well as development of auxiliary power production for plug in hybrid vehicle and other applications
- Micro Combined Heat and Power Product development
- Emissions and Carbon Footprint Reductions R&D for all sizes of CHP
- Demonstration of mid-sized CHP products
- Market transformation for large scale CHP products

Areas of R&D and demonstration emphasis in the Vehicle Technologies program for natural gas vehicles include:

- Expand product offerings of engines to meet a wider range of applications.
- Integrating natural gas engines into additional medium- and heavy-duty vehicle platforms, such as school buses, transit buses, trash trucks, delivery trucks and over-the-road trucks, as well as marine and off-road and applications.
- Expand natural gas hybrid-electric platforms.
- Reduce cost and weight of compressed and liquefied natural gas storage systems
- Continue improving NGV and NGV fueling safety codes and standards.

Thank you for considering this request. Please contact Jennifer Schafer at Cascade Associates- 202-554-5828 if you have any further questions.

Sincerely,

Daniel S. LeFevers
Executive Director, DC Operations
Gas Technology Institute

Donald Santa
President
Interstate Natural Gas Association of America

David Weiss
Executive Director
Energy Solutions Center

Bert Kalisch
President & CEO
APGA

Jose Lozano
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Okaloosa Gas District
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APGA Research Foundation

Arthur Corbin
Municipal Gas Authority of Georgia

Carl Chapman
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Jose Esparza, Jr.
Manager/Corporate Public Affairs
Southwest Gas Corporation

Bruce D. Heine
National Fuel Gas Distribution
Corporation

TESTIMONY for the American Gas Association and the Gas Technology Institute

Ms. Laura Sheehan, Vice President, American Gas Association

And

Mr. Dan LeFevers, Executive Director, Washington Operations, Gas Technology Institute

Research and development (R&D) to increase the energy efficiency of natural gas end use technologies has been almost non-existent at the U.S. Department of Energy (DOE) for the past several years. In order to continue to use natural gas most efficiently, in building and industrial applications, we must engage in R&D that will leverage the benefits of this low-carbon fuel and ensure it has a place in a carbon constrained environment. At DOE's Office of Energy Efficiency and Renewable Energy (EERE) we, therefore, recommend an increase of $14.4 M in the Buildings Technology Program and $26 M in the Combined Heat and Power Program (Industrial cross-cutting program).

Residential homes and commercial buildings consume more than 40 Quadrillion Btu's (or Quads) of energy. These sectors also contribute the greatest amount of carbon emissions to the atmosphere – a trend that has continued to grow during the past twenty years; almost entirely due to increased electricity use in homes and buildings.

Developing building and industrial technologies that utilize the least amount of total energy; provide similar performance as existing technologies and take advantage of renewable opportunities can dramatically reduce the carbon footprint of America's buildings and factories, while ensuring the most efficient use of important domestic energy resources such as natural gas.

Natural gas is an important domestic energy resource, with nearly all of U.S. demand for natural gas coming from North America and 52 percent of all U.S. homes utilizing natural gas for space and water heating, and cooking. While an expanding supply base from new sources such as gas shales has contributed to a greater understanding of the role natural gas can play in a multitude of applications, there has not been a corresponding understanding of the need for R&D to ensure that current and future technologies are achieving the maximum carbon reductions and energy efficiencies as possible in end-use applications.

During the past several years, there has been almost no federal investment in natural gas technologies for residential and commercial buildings and the Combined Heat and Power Program in the Industrial Technologies Program has been dramatically reduced. At a time when the value of natural gas for reducing carbon emissions is being recognized as never before, this is unfortunate. It is past time for EERE, whose mission it is to further energy efficiency, to re-engage in developing

energy efficient natural gas-based technologies. Failure to focus efforts in this area will have a direct and detrimental effect of the ability of the nation to reap the most benefits from clean burning natural gas in a carbon constrained world.

Specific Building program initiatives include:

Space Conditioning and Water Heating Efficiency and Operational Improvements $2.9M
This effort will focus on laboratory testing, component and technology development and field testing of new gas space conditioning technologies and systems. The water heating R&D effort will improve performance and cost of components and assembly/installation of currently available or soon-to-be available systems for domestic or commercial water heating.

These efforts will be in conjunction with gas utilities working closely with component and equipment manufacturers. In the commercial sector, the space conditioning effort will focus on developing new and improving current gas-based thermally activated (e.g., absorption) systems appropriate for space cooling and humidity/indoor air quality control in commercial buildings, while helping alleviate peak electric demand constraints. Combined space/water heating systems will also be developed and tested through laboratory and field testing.

Additional applications for R&D include:

- Advancing energy efficient technologies and systems for space and water heating in existing single and multi-family residential buildings and the light-commercial sector;
- Improving efficiency and reducing costs of highly efficient condensing gas furnaces and boilers that are poised for wider market adoption;
- Optimizing strategies and technologies for the control of humidity and indoor air quality in conjunction with gas-based space heating and cooling systems;
  Reducing first costs of emerging tankless and storage type water heaters by at least 20 percent, while achieving efficiencies of over 80 percent for non-condensing and 90 percent for condensing type units; and
- Developing a combination space/water heating system with improved efficiency and reduced first cost to be used in residential, multi-unit and commercial buildings.

Solar/Natural Gas Hybrid Systems $2.8M
This effort will include technology development and laboratory and field testing, working with manufacturers of solar thermal or other renewable-resource systems. Particular attention will be given to integration/control and system sizing issues as well as safety and reliability (all of which will strongly impact commercial viability to:

- Develop solar thermal-natural gas hybrid technology and products that cost-effectively generate heat, hot water, and steam, and thermally driven cooling – reducing carbon emissions and the use of fossil fuels;
- Improve storage and integration of lower temperature thermal heat (solar) with higher temperature natural gas heat system; and
- Integrate concentrated solar with natural gas energy systems.

Breakthrough Technology Development $2.1M

This initiative will focus on developing and testing more advanced technologies and systems that will not be available for the market place for three to seven years and will make extensive use of longer-term laboratory research. The main drivers for this research will be carbon emission reductions and improved efficiency thus producing the next wave of efficient and clean gas technologies for residential and commercial use. As promising technologies, components and systems emerge, appropriate lab and field testing will be conducted to:

- Develop catalytic and other approaches for carbon management (e.g., formation, reduction, capture, conversion storage) of specific combustion byproducts like carbon dioxide or carbon monoxide;
- Support basic combustion research to improve efficiency, reduce pollutant formation, increase heat transfer to improve the operation of gas-based energy systems; and
- Develop hydrogen enrichment mixtures to reduce carbon emissions from gas equipment – (a carbon mitigating approach may be to provide a percentage of hydrogen through the natural gas pipeline system).

Building Systems and Community Energy System Technologies $2.6M

Parallel attention will be given to both residential and selected commercial buildings. Different RD&D programs will be developed for selected building types (e.g., residential single-family homes retrofit, new-construction homes, multifamily dwellings, retail building, and institutional building) and regions (e.g., northeast, southwest). RD&D will include laboratory research but will also comprise extensive testing in instrumented buildings that will serve as field test facilities. R&D will be coordinated with architects and builders as well as developers and manufacturers of emerging energy systems and associated components and controls to:

- Develop approaches for optimized integration of gas systems with the evolving Smart Energy Grid providing consumers new option for energy management, comfort control and communication with energy providers;
- Perform advanced energy efficiency and carbon emission analysis utilizing full fuel cycle protocol, develop new scientific data and tools to support lowering overall energy use and carbon emissions in homes and buildings; and

- Improve the efficiency and flexibility of operation of gas-based equipment when used in combination with emerging building technologies, new communications systems and other energy systems.

Development of higher-efficiency and Energy Star-rated commercial food service equipment $1.6M

This effort will include laboratory development and field testing, working with manufacturers and food service preparers. It will develop improved components that will increase energy efficiency, reduce emissions, and improve the productivity of ranges, ovens, grills, griddles, fryers, and other food preparation products. The effort will:

- Develop new cooking equipment designed to improve the efficiency of natural gas systems;
- Reduce combustion related emissions from gas-fueled residential and commercial cooking equipment; and
- Improve the performance and reduce the cost of critical heat transfer components in residential and commercial cooking equipment.

Specific Combined Heat and Power initiatives include:

Small Scale CHP Research and Development - $7.6 M

- **Micro Combined Heat and Power Products (10kW or less).** Develop, using existing technological breakthroughs, a system which would provide on-site electric power and domestic hot water and heating for homes and small businesses utilizing either propane or natural gas. This will include the development of "dark start" technology for use in communities where there is an inability to deliver reliable electricity via traditional central power station and transmission/distribution systems.

- **Gas Heat Pump (GHP) Technology (7.5 – 15 – tons).** Continue previous DOE efforts in gas fired heat pumps (80 percent reduction in electric peak demand in cooling and 150 percent efficiency in heating mode). Necessary work: fuel management and control development, heat recovery to provide domestic hot water and space heating, and power generation. Further enhancements of the heat exchangers, engine, and compressors will result in improved efficiency and lower first costs. This will include development of auxiliary power capability for plug in hybrid fueling or other potential critical power loads.

- **Emissions and Carbon Footprint Reductions R&D.** Continue ongoing activity. Although the GHP and Micro-CHP products meet the current air quality requirements, further emission reductions are being anticipated. This program would take a pro-active

stewardship toward reducing product carbon footprints for small engine technology that requires particular attention.

Advanced reciprocating engine system research - $7.2 M

- **Increased efficiency (> 50 percent net electric) and reduced emissions –** For large gas-fired recip engines (>500 kW) and development of fuel flexible capability to use biogas, biofuels and waste without degrading energy or emissions performance; and

- **Small Reciprocating Engines** – Efforts include improvements to the efficiency and emissions of reciprocating engines (<100 kW) to support advanced packaged systems targeted at new light industrial and commercial applications.

Growth Opportunities in CHP applications below 20 MW, including medium-sized plants that require both power and process heat - $6 M

- **Alternative/dual fuel capability** for turbines that meet the most stringent NO_x and CO_2 regulations; and

- Development of **thermally activated technologies** such as absorption cooling/ refrigeration and desiccant dehumidification to address food processing and data center industry cooling needs, and other industrial and commercial applications that need both heating and cooling .

Innovative systems integration to optimize overall CHP system efficiency and reduce capital and O&M costs by 20-30 percent - $15.0 M - $4.2 M

- **Development of small engine driven systems** (<100 kWe) incorporating both heating and cooling and targeted at light industrial, commercial and residential applications; and

- **Advanced systems integration of emerging technologies** - targeted to the commercial and industrial sector.

Testimony of the American Wind Energy Association for the House Appropriations Subcommittee on Energy & Water Development on the U.S. Department of Energy Fiscal Year 2011 Budget Request

The Honorable Peter J. Visclosky, Chairman

March 19, 2010

Prepared by Ron Stimmel
Manager of Legislative Affairs and Small Systems
American Wind Energy Association

Introduction

America's wind energy industry experienced a record year of growth in 2009. Industry deployed more than 10,000 megawatts (MW) nationwide, amounting to approximately 40% of the country's new electrical capacity and enough to power 2.4 million homes. Although wind systems are commercially deployable today, keeping America's domestic wind industry competitive with other generation sources requires increased research, development, and deployment (RD&D) funding to reduce costs and improve reliability. Therefore, the American Wind Energy Association (AWEA) requests a funding level of $170.5 million for FY 2011 for the Wind Energy Program within the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) to support wind energy development. This request is an increase of $47.5 million above the President's Congressional budget request. AWEA also requests $16 million more than the President's request for FY 2011 for the DOE Office of Electricity Delivery and Energy Reliability (OE) for power system integration and transmission expansion for "variable generation" sources like wind and solar.

DOE provides important technical support, guidance, information, and limited cost-shared funding for efforts to explore and develop wind energy resources. AWEA commends the DOE Wind Program for successfully developing programs that are consistent with the wind industry's long-term needs. Regardless of whether OE or EERE receives grid integration and transmission development funds, it is crucial that both entities work together and with experts at DOE national laboratories - particularly the National Renewable Energy Laboratory - to help utilities resolve variability-related issues related to grid integration.

AWEA's funding request of $47.5 million above the President's Congressional budget request of $123 million is a significant increase, but was carefully determined via a months-long process involving more than 80 wind industry stakeholders through the AWEA Research and Development Committee. Expert stakeholders identified the funds needed to overcome

constraints to meeting the DOE's scenario of wind energy providing 20% of our nation's electricity by 2030 (*20% Wind Energy by 2030. July, 2008*).[1]

Overview

For years, the DOE Wind Program has provided essential help to the wind industry by supporting technology development and identifying and addressing other hurdles to wind energy development. However, more work is necessary. Wind power is still constrained by difficulties in market acceptance and the need for improvements in cost, performance, and reliability. The DOE's *20% Wind Energy by 2030* report assumes that capital costs must be reduced by 10% and that turbine efficiency must increase by 15% to reach the goal of providing 20% of our nation's electricity from wind by 2030. The DOE report clearly identifies a need for continued Federal investment in wind RD&D by stating, "In a functional sense, wind turbines now stand roughly where the U.S. automotive fleet stood in 1940[ii]." As our nation turns to wind power to meet more of its energy needs, it is crucial for DOE to increase funding to improve wind turbine reliability and reduce costs.

Achieving 20% of U.S. electric power from wind, with the critical help of RD&D, would:

- Create 500,000 jobs, generating over $1 trillion in economic impact by 2030;
- Reduce natural gas demand by approximately 7 billion cubic feet/day - nearly half of the current consumption in the electric sector;
- Decrease natural gas prices by approximately 12%, saving consumers approximately $128 billion;
- Avoid 825 million tons of carbon dioxide emissions in the electric sector in 2030, equivalent to 25% of expected electric sector emissions; and
- Reduce cumulative water consumption in the electric sector by 17% in 2030 (one third of which would come from the arid west).

The DOE Wind Program currently receives about $84 million annually. In comparison, the research and development budgets for many other traditional and emerging energy sources are much higher. For FY 2010, non-defense nuclear RD&D energy programs will receive at least $787 million, coal programs will receive $404 million, and solar and biomass energy will receive $247 million and $220 million respectively. A higher Federal funding level for wind energy RD&D will help ensure that wind energy remains competitive with other forms of energy.

Importance of DOE's Wind Program

The DOE Wind Program has a strong history of success, and the cost-shared industry/government research and development activities at DOE and NREL have played an important role in keeping the cost of wind energy competitive with other energy sources. AWEA strongly believes that the funding provided by the Subcommittee should reflect the important work conducted by the Wind Program, which in turn reflects the AWEA request of $170.5 million from the Subcommittee for this program, with an additional $16 million for OE for wind energy grid integration and related transmission development. OE and EERE should

work closely with other national laboratories, such as NREL, and organizations like the Utility Wind Integration Group (UWIG) to resolve grid integration challenges associated with wind energy development.

Specific Wind Industry Priorities

A team of more than 80 members of AWEA and advisors from industry and academic institutions identified a $63.5 million deficit in annual DOE funding necessary to support the RD&D and related programs needed to realize the vision of providing 20% of America's electricity from wind by 2030. We respectfully urge that Federal funding be provided for four specific areas as follows:

- Systems Integration and Transmission Expansion ($16 million)
- Wind Turbine Technology and Reliability ($38 million)
- Small Wind Turbines - 100kW and Smaller ($5.5 million)
- Community Wind ($4 million)

Systems Integration and Transmission Expansion

The systems integration program area focuses on the power system operations issues of integrating variable, non-dispatchable power sources, like wind energy, into the power system. Wind generators in some regions, especially those with small control areas located outside Regional Transmission Organizations (RTOs), are already being denied interconnection because operational limits for the integration of variable generation have been reached. Yet, numerous studies from the United States and Europe (with significant involvement from DOE-funded experts) have shown that even minor changes to operations can accommodate much greater amounts of wind. Areas of special focus include developing and analyzing additional sources of system flexibility, expanding and implementing power system operation tools, and supporting interconnection-wide integration studies and plans.

Transmission expansion is a key area of focus for meeting the 20% by 2030 wind energy goal. This area of funding should focus on issues related to expanding the transmission grid to increase access to areas with rich wind resources. Emphasis should also be placed on making the grid more robust, efficient, and reliable. This will help power to flow across regions, which will be critical to integrating large amounts of wind energy into the system.

Wind Turbine Technology and Reliability

Aiding improvements in wind system technology and reliability is a key component of the AWEA R&D Committee Action Plan. This area focuses on the development of turbine components to reduce capital costs, improve performance, and enhance equipment reliability to achieve the 20% vision by 2030. This includes developing lower-cost towers, more reliable gearboxes and generators, advanced blade sensors and controls, and streamlined manufacturing processes. AWEA also recognizes the need to reduce the cost of offshore wind energy

technology in order for offshore sources to provide the estimated 54 gigawatts (GW) of the 300 GW needed to meet the 20% goal by 2030.

Small Wind Turbines (100 kilowatts and Smaller)

Greater Federal funding for small wind systems, those with capacities of 100 kilowatts (kW) or less, would help the small wind industry provide homes, farms, and small businesses with their own domestic, on-site wind generators. Increased funding for the small wind industry should be used to establish market deployment programs, streamline installation techniques, advance technological components, and improve tools to assess wind resources.

Community Wind

Community-scale wind projects, generally those whose economic benefits flow directly into the communities that host them, face greater commercialization challenges than do traditional wind power projects. Currently, very few federal programs support community wind development. Many developers lack technical or financial resources, and the limited size of community wind projects often make them less attractive to experienced developers. Funding is needed to create and support a two-part Department of Energy Community Wind Initiative (DOE CWI). The first part would create a technical assistance center to provide developers with wind resource data; technical, economic, and financial modeling of potential projects; permitting and brokerage assistance; outreach support, and other essential resources. The second part would fund multi-million dollar competitive DOE grants, over several years, to qualified community wind organizations to support permitting applications, interconnection and transmission agreements, environmental studies, view-shed acceptance, equipment procurement, and other essential aspects of development.

Conclusion

The President and Congress have called for a bolder commitment to the development of domestic renewable energy resources, particularly wind energy, to meet our nation's growing energy demand. Continued investments in wind energy RD&D are delivering value for taxpayers by fostering the development of a domestic energy source that strengthens our national security, provides rural economic development, spurs new high-tech jobs, and protects the environment.

While the wind industry continues adding new generation capacity, challenges still exist. Continued support for DOE's Wind Program is vital to helping wind become a more prominent energy source, and in turn benefiting the economy and environment. To ensure that DOE's Wind Program funding is commensurate with the President's call for more renewable energy, AWEA urges the Subcommittee to provide $170.5 million for the wind program in FY 2011, with an additional $16 million for wind energy system integration and transmission development through OE. Along with other key Federal policies, both new and sustained, greater RD&D funding through DOE will help transform the 20% wind vision into reality.

AWEA appreciates this opportunity to provide testimony on DOE's FY 2011 Wind Energy Program budget before the House Appropriations Subcommittee on Energy and Water Development. We thank the Subcommittee for its time and attention to our request.

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[i] U.S. Department of Energy, "20% Wind Energy by 2030" (July 2008), http://www.20percentwind.org/20p.aspx?page=Report.
[ii] ibid

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Statement
of the
AMERICAN PUBLIC POWER ASSOCIATION
Submitted to the
HOUSE APPROPRIATIONS COMMITTEE'S
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, AND RELATED AGENCIES
March 19, 2010

The American Public Power Association (APPA) is the national service organization representing the interests of over 2,000 municipal and other state and locally owned utilities throughout the United States (all but Hawaii). Collectively, public power utilities deliver electricity to one of every seven electric consumers (approximately 45 million people). We appreciate the opportunity to submit this statement outlining our FY 2011 funding priorities within the Energy and Water Development, and Related Agencies Subcommittee's jurisdiction.

Renewable Energy Production Incentive (REPI): APPA requests $5 million for the Renewable Energy Production Incentive (REPI). The Department of Energy's REPI program was created in 1992's Energy Policy Act (EPAct) as a counterpart to the renewable energy production tax credits made available to for-profit utilities, and was reauthorized through 2016 in the Energy Policy Act of 2005 (EPAct05). EPAct05 authorizes DOE to make direct payments to not-for-profit public power systems and rural electric cooperatives at the rate of 1.5 cents per kWh (1.9 cents when adjusted for inflation) from electricity generated from a variety of renewable projects. While the program had been zeroed out in recent years by the Bush and Obama Administrations, Congress has consistently restored funding at $5 million until last year. In FY 2010, the REPI program received no funding. As Congress works toward adopting a federal renewable portfolio standard and a climate change mitigation program, REPI becomes increasingly more important to not-for-profit utilities. Several non-profit utilities that have been relying on the program to help fund renewable programs, have been abandoned by the lack of funding. While the demand for the program is truly $25 million, $5 million would restore funding.

Power Marketing Administrations (PMA's)

Power Marketing Administration Proposals: In past years, various measures have been proposed for all four PMAs that would have had the effect of raising the rates for PMA customers. We appreciate that the FY 2011 request does not include these types of proposals.

Purchase Power and Wheeling: We urge the Subcommittee to authorize appropriate levels for use of receipts so that the Western Area Power Administration (WAPA), the Southeastern Power Administration (SEPA) and the Southwestern Power Administration (SWPA) can continue to purchase and wheel electric power to their municipal and rural electric cooperative customers. Although appropriations are no longer needed to initiate the purchase power and wheeling (PP&W) process, the Subcommittee continues to establish ceilings on the use of receipts for this important function. The PP&W arrangement is effective, has no impact on the federal budget, and is supported by the PMA customers who pay the costs. We support an increase over the funding levels of the Administration's budget for FY 2011, which are as follows: $553.6 million for Western Area Power Administration (WAPA); $88.6 million for Southeastern Power Administration (SEPA); and $49 million for Southwestern Power Administration (SWPA).

Storage for High-level Nuclear Waste: APPA is disappointed in the Administration's lack of support for the Department of Energy used nuclear fuel management program. However, we support efforts by the Administration to study alternatives to Yucca Mountain and request a funding level of $340 million for the Office of Radioactive Waste Management at the Department of Energy.

Nuclear Loan Guarantees: APPA is pleased with the Administration's request of $54.5 billion for DOE Loan Guarantees for Innovative Energy Technology and encourages the Subcommittee to maintain this level of funding.

Department of Energy Waterpower Program: APPA requests $100 million for FY 2011 for the DOE's Waterpower Program. At a time when utilities around our country must focus on finding carbon-free sources of energy, the importance of hydropower research and development is more important than ever before. Not only is hydropower a renewable resource, but it can be used as baseload generation to back up more intermittent renewables such as wind and solar power.

Energy Conservation: APPA appreciates the funding increases for energy efficiency programs provided in the President's budget. The budget funding levels for FY 2011 are as follows: Building Technologies--$231 million, Industrial Technologies--$100 million, Federal Energy Management Program--$42 million and Vehicle Technologies $325 million. We urge the Subcommittee to maintain these funding levels. We however encourage the Subcommittee to increase funding for the EPA ENERGY STAR program over the requested amount of $55.4 million.

Weatherization and Intergovernmental Activities: We are pleased that the Administration has requested $385 million for the Weatherization program in FY 2011, a 30 percent increase from FY 2010 and we encourage the Subcommittee to maintain that level of funding.

Clean Coal Power Initiative (CCPI) and FutureGen: APPA is disappointed that the budget did not include funding for large scale commercial applications of carbon capture and sequestration technology. The American Recovery and Reinvestment Act (ARRA) included $800 million for the CCPI Round 3 program and we encourage the Subcommittee to include funding for a CCPI round 4 program. Funding for FutureGen was made available in the ARRA. APPA strongly believes as concerns grow over climate change and the effects of man-made emissions from combustion of fossil fuels, the FutureGen project will be critical in nearing us to the goal of the world's first near-zero-emissions coal fired plant. We urge the Committee and the Congress to work with the Administration on finding an appropriate role and funding level for the FutureGen project.

Fuel Cells: APPA was disappointed with the funding request of $50 million for FY 2011 for fuel cell related research and development. This is a 7 percent decrease from FY 2010 levels. We urge the Subcommittee to allocate additional funding for this program for FY 2011.

Fuels and Power Systems: We recommend these funding levels for the following programs: Innovations for Existing Plants—increase from $65 million to $84 million; Advanced Integrated Gasification Combined Cycle—increase from $55 million to $80 million; Turbines—increase from $31 million to $45 million; Carbon Sequestration—increased from $143 million to $150 million; Fuels—support the President's request; Advanced Research—support President's request of $48 million.

Navajo Electrification Demonstration Program: APPA supports full funding for the Navajo Electrification Demonstration Program at its full authorized funding level of $15 million. The purpose of the program is to provide electric power to the estimated 18,000 occupied structures in the Navajo Nation that lack electric power. This program has been consistently underfunded.

Federal Energy Regulatory Commission (FERC): The FY 2011 Budget requests $315 million for FERC, an increase over FY 2010 levels. APPA supports this increase.

WATER RESOURCES COALITION

Statement of
The Water Resources Coalition
On the Fiscal Year 2011 Budgets
Of The U.S. Army Corps of Engineers Civil Works Program
And the U.S. Bureau of Reclamation
Before the Energy and Water Resources Development Subcommittee
House Committee on Appropriations
March 19, 2010

I. Introduction

The Water Resources Coalition (WRC) is pleased to provide this statement for the record on the administration's proposed budgets for the U.S. Army Corps of Engineers Civil Works program and the U.S. Bureau of Reclamation for Fiscal Year 2011.

The WRC was established in 2007 to promote the development, implementation and funding of a comprehensive national water resources policy. With member organizations representing state and local governments, conservation, engineering and construction, ports, waterways and transportation services, the Coalition works to ensure that a comprehensive, national water resources policy is developed, implemented and funded to provide a sustainable, productive economy; a healthy aquatic ecology; and public health and safety.

The Coalition's members are the American Council of Engineering Companies; the American Public Works Association; the American Shore and Beach Preservation Association; the American Society of Civil Engineers; the Association of California Water Agencies; the Associated Equipment Distributors; the Associated General Contractors of America; the Atlantic Intracoastal Waterway Association; the Coast Builders Association; the Dredging Contractors of America; the Everglades Trust; the Florida Inland Navigation District; the Missouri Corn Growers Association; the National Association of Regional Councils; the National Sand, Stone and Gravel Association; the Oregon Water Resources Congress; and the Upper Mississippi, Illinois and Missouri Rivers Association.

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Our nation's water resources are critical to our economy, our infrastructure, public safety, and the preservation and enhancement of our environmental resources. Much of our water infrastructure is aging, compromising its ability to meet the needs for which it was created. With a commitment from Congress to a plan that increases funding for its civil works program over the next five years, critical water resources projects could be executed at levels that will eliminate the backlog of projects and meet the nation's water resources needs.

II. Increase Civil Works funding to $7 billion in FY 2011.

In recent years, national investment in water resources projects has not kept pace with the level of economic and social expansion. Over the last 30 years, the U.S. population has increased more than 40 percent while GDP has grown from $2.5 to $7.5 trillion. Capital investment in public water resources infrastructure, however, has decreased by 70 percent. The combination of an expanding population and economy coupled with a decline in infrastructure investment has created a substantial investment gap.

With each passing day, the inability of our nation's aging infrastructure to meet the needs of our growing population further threatens our economy. To complete ongoing infrastructure projects in a timely and efficient manner and to save future costly repairs by adequately addressing the existing backlog of critical deferred maintenance, Civil Works funding must increase to at least $7 billion for FY 2011. In subsequent years, annual increases of at least $400 million to $600 million will be required to reduce the "benefits foregone," keep the Civil Works program on schedule and save the nation the costs of paying for more expensive "crisis" repairs in the future.

Moreover, the committee should ensure that the Corps is fiscally capable of:

- Substantially reducing the backlog of critical maintenance and repairs at hundreds of multiple purpose flood control, hydropower, recreation, water supply, irrigation and navigation projects.
- Repairing several high risk dam safety projects.
- Rehabilitating and upgrading hydropower plants.
- Recapitalizing the oldest and most at-risk projects on our inland waterways system.
- Fully dredging the nation's highest use, deep draft, commercial ports to authorized depth.
- Fully dredging the inland waterways to their authorized depths and widths.

III. Fund the WRDA water resource priorities report

This report, mandated by Congress in section 2032 of the Water Resources Development Act (WRDA) of 2007, has not been implemented. This section asks for a report on the vulnerability of the United States to flooding, an assessment of the extent to which federal programs are reducing risk or may be adding to risk, and proposals to change.

Given the persistence of serious floods over the past few years and the prospect of an increase of the risks associated with flooding, the failure to implement section 2032 is unacceptable. This inaction is due to the failure of Congress to appropriate funds the Corps needs and has requested.

The need for risk assessment is obvious. Section 2032 of WRDA 2007 provides the Corps with the direction and authority to look at risk assessment and risk reduction in the broadest and yet most practical approach imaginable. The implementation of this provision is long overdue, and this committee must fund the project.

IV. Direct the Corps to complete the national shoreline erosion control development program

This program was established in 1992. It was designed to test new technologies that will improve or reduce the cost of federal beach restoration projects. There are nine testing sites.

Section 2038 of WRDA 2007 contains important modifications to the program. For example, the original program did not permit the Corps to cost-share these projects with local governments. In addition, where the technology was demonstrated to work, the 1992 law did not permit the technology to be seamlessly integrated into existing federal beach restoration projects. These weaknesses have been corrected in WRDA 2007.

Section 2038 moves this program into the Continuing Authorities Program for small shoreline protection projects. The more pressing issue is the lack of implementation guidance for Section 2038. The old program apparently remains in force until the guidance is adopted by the Corps. This leaves both the Corps' Coastal Hydraulics Laboratory, which administers the program, and local project sponsors and firms that wish to bid in the competitive process for designs of new technology in limbo.

The changes made in Section 2038 were designed to make this program more attractive to federal taxpayers and local sponsors. Apparently the Corps of Engineers feels this is a low-priority issue and has, therefore, issued no guidance.

This is an important program. Coastal areas of the nation are at risk from serious storms that endanger lives and property. Europe, Australia, New Zealand and other nations have done far more that the United States to test new beach restoration technologies to fulfill their coastal stewardship responsibilities. They have done far more than the U.S. to test new technologies that will reduce the cost and improve the effectiveness of beach restoration projects. We cannot afford the lack of implementation guidance for section 2038 to stall this critical program. The committee should direct the Corps to use funds in FY 2011 to complete the program required by Congress in 2007.

V. Repair and upgrade critical coastal protection projects that serve as defense to key population centers.

Investment in this sector will greatly expedite the construction of critical environmental projects, completing projects sooner and returning critical ecosystems to a more natural state. Projects producing beneficial impacts on more than 1 million acres could be expedited. Of these outputs, approximately 90 percent are nationally significant and would contribute greatly to long-term environmental sustainability.

VI. The committee should increase the FY 2011 budget for the Bureau of Reclamation

The administration is proposing a budget of $1.10 billion for the Bureau of Reclamation in FY 2011. The committee should appropriate $1.2 billion to bring the inflation-adjusted budget to roughly the $1.12 billion level enacted in FY 2009.

Water is the lifeblood of communities and economies throughout the West. Those supplies are managed by the Bureau of Reclamation. Drought conditions, climate change impacts, and water use conflicts are undermining the reliability of water supplies for municipal and agricultural use. Small farmers are pressed to convert their lands for development. Improving the reliability of water supplies requires innovative approaches and coordination with local water managers.

Over the past fifteen years, it is clear that the era of large, new federal water projects is ending. New water supplies for a growing West will come from water reuse projects, water conservation efforts, or appropriately scaled storage. The demand for water reuse projects is increasing yearly and outpacing federal funding.

At present, there is a nearly $1 billion backlog in water reuse funding at the Bureau of Reclamation. The committee should ensure that these projects are funded and that the Bureau is adapting to the changing needs of water managers facing a host of new challenges. The committee should investigate aging water infrastructure across the West, and assess whether the health of the economy and climate change could have detrimental impacts on water infrastructure.

Additionally, the committee should provide $75 million for Western water reclamation programs under title XVI of the Reclamation Projects Authorization and Adjustment Act of 1992 (Pub.L. 102-575, 106 Stat. 4600, 4663). That program authorized the Secretary of the Interior carry out studies "to identify opportunities for water reclamation and reuse" in the 17 states under the Bureau's jurisdiction. The law authorized projects and studies to assess the scientific and environmental impacts of reclaimed water. There is a backlog of $ 624 million of congressionally authorized water reuse and reclamation projects at the Bureau. These projects, if funded, can deliver much-needed water across the West and jobs for communities and businesses.

The Bureau of Reclamation has played an important role in the development of the 17 western states over the past one hundred years. The WRC recognizes the importance of such investment given the aging of the infrastructure and the harsh climatic conditions of the western United States. 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.

This concludes the WRC statement on the Corps' civil works and Bureau of Reclamation budgets for FY 2011. For more information, visit the Water Resources Coalition Web site at www.waterresourcescoalition.org.

Respectfully submitted,

The Water Resources Coalition

For further information, please contact:

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Colorado Springs Utilities
It's how we're all connected

Brett W. Gracely
Water Resource Planning Supervisor

The Honorable Ed Pastor, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Pastor and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Brett Gracely
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Testimony prepared by
Richard A. Anthes, President of the
University Corporation for Atmospheric Research (UCAR)
Submitted March 19, 2010 to the
Subcommittee on Energy and Water Development, and Related Agencies of the
U.S. House of Representatives Committee on Appropriations
Regarding Fiscal Year 2011 Appropriations for the Department of Energy (DOE)

On behalf of the University Corporation for Atmospheric Research (UCAR) and the larger university community involved in Earth sciences research and education, I submit this written testimony for the record of the House Committee on Appropriations, Subcommittee on Energy and Water Development, and Related Agencies. DOE's programs and initiatives in science and education directly support university and laboratory communities. They are also key to building a broad-based national resiliency to handle the great challenges of the future, including climate change. DOE is on the frontlines building the capacity needed to address these challenges, maintain a competitive advantage for the U.S. internationally, and secure an economically and environmentally sustainable future.

For these reasons, I urge the Subcommittee to fund the President's full FY 2011 budget request for the DOE Office of Science at $5.121 billion and the Office of Energy Efficiency & Renewable Energy (EERE) at $2.355 billion. **Furthermore, it is critical that the Subcommittee take every step to ensure that the DOE's Science budget stays on track to double this decade, as authorized by the America COMPETES Act of 2007.**

UCAR is a consortium of 75 universities that manages and operates the National Center for Atmospheric Research (NCAR) on behalf of the National Science Foundation and the university community. UCAR & NCAR serve as national hubs for research and education for the atmospheric and Earth system sciences community. UCAR also houses community programs that bring geosciences communities together to address large-scale, integrated research and education challenges. Our mission is to better understand the behavior of the atmosphere and related global systems and to help communities, states, and nations use this information to sustain and improve life on Earth.

.....
I applaud the DOE's ongoing leadership in the management of programs to develop clean, alternative sources of energy, enhance national security and independence from foreign oil, address climate change, and educate the workforce for the emerging global clean energy economy. With the following, I specifically want to highlight several science research and education programs that represent the DOE's critical investments towards a more resilient and adaptable society.

Climate and Earth System Research
The Office of Biological and Environmental Research (BER) within the DOE Office of Science makes fundamental contributions to the nation's premier climate and Earth

system models. Such models provide the scientific foundation for national and international decision-making on climate change – how we should respond to climate change, whether we should adapt or mitigate, etc.

In particular, BER provides indispensible support to the Community Climate System Model (CCSM), which is being released this year in its fourth major iteration for use in the U.N. Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report, expected for release in 2014. A comprehensive and sophisticated model for analyzing Earth's past, present, and future, CCSM contributed the most simulated data of any global model to the IPCC's 2007 Fourth Assessment Report. It is providing decision makers around the world with a clearer picture of what the impact of sustained climate change will be on a global scale.

CCSM is also laying the scientific foundation for higher-resolution, downscaled models which will provide regional and local predictions about the impacts of climate change. This regional, downscaled approach is BER's stated focus for climate and Earth system modeling research in FY 2011. Regional and local predictions will help states, communities, businesses, and individuals develop effective long-term strategies to minimize damages of climate change impacts, by either adapting or mitigating.

Thanks in part to BER support, the nation's climate models are becoming more realistic, incorporating more precise and complex natural and now human processes that are shaping the global climate. While uncertainties will always persist, these new capabilities will allow the climate science community to address the new class of societally relevant questions in a way that has never been done in the past. CCSM 4, for example, will for the first time feature fully interactive carbon and sulfur cycles, as well as dynamic vegetation, aerosol effects on clouds, carbon chemistry, natural carbon sequestration via land surface and oceans, and interactions between the carbon cycle and climate.

Frontiers for climate modeling in FY 2011 include understanding more fully how aerosols affect cloud formation, and in turn radiative forcing, and how modes of natural climate variability (e.g., the El Niño Southern Oscillation, Pacific Decadal Oscillation, and Northern Annular Mode) will change as atmospheric greenhouse gas concentrations continue to increase. Feedback cycles such as high latitude ocean-ice interaction and methane release from Arctic permafrost are also areas of study where scientists still have much to learn and models still need improvement.

Understanding and responding to climate change extends far beyond the capabilities of any one laboratory or agency. This is a broad, interagency effort, in which DOE is a key partner. New contributions to the design and scientific content of CCSM will not come from NCAR alone. While CCSM is housed and managed at NCAR, it is an open source climate model, which means that scientists across the nation and the world make contributions and improvements.

In order to develop more accurate, increasingly realistic, and higher resolution climate models, with better predictive capabilities for individuals, businesses, and communities, I urge you to fund the Office of Biological and Environmental Research (BER) within the DOE Office of Science at the President's full FY 2011 budget request of $627.0 million. **BER support is critical to the university community's most important and recognized climate modeling work.**

Advanced Scientific Computing Research

Also within the DOE's Office of Science, Advanced Scientific Computing Research (ASCR) delivers leading edge computational and networking capabilities to scientists nationwide, enabling advances in computer science and the development of specialized software tools necessary to research the major scientific questions being addressed by the Office of Science and the larger university community.

ASCR's continued progress is of particular importance to atmospheric scientists involved with climate model development, because an enormous amount of computing power is required to address the interaction of the Earth's systems and global climate change. The complex nature of the climate processes being simulated in climate models requires very advanced software engineering to compute efficiently at the petascale. For this reason, ASCR played a critical role in developing the computing and networking resources for the U.S. contributions to the IPCC Fourth Assessment Report, and ASCR is one of the most important resources supporting the next generation of state-of-the-science climate simulation tools for this country.

Because the complex and high-resolution climate scenarios produced using the CCSM are too processor intensive to be run at NCAR alone, they are outsourced to the DOE's Leadership Computing Facilities, located at Oak Ridge National Laboratory (OLCF), where a 2.33 petaflop system is openly available to the scientific community, and also at Lawrence Berkeley National Laboratory / NERSC, Argonne National Laboratory, and Lawrence Livermore National Laboratory. Last year, scientists at NCAR and the University of Wisconsin used Oak Ridge's OLCF to simulate abrupt climate change and shed new light on an enigmatic period of natural global warming in Earth's relatively recent history. The work was featured in the July 17, 2009 issue of the journal *Science* and provides valuable new data about the causes and effects of global climate change. The scientists used nearly a million processor hours in 2008 to run one-third of their simulation. With 4 million processor hours allocated for 2009-2011, they will complete the simulation, capturing climate from 14,000 years ago to the present and projecting it 200 years into the future.

The results of this research and other research like this are brought to the broader scientific communities through another ASCR program, the Scientific Discovery through Advanced Computing (SciDAC) program. SciDAC facilitates the transfer of basic research efforts into computational science applications through direct partnerships between ASCR-supported applied mathematicians and computer scientists. In the case of climate change, there is a growing demand for the development of tools that will help inform decision makers about the options for addressing and adapting to climate change.

With computation and simulation, scientists can model what is known about the Earth's systems, identify uncertainties of the models, and determine the observational data and experiments needed to further refine and improve the models.

I urge you to fund the Advanced Scientific Computing Research (ASCR) within the DOE Office of Science at the President's full FY 2011 budget request of $426.0 million. **ASCR provides critical processor capacity and computational tools like SciDAC that are essential to predictive climate change research at high resolutions and over large time scales.**

Workforce Development for Teachers and Scientists

The DOE Office of Science's education programs, like the Workforce Development for Teachers and Scientists (WDTS) Program, are also essential to strengthening our nation's resilience to modern challenges like climate change. DOE is taking a leadership role in educating and training the nation's science, technology, engineering, and mathematics (STEM) workforce and facilitating the development of the knowledge and expertise that will prepare us to address energy and environmental challenges.

WDTS aims to recruit and train a pipeline of highly skilled and diverse STEM workers to meet our nation's innovation and competitiveness challenges. To this end, WDTS sponsors workforce training and education programs, often based at DOE's national laboratories, that motivate students and educators to pursue careers that will contribute to both basic and applied science.

WDTS has also launched the DOE Office of Science Graduate Fellowship Program to support U.S. graduate students pursuing degrees in areas of basic science and engineering, for up to three years of study. The goal of the Fellowship is to encourage talented students to pursue research-focused graduate studies in physics, chemistry, biology, mathematics, computer science, engineering, and environmental science.

Programs like WDTS have produced tens of thousands of leading scientists, engineers, and technicians who have dedicated their careers to working on the great challenges of the day, including climate change, while pursuing answers to many of the most important scientific questions in physics, chemistry, biology, environmental and atmospheric science, and other areas of basic science. Their work will be critical to our nation's success in the 21st Century.

I urge you to fund the Workforce Development for Teachers and Scientists (WDTS) program within the DOE Office of Science at the President's full FY 2011 budget request of $35.6 million. **We must ensure that the next generation workforce is better prepared to address growing energy and environmental challenges.**

Renewable Energy R&D

Federal investment in the scientific research and technology development involved with renewable energy is one of the most important investments we can make in our nation's

future and our ability to build resilience to economic and environmental challenges. Renewable energy conveys numerous cross-cutting benefits to society, including reducing our dependence on foreign oil, transforming the clean energy economy, decentralizing the energy market, providing new high-tech jobs, reducing the human toll on the environment, and mitigating global climate change.

Our national research universities, along with DOE laboratories and an emerging private sector, are driving the country's growth in renewable energy and increasing the efficiency of new technologies. One example of such collaboration includes an NCAR partnership with DOE's National Renewable Energy Laboratory (NREL) and the regional utility company, Xcel Energy, to develop sophisticated wind forecasts for operational use. These provide critical information to select the most productive locations for new wind turbine farms, better integrate wind-generated electricity into the power grid, and make critical decisions about powering down traditional coal- and natural gas-fired plants when sufficient winds are predicted.

Given the critical importance to the nation of developing economically and environmentally sustainable technologies for producing energy, I recommend that the Subcommittee fully fund the President's FY 2011 budget request for the Office of Energy Efficiency and Renewable Energy at $2.355 billion.

RE-ENERGYSE (Regaining our Energy Science and Engineering Edge)
Within the Office of Energy Efficiency and Renewable Energy (EERE), RE-ENERGYSE is a broad educational effort designed to inspire students and workers to study and pursue careers in science, engineering, and entrepreneurship related to clean energy. Today at U.S. universities, opportunities to pursue clean energy education are far and few in between. RE-ENERGYSE will help universities and community colleges develop cutting edge programs, with redesigned and new curricula to produce tens of thousands of highly skilled U.S. workers who can sustain American excellence in clean energy in industry, trades, academia, the federal government, and national laboratories.

RE-ENERGYSE will also benefit from plans to partner with the National Science Foundation for program evaluation. This partnership will build on the scientific and engineering expertise of both agencies in the energy field and benefit from NSF's successful track record of integrating research with education in programs it has developed and administered over the past two decades.

I urge the Subcommittee to fund RE-ENERGYSE at the President's FY 2011 request of $50.0 million.

I want to thank the Members of the Subcommittee for their continued leadership in supporting basic and cutting-edge scientific research and in promoting education and workforce development in the environmental and other Earth sciences.

Friday, March 19, 2010

To: House Committee on Appropriations Subcommittee on Energy and Water Development

From: Cynthia Ramseur, Ocean Springs, Mississippi
Member of Gulf Coast Conservation Coalition and Gulf Restoration Network

Re: Request to honor the president's budget which does not include funding for the Department of Energy's proposed Richton Salt Dome Strategic Petroleum Reserve

Summary of my testimony:
As I understand it, the house subcommittee is receiving comments through today regarding the energy budget. I am pleased to learn that the President's proposed budget does not include funds for studies, investigations or land acquisitions for the DOE's proposed Richton Salt Dome Strategic Petroleum Reserve.

I am writing to ask that you uphold the President's budget request regarding the proposed SPR at Richton; I ask that you disallow any last-minute requests to add a budget line item for any further investigations at Richton. If I understand correctly over 80 million dollars have been spent to date on investigations and studies regarding the DOE's proposal. I do not want the federal government to continue "throwing good money after bad money".

Full testimony:
I am one of 400 plus people who stood up in a public hearing on April 10, 2008 in Pascagoula, Mississippi and opposed the development of a strategic petroleum reserve at Richton, Mississippi. Since that time, the coalition of individuals and organizations opposing the project has grown – yet we can not get consistent information about the DOE's continued interest in the proposed Richton SPR or information about the status of the NEPA process.

Richton Project Timeline

- At the April 2008 public hearing DOE announced plans for the Richton Strategic Petroleum Reserve 3 days after Hurricane Katrina (Aug '05)
- DOE held public hearings for the project in Jackson during the 3-month period after Katrina
- DOE presented the plan to Congress in June 2007
- DOE released EIS in fall of 2007 with construction to begin in January 2008
- At the urging of local concerned citizens, Congressman Gene Taylor obtained a pause and public hearings were held in April 2008
- Supplemental EIS was to be released in June 2008 but was delayed until August 2008
- Supplemental EIS scheduled for release in August was delayed again without notice of reschedule
- Current status ???

I am pleased to learn that funding for the Richton SPR is not included in the President's proposed budget; however, I am writing to ask that you continue to withhold funding for the

proposed SPR at Richton disallowing any requests to add in a line item at the last minute. If I understand correctly over 80 million dollars have been spent to date on investigations and studies regarding the DOE's proposal. I do not want the federal government to continue "throwing good money after bad money". The major problems identified in the initial Environmental Impact Statement remain: DOE failed to adequately examine the economic and environmental effects of the proposed project. If I understand correctly over 80 million dollars have been spent to date on investigations and studies regarding the DOE's proposal.

The proposed SPR expansion at Richton, MS was ill-conceived, ill-advised and technically flawed. The NEPA process was a waste of taxpayer money. Note: The facts and figures presented here were collected by a coalition of citizens and organizations led by Gulf Coast Conservation Coalition and Gulf Restoration Network; the information comes directly from the Department of Energy SPR web site at www.fossil.energy.gov/programs/reserves/.

The Richton SPR Expansion Site — an Environmental Disaster

This proposed project is seriously flawed on many levels and DOE has refused to honestly evaluate and disclose the dangers. Their publications and public statements have misrepresented the facts.

▪DOE plans to draw 50 million gallons of fresh water per day from the Pascagoula River Merrill, Mississippi every day for five to six years and pipe it to Richton to dissolve underground salt deposits. The loss of that water would be harm the fish, animals, and humans that depend on the river's abundant flow. The entire Pascagoula River basin would suffer as water levels drop and salt water from the Mississippi Sound moves further up the river.

▪The toxic salty waste would then be pumped one hundred miles across 56 bodies of fresh water to the Gulf of Mexico and dumped near the barrier islands. To understand the threat, dissolve eleven pounds of salt in a five-gallon bucket of fresh water. Keep stirring until you can dissolve no more salt. Now, dump that bucket of salt water onto your garden. Of course you wouldn't do this, but that is exactly what DOE wants to do to our coastal waters – ten million five-gallon buckets every day.

▪Communities on the coast depend on wells for their drinking water supplies. The underground aquifer that feeds our wells is replenished by surface water between the coast and Hattiesburg. How would the aquifer be affected by removing 50 million gallons of water from the Pascagoula River each day?

▪DOE predicts a minimum of 56 brine spills from one-hundred-mile Richton brine disposal pipeline. At the existing SPR sites DOE records list 227 spills in a twenty year period that released 64,014,000 gallons of toxic waste. The average spill was 282,000 gallons. Yet, DOE says that salt waste spills would not cause damage to the Pascagoula River and the adjoining woods and farmland.

▪In order to remove oxygen from the brine waste to protect the pipelines from rust, DOE would add 360 gallons of ammonium bisulfite each day. Ammonium bisulfite is listed as a hazardous chemical by the U.S. Occupational Safety and Hazard Administration. The U.S. Coast Guard classifies it as a marine pollutant. DOE plans to dump this toxic chemical into our coastal waters with the brine waste.

▪Currents, tides and ship traffic would allow brine waste into the Mississippi Sound, the largest

estuary on our coast. Remarkably, DOE did not consider tides or winds in the initial Environmental Impact Statement and we have yet to get information on the Supplemental EIS.

▪Our barrier island passes are key corridors for the larvae and post larvae of economically important fish and shellfish to move between the Gulf and Mississippi Sound. These fragile young organisms may not survive the "brine barrier" created by the salt waste. Local experts in marine life and the seafood industry are deeply alarmed. But DOE has not considered the problem. They have not contacted the Gulf Coast Research Laboratory (GCRL) or other local experts who volunteered their expertise when these and other problems were brought to DOE's attention during the public meetings in April 2008.

▪The Pascagoula River was listed this year as America's ninth most endangered river. The proposed water withdrawal would take place in critical habitat for endangered and threatened species.

To recap the environmental concerns, approximately eighty billion gallons of low oxygen, toxic, salt brine waste (roughly ten times the average salinity of the Gulf waters) would be dumped into the Gulf, only four miles south of Horn Island Pass and directly in line with the Pascagoula Ship Channel. The loss of fresh river water would threaten our drinking water supplies and harm the river system. The pipeline would leak brine into the Pascagoula River and the woods and farmland. The salt waste would create a dead zone in our coastal waters and degrade fisheries, destroy critical habitat, and pollute important waters necessary for the growth of juvenile fish and shellfish.

The Richton Salt Dome SPR – an Economic Boondoggle

▪Currently, the existing SPR sites are 92% full. Oil from the SPR has been used only twice during its twenty-year history:

- ▪After Hurricane Katrina shut down 25% of the domestic supply of petroleum, the U.S. used only 1.5% of the SPR.
- ▪During the first Gulf war only 2% of the SPR was used.

▪DOE says that the project would create only ten to twenty permanent jobs on the coast and only 100 in Richton after construction is completed. Degrading our river and Gulf ecosystems for such a small number of permanent jobs is a catastrophe and a disgrace. Worse, DOE failed to consider the loss of existing jobs. Apparently, DOE does not value our local industrial workers and fishermen. And what about the coast's growing tourism industry?

▪DOE says that the proposed tank farm site and deep water dock required by the project would create only ten to twenty new jobs while consuming up to 49 acres of prime industrial land in the Pascagoula Port. Current industrial uses of land in the port provide far more jobs per acre. A 49-acre site should produce more than 500 jobs. Do we want to lose 450 future jobs on the coast?

▪Private landowners who sell their property for the storage site in Richton and pipeline rights-of-way are the big beneficiaries of this expensive publicly funded project. There is very little public benefit. Even DOE acknowledges that their contractors would use "in-migrating" workers for this work instead of local Mississippi residents.

▪Based on the cost of oil at about $70/bbl, the Richton project would cost approximately eleven billion dollars for just 18 days worth of oil. There are far better ways for America to spend

eleven billion dollars. Instead of buying a hole in the ground, America should invest in increased efficiency and renewable energy systems that would give our children cleaner water, better jobs, and a more secure nation.

▪The withdrawal of 50 million gallons of water per day for five to six years from the Pascagoula River could jeopardize Jackson County's ability to supply cooling water to existing and future industries. As a recent example, look at the building moratoriums and economic disruptions in Georgia as a result of overuse of the Chattahoochee River.

The Richton SPR Expansion Site — another example of fat cats and Washington dumping on Mississippi

▪DOE announced the Richton SPR project three days after Katrina struck. Within four months after Katrina public hearings were completed in Jackson. No meetings were held on the coast. Virtually no one from the coast knew of the plan; most coast citizens were still concerned with immediate recovery needs.

▪DOE dodged and ignored public input. Rather than rely on the local experts at the Gulf Coast Research Laboratory, they hired a Washington contractor to conduct the entire evaluation of the project's effects on the coast. None of the project team has ever been on the Pascagoula River, the Mississippi or the Gulf of Mexico in Mississippi.

▪A citizen outcry in 2008 prompted public meetings finally won coast residents an opportunity to participate. More than 400 people attended, including businessmen, scientists, and fishermen. They detailed the proposed project's many problems, they offered a wealth of information, and volunteered their help. Now, a year later, DOE has released the supplemental study and still have not bothered to talk to GCRL and other local experts who know the river and the coastal waters.

Again, I urge the House Committee on Appropriations Subcommittee on Energy and Water Development to keep funding for the proposed Richton Salt Dome SPR out of the federal budget. These are tough economic times for everyone and we do not need our government to spend any more resources on DOE's proposed project. Thank you for your consideration.

Cynthia Ramseur
256 Lovers Lane
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a member of Gulf Coast Conservation Coalition and Gulf Restoration Network

ASME
TESTING THE STANDARD

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March 19, 2010

The Honorable Ed Pastor
Chairman
Subcommittee on Energy & Water Development
House Committee on Appropriations
2362-B Rayburn House Office Building
Washington, DC 20515-6020

Dear Chairman Pastor:

On behalf of the ASME Energy Committee, I am requesting the opportunity for ASME to once again present testimony before your Subcommittee. Our Committee Chair would like to present our views and recommendations on the FY 2011 budget request for the Department of Energy.

ASME believes that it is important for the federal government to develop R&D investment strategies that will ensure the capability of our engineering infrastructure to address the formidable, but inevitable, challenges of an increasingly competitive global economy. We believe that Department of Energy programs must play an essential role in ensuring America's leadership in the global economy and in finding innovative solutions to our energy challenges. The engineering community, and in particular ASME International, seeks to contribute the expertise of its members to the political debates that will make this possible.

Founded in 1880 as the American Society of Mechanical Engineers, today's ASME is a 127,000-member professional organization focused on technical, educational and research issues of the engineering and technology community. ASME conducts one of the world's largest technical publishing operations, holds numerous technical conferences worldwide, and offers hundreds of professional development courses each year. ASME sets internationally recognized industrial and manufacturing codes and standards that enhance public safety.

We appreciate your consideration of this request. Please contact ASME Government Relations Representative Robert Rains at Rainsr@asme.org or 202/785-7483 with logistical arrangements.

Sincerely,

Kathryn Holmes

Kathryn Holmes
Director, Government Relations

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Statement of the Energy Committee of ASME's Technical Communities on the Department of Energy Fiscal Year 2011 Budget Request

March 19, 2010

Mr. Chairman, Ranking Member, and Members of the Subcommittee:

The ASME Energy Committee is pleased to provide this testimony on the Fiscal Year 2011 (FY11) budget request for research and development (R&D) programs in the Department of Energy (DOE).

Introduction to ASME and the ASME Energy Committee

The 127,000-member ASME is a nonprofit, worldwide educational and technical Society. It conducts one of the world's largest technical publishing operations, holds more than 30 technical conferences and 200 professional development courses each year, and sets some 600 industrial and manufacturing standards, some of which have become *de facto* global technical standards. The Energy Committee of ASME's Technical Communities comprises 40 members from 17 Divisions of ASME, representing approximately 40,000 of ASME's members.

ASME has long advocated a balanced mix of energy supplies to meet the nation's energy needs, including advanced clean coal, petroleum, nuclear, natural gas, waste to energy, biomass, solar, wind and hydroelectric power. ASME also supports energy efficient building and transportation technologies, as well as transmission and distribution infrastructure sufficient to satisfy demand under reasonably foreseeable contingencies. Only such a portfolio will allow the U.S. to maintain its quality of life while addressing future environmental and security challenges. Sustained growth in the energy systems on which the U.S. depends will also require stability in licensing and permitting processes not only for power generating stations but also for transmission and transportation systems.

A forward-looking energy policy will require enhanced and sustained levels of funding for R&D, as well as government policies that encourage deployment and commercialization. While the Energy Committee supports much of the FY11 budget request, especially the increases in funding for fundamental scientific research. The Energy Committee also wishes to emphasize that a balanced approach to our energy needs is critical and that we remain concerned about the decrease in funding for fossil energy, which is essential to meeting our national energy needs now and in the future.

Critical Issues

The Energy Committee would like to point out some critical energy issues:

- Additional investment guarantees for construction of new electrical capacity, especially nuclear facilities, must be enacted in future legislation. These guarantees will enable lower financing costs for a variety of energy technologies and fuel sources that will be available for the American public. Extending these programs further into the future will

allow a reasoned rate of increase in construction and application of these technologies for electric generation. It is critical that non-biased, critical analysis of known potential energy/environmental/technical benefits and impacts drive allocation. These must consider capacity value (reliable contribution to load trends) of resources as well as capacity factor, and also losses from proximity or remoteness from load. These additions translate to much more efficient use of subsidy dollars.

- There is a critical shortage of trained personnel in the work force at all levels. This includes scientists and engineers who will conduct research, those who will operate and maintain the systems, as well as people in building trades that will be essential for the construction of our energy systems and in industry that will manufacture the components. "Regaining our ENERGY Science and Engineering Edge" or "RE-ENERGYSE," a program being conducted jointly by the DOE EERE and the National Science Foundation (NSF) and geared to young scientists and engineers, is a positive step toward addressing this chronic issue. We would like to see this program honored in Fiscal Year 2011.

Fossil Energy

The FY10 budget request of $760 million for fossil energy represents a $190 million decrease over the FY10 appropriation; a 20 percent decrease over the FY10 budget request. Fossil Energy Research and Development would be reduced by $85 million to $586 million; however, much of this is covered by stimulus funding in the near term. Funding for Natural Gas Technologies and for Unconventional Fossil Energy Technologies would be eliminated. The budget for the Strategic Petroleum Reserve would be suspended. The Energy Committee encourages funding for coal research programs and urges a restoration to at least the levels appropriated for FY10 in future years when the stimulus funding has been expended. The effective use of coal in today's environment demands an increase in efficiency and a decrease in release of environmentally harmful waste streams. Coal remains a critical resource for our nation and its economy; however, and we must continue to invest in technological advancements that will reduce emissions for this energy. The use of more efficient processes for coal combustion, such as advanced integrated gasification combined cycle (IGCC) technology, combined with carbon sequestration will allow the U.S. to utilize its coal resources in a more environmentally sound and cost effective manner. We encourage strong and consistent funding for these programs now and in future years.

Advanced Research Projects Agency-Energy (ARPA-E)

The Energy Committee supports the $300 million budget request for the Advanced Research Projects Agency-Energy (ARPA-E). This is a worthwhile endeavor for the DOE as we seek to accomplish technological breakthroughs in energy technology.

Nuclear Energy

The Energy Committee is pleased to see an overall increase in the DOE Nuclear Energy budget to $912 million in FY11, a $42 million increase over the FY 2010 appropriated amount. However, the Energy Committee is discouraged at the discontinuation of the Generation IV Nuclear Energy Systems program. The Energy Committee is curious to see how the proposed Reactor Concepts RD&D program distinguishes itself from the traditional R&D program under the Office of Nuclear Energy. Nuclear energy, as a low-carbon, non-greenhouse gas-emitting resource, is a critical component of a diverse U.S. power generation mix and should play a larger role in the nation's base power supply. Sustained increases in nuclear power research are justified by the imperative of reliable, low cost, low emissions electricity.

Before its cessation in the FY09 Omnibus Appropriations bill, the Global Nuclear Energy Partnership (GNEP) program was a vital means to enhancing the future of safe, reliable, nuclear power through the establishment of international centers for nuclear fuel cycle services for nations both large and small. Although no funding is provided for GNEP, the Advanced Fuel Cycle Initiative, now called Fuel Cycle R&D, would receive $201 million in funding in FY11, a $65 million increase. The ASME Energy Committee remains hopeful that the Administration, with the aid of Congress, will eventually reconsider the discontinuation of GNEP, which continues to exist as an international collaborative effort, but minus U.S. participation.

Energy Efficiency and Renewable Energy

The Office of Energy Efficiency and Renewable Energy (EERE) manages America's investment in research, development and deployment of DOE's diverse energy efficiency and renewable energy applied science portfolio. The FY11 request of $2.35 billion, $112 million above the FY10 appropriated amount, provides a broad and balanced set of approaches to address the urgent energy and environmental challenges currently facing our nation. Most of the key EERE programs, including Biomass, Solar, Wind, Geothermal, Building Technologies, Vehicle Technologies, and Industrial technologies, have received sizable increases in funding to support the growth of renewable energy. The Energy Committee encourages Congress to include waste-to-energy as an important component of the Country's Renewable Energy portfolio to provide it with the same benefits as energy from biomass.

The RE-ENERGYSE program is slated to receive $50 million as part of the FY11 request. Facing a deficit of engineers in the U.S., the Energy Committee believes that this could be an effective step towards replenishing our nation's workforce by encouraging young people to pursue science and engineering. Therefore, the Energy Committee strongly supports full funding for the RE-ENERGYSE program, something that did not receive funding for the FY10 appropriation.

The Energy Committee believes that the development of transportation fuel systems that are not petroleum based is a critical part of our future national energy policy. The FY11 budget for biomass and bio-refinery systems R&D is slated to receive no increase at $220 million for FY11, identical to the FY10 appropriated amount. It should be noted that this program did receive $777 million as part of the American Recovery and Reinvestment Act (P.L. 111-5). Therefore, the Energy Committee supports the current appropriation and encourages Congress to ensure that these research programs continue to receive adequate funding. We are also pleased to see the $325 million increase in the effort related to vehicle technologies emphasizing plug-in hybrid electric vehicles.

The integration of all cost effective electric generating technologies into the operation of the electricity distribution system is critical to economic operation of the national electric grid. The Energy Committee believes that R&D related to the integration of the electric grid and its control as a truly national system is imperative for the growth of effective and economic energy generation technologies and we encourage full funding for such research.

Science and Advanced Energy Research Programs

The Energy Committee is pleased by the increased request for the Office of Science (OS) which restores the funding trajectory mandated in the America Competes Act of 2007 (P.L. 109-69).

The FY11 budget proposal of $5.12 billion is an increase of $217 million over the FY10 appropriation. OS programs in high energy physics, fusion energy sciences, biological and environmental research, basic energy sciences, and advanced scientific computing, serve, in some small way, every student in the country. These funds support not only research at the DOE Laboratories, but also the work at a large number of universities and colleges. We believe that basic energy research will also improve U.S. energy security over the long term, through its support for R&D on cellulosic ethanol and other next-generation biofuels, advanced battery and energy storage systems, and fusion. The Energy Committee strongly supports the budget request for the Office of Science, as well as the proposed doubling track for the office by FY17.

Other DOE Programs

DOE is also very active in areas outside of R&D. The environmental remediation program that funds the decommissioning and decontamination of old DOE facilities is one such research area. The Energy Committee questions the advisability of flat funding for the Environmental Management program. The Yucca Mountain Waste Repository is a critical part of the environmental cleanup activity. Termination of this project will only extend and increase the final cost of the environmental management program. The energy committee does not support this backward step. The coming resurgence in the commercial nuclear arena is likely to deplete the trained professionals available for this program as engineers choose to move to the more stable commercial environment. Congress should appropriate the funds to ensure that this work is accomplished in an expeditious manner.

Conclusion

Members of the ASME Energy Committee consider the issues related to energy to be one of the most important issues facing our nation. The need for a strong and coherent energy policy is apparent. We applaud the Administration and Congress for their understanding of the important role that scientific and engineering breakthroughs will play in meeting our energy challenges. In order to promote such innovation, strong support for energy research will be necessary across a broad range of technology options. DOE research can play a critical role in allowing the U.S. to use our current resources more effectively and to create more advanced energy technologies.

Thank you for the opportunity to offer testimony regarding both the R&D and other parts of the proposed budget for the DOE. The ASME Energy Committee is pleased to respond to requests for additional information or perspectives on other aspects of our nation's energy programs.

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This statement represents the views of the Energy Committee of ASME's Technical Communities of Knowledge and Community and is not necessarily a position of ASME as a whole.

Testimony by Tom Sanders
President, American Nuclear Society
House Appropriations Subcommittee on Energy and Water Development
On the FY 2010 Energy and Water Development Appropriations Bill
March 19, 2010

Chairman Visclosky, Ranking Member Frelinghuysen, members of the Subcommittee, on behalf of the more than 10,000 members of the American Nuclear Society, I am pleased to provide testimony on FY 2011 appropriations for the U.S. Department of Energy and other relevant agencies under the Subcommittee's jurisdiction.

As you know, ANS represents a diverse cadre of nuclear professionals. As such, our members' opinions on nuclear issues are often wide-ranging, and perhaps sometimes different from the Subcommittee. However, the ANS truly appreciates the thoughtful and deliberate manner in which the Subcommittee approaches issues related to nuclear energy, science, and technology.

First and foremost, while we recognize that the subcommittee faces several competing pressures within its budget allocation, we believe it is extremely important that the **Office of Nuclear Energy be fully funded at the president's budget request level of $824 million for FY 2011**.

There is a growing bipartisan consensus in Congress that the US must significantly expand its nuclear energy generation capacity in order to address climate change in a tangible and effective manner. However, in order to accomplish this, the federal government must provide a stable and sufficient funding stream in order to support the necessary research, development, demonstration, and deployment activities required to accomplish the task.

We believe the president's budget request provides the right balance of financial support mechanisms for the construction of Generation III+ plants, and accelerated investment in R&D, licensing, activities for Generation IV nuclear systems, high temperature gas and liquid metal designs.

We believe it is especially important for the Subcommittee to fully fund DOE's activities related to the development and deployment of Small Modular Reactors (SMRs). SMRs have several unique attributes that make them especially worthy of federal support, including their ability to be installed in sequence, thereby increasing their affordability from a cash flow perspective, their suitability for power generation in rural and remote areas, and the tremendous potential to lower unit costs through economies of production. I believe DOE should place special emphasis on the development of export-oriented SMR designs that can meet the electricity generation needs of developing nations in a proliferation-resistant manner, while creating high paying manufacturing jobs in the U.S.

Second, **we urge the Subcommittee to adopt the account structure that the office of nuclear energy has proposed a 2011 budget request**. As you are well aware, previous

administrations have attempted to change the programmatic structure of the nuclear energy R&D accounts over the years, only to be rebuffed by Congress. The ANS is not normally taken a position in these disputes, as generally we are more interested in funding levels than account structure.

However, by proposing the creation of the Reactor Concepts Research Development and Demonstration, Fuel Cycle Research and Development, and Nuclear Energy Enabling Technologies accounts, the Office of Nuclear Energy offers a much more rationalized approach to organizing NE funding than the current account structure embodied in recent appropriations bills.

Third, **we urge the Subcommittee to support the continuation of the Integrated University Program. Specifically, we request that the Subcommittee to restore the full $15 million in funding for the Nuclear Regulatory Commission's portion of the IUP program**. While we are pleased that the current leadership of the DOE Office of Nuclear Energy has reaffirmed its commitment as the primary steward of university-based nuclear education programs, we believe it is critically important for NRC to continue its activities in this area. As you may recall, it was the House Energy and Water Subcommittee that originally precipitated the transfer in funding for universities from DOE to NRC several budget cycles ago. If these activities are funded at the $5 million level requested by the budget, several very important activities will be terminated, including support for younger faculty awards, and collaboration on curriculum between two-year and four-year institutions of higher learning.

Finally, **we urge the Subcommittee to provide such sums as may be necessary for the preservation of all scientific and technical documents related to the Yucca Mountain license application.** The ANS membership has been deeply disappointed that the administration has essentially chosen to value politics over sound science in withdrawing the license application. However, we recognize that a reversal of the administration's decision is simply not in the cards at this time. There may yet come a time where the federal government and the state of Nevada will agree to some role for Yucca Mountain as a repository. Therefore, prudence dictates that the technical fruits of nearly $10 billion worth of federal investment are preserved for the future.

In closing, we hope the Subcommittee will closely consider our testimony as it assembles its FY 2011 Energy and Water Development Appropriations Bill, and we stand ready and willing to provide additional technical assistance as needed.

Thank you.

Testimony for the Record

Marvin S. Fertel
President and Chief Executive Officer
Nuclear Energy Institute
Appropriations Subcommittee on Energy and Water Development
U.S. House of Representatives
March 19, 2010

The Nuclear Energy Institute[1] (NEI) supports Fiscal Year 2011 (FY11) funding for the following Department of Energy programs and the Nuclear Regulatory Commission:

- Innovative Technology Loan Guarantee Program Office—$38 million for administrative expenses and $36 billion in new loan guarantee authority for nuclear power projects
- Fuel Cycle Research and Development—$201 million
- Reactor Concepts Research, Development and Demonstration—$195 million
- Nuclear Energy Enabling Technologies—$99.3 million
- Integrated University Program—$45 million
- Advanced Test Reactor User Facility—$20 million
- Idaho Facilities Management—$177.5 million
- Radiological Facilities Management—$66.8 million
- Environmental cleanup at DOE sites—$6 billion
- Nuclear Regulatory Commission budget—$1 billion

NEI opposes the proposed $200 million annual tax on utilities to pay yet again for the decommissioning and decontamination fund at DOE uranium enrichment facilities.

America's nuclear energy facilities in 2009 continued a decade of exemplary performance. Nuclear energy continues to surpass all other electricity sources with an industry average capacity factor of 90.5 percent. This reliability enabled the nation's 104 reactors to produce approximately 800 billion kilowatt-hours of electricity—enough for about 80 million homes—at production costs lower than coal and natural gas-fired power plants. Nuclear power plants in 31 states generate more than 70 percent of the U.S. electricity that comes from carbon-free sources. NEI believes the budget proposed for DOE's Office of Nuclear Energy is indicative of the administration's belief that nuclear energy is essential to America's future electricity supply, energy security and greenhouse gas emission reduction goals.

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[1] The Nuclear Energy Institute is the industry's policy organization, whose broad mission is to foster the beneficial uses of nuclear technology in its many commercial forms. Its membership, more than 350 corporate members in 17 countries, includes every U.S. utility that operates a nuclear power plant as well as international utilities, plant designers, architect and engineering firms, uranium mining and milling companies, nuclear service providers, universities, manufacturers of radiopharmaceuticals, universities, labor unions and law firms.

Uranium Enrichment D&D Fund Tax Undue Burden on Utility Ratepayers

The Obama administration is seeking reinstatement of the uranium enrichment decontamination and decommissioning fund, with a proposed tax on electric utilities of $200 million a year through 2026. Electric utilities have already paid twice for decommissioning and decontamination at uranium enrichment plants that were originally operated by DOE—first as part of the price for uranium enrichment services from the facilities and again under provisions of the Energy Policy Act of 1992. Under the 1992 law, the tax on utilities was to end after 15 years or the collection of $2.25 billion, adjusted for inflation. The utilities paid this amount in full as specified by law. The president's FY2011 budget would impose the tax yet a third time for cleanup at these sites, which would be passed to electric utility customers, representing a new tax on all Americans. This proposal is unnecessary given the federal fund for this cleanup program has a balance of $4.6 billion. A proposal to reinstate the fund in the fiscal year 2010 budget was defeated by Congress.

Industry Supports $36 Billion for Innovative Technologies Loan Guarantee Program

The nuclear industry appreciates the support provided by the subcommittee for the DOE loan guarantee program for nuclear energy plants and uranium fuel cycle facilities. NEI urges the subcommittee to approve the administration's proposal to add $36 billion in loan volume for nuclear energy plants. The industry has demonstrated the need for this new authority: 10 nuclear power projects reportedly submitted Part II loan guarantee applications representing $93.2 billion in loan volume. Two uranium enrichment projects submitted applications seeking $4.8 billion, more than double the available amount.

The Innovative Technology Loan Guarantee Program created by the 2005 Energy Policy Act is essential for companies planning investments in the electricity infrastructure. Given the $1.5 trillion to $2 trillion capital investment required in the electric sector and the cost of new electric generating facilities, additional loan volume is required to support new nuclear energy facilities needed to meet a projected 23 percent increase in electricity demand by 2030. The loan guarantee program for nuclear energy is self-financing, with project sponsors responsible for underwriting the cost of providing the credit support to the federal government. Properly implemented, there will be no cost to the taxpayer. In fact, the program will likely generate revenues for the Treasury from fees and payments made by project sponsors. In addition, reducing the cost of capital will reduce project costs and lower electricity prices for all consumers. Southern Co. projects that its $3.4 billion share of the $8.3 billion loan guarantee for two reactors at the Vogtle plant in Georgia is expected to save consumers $15 million to $20 million in interest costs annually over the life of the loan.

NEI believes the loan guarantee program's credibility and integrity rest on demonstrable proof that the lender's interest is well-protected. For this reason, NEI supports the rigorous due diligence being conducted by the DOE loan guarantee program office. In addition to legal, financial and market analysis of proposed projects, DOE will employ an independent engineer,

consistent with commercial banking practice. The independent engineer will monitor construction progress and certify that construction is proceeding according to plan before authorizing each month's draw against the guaranteed loan.

The nuclear industry is confident that new nuclear generating capacity will be competitive and is not aware of any credible mainstream analysis that shows otherwise. In last year's National Academies' report, *America's Energy Future*, new nuclear capacity competes well against all other base load options in a carbon-constrained world. We see similar results in analyses by the Energy Information Administration, the Brattle Group, the Congressional Budget Office and the Massachusetts Institute of Technology.

The due diligence process conducted by DOE, together with the fact that new nuclear power plants will be competitive, should ensure that the probability of default -- and thus risk to the taxpayer – is extremely low. NEI also urges Congress to support DOE's request to fully cover the program's administrative costs in FY11, which will result in a net zero appropriation given offsetting collections from loan applicants for nuclear energy projects.

Ensuring Adequate Funding for the Nuclear Regulatory Commission, Integrated Used Fuel Management Program

The industry supports FY11 funding at the NRC's requested level. However, the industry recommends that NRC appropriately, and more expeditiously, resolve long-standing regulatory issues. The industry applauds the continued oversight of the NRC by Congress to help identify ways to prioritize agency actions. The agency should be more transparent in its budgeting to reveal planned staffing and resource needs by individual divisions. This would demonstrate to Congress, the public and the industry, which pays 90 percent of the NRC's budget, that the budget fairly reflects those activities that should be allocated toward licensee-specific charges rather than general license fees. NEI supports continuation of the Integrated University Program, which includes support for universities and community colleges.

The administration's decision to withdraw the construction license application for a federal repository at Yucca Mountain, Nev., is not a repudiation of the government's obligation under the Nuclear Waste Policy Act to dispose of used nuclear fuel from commercial reactors and defense applications. NEI believes it is imperative that:

1. the White House and Energy Secretary Steven Chu acknowledge DOE's statutory and contractual obligation to manage and dispose of commercial nuclear used fuel
2. termination of the Yucca Mountain project does not affect the Nuclear Regulatory Commission's pending revision to its "waste confidence" finding
3. project termination does not affect the contract between DOE and electric utilities for used fuel management because the contracts don't require disposal at Yucca Mountain or, in fact, refer to this project at all

NEI supports the work of the Blue Ribbon Commission on America's Nuclear Future, but strongly recommends that the NRC continue technical review of the Yucca Mountain license application to completion (with the adjudicatory proceeding held in abeyance) to inform the deliberations of the commission. The industry supports a three-part integrated used fuel management strategy that includes:

1. on-site storage at reactor sites and development of centralized used fuel storage at volunteer locations
2. research, development and demonstration of advanced recycling technology to reclaim at least a portion of the 90 percent of the energy that remains in the fuel after one use in a reactor and reduce the volume, heat and toxicity of byproducts placed in the repository
3. development of a permanent repository

NEI does not support the termination of the Yucca Mountain repository project. Any effort to shut down the site and remediate it is premature. Numerous state and local governments and the National Association of Regulatory Utility Commissioners are seeking admission to the NRC licensing proceeding to oppose DOE's withdrawal of the application. Several opponents also have brought suit to stop this action. The project should proceed and be funded so that the technical review of the license application is completed. If the NRC licensing proceeding for the project is terminated, it should be done in a manner that would permit it to be restarted. Project records, tests, samples, etc. should be preserved so that they can be used should the project be resumed.

If the Yucca Mountain project is terminated, consumer payments into the Federal Nuclear Waste Fund should be suspended for the period of time for which there is no waste management program against which to assess costs. Consumers should no longer contribute more than $750 million in annual payments into a fund that has a $22 billion surplus and earns annual interest in excess of $1 billion until there is a definitive used nuclear fuel program being implemented.

The nuclear industry consistently has supported research and development of the advanced fuel cycle technologies proposed in the Fuel Cycle Research and Development program ($201 million). NEI believes funding in FY11 will continue this important technology research and development program and will support private sector partnerships to achieve better definition of the program. However, DOE's plans (especially for delaying disposal decisions for several decades) should be brought into compliance with any recommendations of the blue ribbon commission that Congress ultimately accepts.

Development of Advanced Reactor Technologies

The Administration has proposed a number of new initiatives for the Office of Nuclear Energy for FY11. NEI is encouraged by DOE's development of a road map on milestones and annual funding requirements so that Congress and the public will support these new program initiatives.

NEI supports $195 million in government funding for the Reactor Concepts Research, Development and Deployment (Reactor Concepts RD&D) program in FY11. Within this program, $103 million in funding would be allocated for the Next Generation Nuclear Plant (NGNP) program. NGNP is a congressionally authorized program to develop, license and build an advanced high-temperature gas reactor. Westinghouse Electric Co. and General Atomics will begin work on next generation reactor designs after being awarded $40 million this month by the Department of Energy. This advanced reactor technology can displace the use of premium hydrocarbon fuels such as natural gas for producing process heat, thus enhancing U.S. energy security, stabilizing energy prices and improving the use of finite hydrocarbon resources. The two companies are in the first phase of the program, which entails research and development, conceptual design and development of licensing requirements and cost and schedule estimates. Based on the teams' analyses and information from its independent federal and nuclear energy advisory committees, DOE will decide whether the project should proceed to the second phase.

NEI also recommends $25.7 million in FY11 for the Light Water Reactor Sustainability program, focusing on materials science and materials performance in reactor operations; $38.8 million for the Small Modular Reactors program; and $21.8 million for the continuation of the Generation IV program on advanced reactor concepts. NEI supports $99.3 million for the new Nuclear Enabling Technologies program, including the Modeling and Simulation Hub. The hub focuses on materials science and improving reactor component manufacturing.

Maintain Funding for Work Force and Infrastructure

Congress in the last two years has approved $45 million for an Integrated University Program. The industry appreciates the strong support this subcommittee has provided for this program. NEI requests the committee maintain DOE and NRC funding for this program. This funding is helping to effectively educate technicians and professionals for careers in all sectors of nuclear science and technology. Additionally, NEI asks the subcommittee to support $5 million for the DOE Research Reactor Infrastructure program for new fuel and shipping containers, reactor instrumentation and upgrades, and used fuel services. Industry also supports providing $20 million for the Advanced Test Reactor (ATR) National Scientific User Facility at Idaho National Lab as part of the lab's $177.5 million facilities management budget in FY11. ATR funding is important for improving the capability of the facility to evaluate and improve nuclear fuel and materials behavior and performance for DOE, university and industry projects.

Legacy Management

Responsible management and cleanup of legacy sites and associated waste is a primary responsibility of DOE's Office of Environmental Management. NEI supports the FY11 budget request for $6 billion. In addition, industry recommends that efforts be focused both on footprint and risk reduction at legacy sites. Further, the industry recommends that that DOE continue to accelerate cleanup schedules, enabling communities to redevelop sites and saving taxpayer money in the long term.

The Confederated Tribes of the Colville Reservation

Written Testimony of the Honorable Michael O. Finley, Chairman
Confederated Tribes of the Colville Reservation

House Committee on Appropriations,
Subcommittee on Energy and Water Development

March 18, 2010

Greetings Chairman Visclosky, Ranking Member Frelinghuysen, and members of the Subcommittee. On behalf of the Confederated Tribes of the Colville Reservation ("Colville Tribes" or the "Tribe"), I thank you for this opportunity to provide testimony to the Subcommittee. My testimony focuses on issues related to the Columbia River Treaty, ("Treaty") a treaty between the United States and Canada that has a profound impact on the Columbia River and Indian tribes, like the Colville Tribes, that rely on the River for cultural, subsistence, and economic development purposes. As explained below, **the Colville Tribes recommends that the Subcommittee include report language that directs the Army Corps of Engineers and the Bonneville Power Administration to provide for direct tribal government participation in all phases of the 2014/2024 Columbia River Treaty Review.**

THE COLUMBIA RIVER TREATY

Implemented in 1964, the Treaty primarily addresses issues related to hydropower and flood control on the Columbia River. While the Treaty has no specified end date, it does allow either Canada or the United States the option to terminate most of the provisions of the Treaty on or after September 2024. Notice to terminate must be given in writing by either the United States or Canada by 2014. Unless the Treaty is terminated or the U.S. and Canada agree to modify it, its provisions will continue indefinitely except for certain provisions included in the Treaty relating to flood control.

The U.S. Army Corps of Engineers and the Bonneville Power Administration ("BPA") are the federal entities that implement the Treaty in the United States. Both the Corps and BPA are conducting a multi-year effort to identify and understand the implications on terminating, modifying, or leaving the Treaty unchanged before the 2014 deadline. This effort is called the "2014/2024 Columbia River Treaty Review." The tribes understand that the review process currently involves the U.S. and Canada working to identify the universe of issues that will be implicated if the Treaty is not renewed. Indian tribes are not directly involved in the 2014/2024 Columbia River Treaty Review process at this time. Rather, BPA and the Corps provide the tribes with periodic updates of the review process.

THE COLVILLE TRIBES AND ITS INTEREST IN THE TREATY

Although now considered a single Indian tribe, the Confederated Tribes of the Colville Reservation is, as the name states, a confederation of twelve smaller aboriginal tribes and bands from all across eastern Washington State. The Colville Reservation encompasses approximately 1.4 million acres and is located in north central Washington State. The Colville Tribe has more than 9,300 enrolled members, making it one of the largest Indian tribes in the Pacific Northwest. About half of the Tribe's members live on or near the Colville Reservation.

The Colville Reservation is bordered on the east and the south by the Columbia River and on the west by the Okanogan River. The Grand Coulee Dam, the largest dam on the Columbia River system and the largest power plant in the United States, is situated on the Colville Reservation. Pursuant to a congressionally ratified settlement, the Colville Tribes receives annual payments from the BPA as compensation for the past and future use of the Colville Reservation in connection with the power generated by the Dam. In addition, pursuant to a settlement with the Douglas County PUD, the Colville Tribes also receives a share of hydropower revenue from Wells Dam, another dam on the Columbia River.

The Colville Tribes also has a number of ongoing and planned initiatives for the Columbia River related to the restoration of threatened and endangered fish, many of which are included in the 2008 Columbia Basin Fish Accords. The Columbia Basin Fish Accords are an unprecedented set of agreements between the Corps, BPA, and the Bureau of Reclamation and four Indian tribes (including the Colville Tribes) that are intended to settle longstanding differences between the parties and provide the tribes resources for restoration activities.

Against this backdrop, the Colville Tribes' interests in the fate of the Columbia River Treaty are direct and undeniable. Not only might the Tribes' share of hydropower revenues be directly impacted by the termination or modification of the Treaty, the cultural and subsistence interests of the Tribes and its members might also be implicated.

RECOMMENDATIONS FOR FY 2011

Colville Tribes has a productive working relationship with both the Corps and the BPA, as evidenced by the 2008 Fish Accords. The Colville Tribes has grave concerns, however, that if it and similarly situated Indian tribes are not directly involved in all phases of the 2014/2024 Columbia River Treaty Review, issues important to the Tribes will go unidentified and will not be considered. The Colville Tribes understands that the intent of the current phase of the 2014/2024 Columbia River Treaty Review is to identify the scope of issues that might be implicated if the Treaty is terminated. It is imperative that Indian tribes, especially those with such a direct interest in the Columbia River like the Colville Tribes, be at the table during this critical review phase. Although the Colville Tribes appreciates the periodic updates it receives from BPA and the Corps and appreciates its positive relations with those entities, these updates are no substitute for active participation in the review process.

Accordingly, the Colville Tribes hopes that the Committee will include the following language at the appropriate place in the report accompanying the FY 2011 bill:

> **The Committee directs the Army Corps of Engineers and the Bonneville Power Administration to provide for direct tribal government participation in all phases of the 2014/2024 Columbia River Treaty Review.**

Thank you for the opportunity to provide this testimony. If the Committee has any questions or would like additional information, please feel free to contact me at (509) 634-2208 or via e-mail at Michael.finley@colvilletribes.com.

The Western Coalition of Arid States
W E S T C A S

Testimony Submitted by
The Western Coalition of Arid States
Before the House Appropriations Subcommittee on
Energy and Water Appropriations
March 19, 2010

The Western Coalition of Arid States [WESTCAS] is a grassroots organization dedicated to encouraging the development of water programs and regulations which assure adequate supplies of high quality water for those living in the arid regions and doing so in a manner which protects the environment. WESTCAS has current members in the following states: Arizona, California, Colorado, New Mexico, Nevada, and Texas. We thank you for the opportunity to provide written testimony concerning the Administration's FY11 funding requests for the Bureau of Reclamation, particularly the WaterSmart program, and also the Army Corps of Engineers General Investigation and also its Construction Grants accounts. Specifically we wish to comment on the Bureau of Reclamation's $72.9 million FY11 request for its WaterSmart program, including the $29.0 million request for Title 16 and $6 million for Basin studies. We also wish to comment on the $1.69 billion requested for the Corps of Engineers Construction Grants program and the $1.69 million for the Corps' General Investigations program.

The arid West is fastest growing region in the country, but is also characterized by prolonged drought. In addition to the demands of this growing population, local governments must also meet increasingly strict environmental mandates that further decrease the available water supply. WESTCAS is fully committed to working as a partner with the Congress and Federal agencies as we all strive to fulfill our responsibilities. It is essential that funding for these endeavors continue to be made available as we work towards creating a sustainable water supply for the Arid West.

As an agency that is focused specifically on the Arid West, the Bureau of Reclamation and its programs are of particular interest and concern to WESTCAS members. We have been frustrated over the past several years as the backlog of worthy projects, particularly those involving Title 16 water reuse funding, has grown to an estimated $630 million. With little Administration budgetary support for Title 16 over the years this backlog

The Western Coalition of Arid States
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seemed destined only to grow. But we have been encouraged by recent developments including the $135 million in ARRA funding which has reduced this backlog by nearly 25% in little more than a year. We are further encouraged that the Bureau of Reclamation seems to be actively moving towards not only focusing on how best to establish criteria for completing existing projects and funding new ones but is also providing an important source of new funding in its FY11 budget proposal to this Committee.

WESTCAS will be participating in the public comment period that has been announced by the Bureau that will allow stakeholders to provide their own local input and perspectives into these news guidelines. We also strongly support the FY11 funding request by the Bureau for $72.0 million for its WaterSmart initiative in the West. This includes in particular the $9.0 million portion of the WaterSmart program that will be used to continue, and hopefully complete, existing Title 16 projects and the $20.0 million that has been set aside to fund new Title 16 projects. When added to the $135 million in ARRA Title 16 funding, the FY11 request will reduce the Title 16 backlog of $630 million by over 25%. This represents tremendous progress in addressing the need for local/federal innovative partnerships which will help us to stretch our water supplies and make the best possible use of limited resources. At a time when the challenge of meeting future Federal entitlement responsibilities seems almost impossible, it is reassuring that such important steps have been taken towards addressing the need for more water reuse in the West.

In addition to Title 16, WESTCAS also supports the $6.0 million in the WaterSmart funding request that has been set aside for Basin studies. This money will be matched dollar for dollar by states and local water agencies and will create the knowledge base to allow us to make regional decisions based upon the best available science. It is now recognized that water issues are part of a much larger and more complex mixture that must address sustainability, the protection of the environment and endangered species and ". At first glance the $6 million requested in FY11 for Basin Studies would appear to be a very minor part of the budget process. But this is in fact a good example of how a mighty tree can grow from a very small seed. Enthusiasm for this program is very strong both within the Bureau of Reclamation itself but also within the Western water community. We not only strongly support this funding request but we also encourage the Committee to consider adding at least $2 million which would allow at least one additional basin study to be launched during FY11.

The Bureau of Reclamation FY11 funding request represents a very small step in what we hope will be a process that will lead to greater funding support for local/Federal partnerships. The Arid West as a region cannot enjoy continued prosperity in the 21st century unless it can address the challenge of establishing a sustainable water supply. Funding requests such as the FY11 WaterSmart program are a very small but important beginning towards helping WESTCAS

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members meet this challenge. We complement the Bureau on its leadership with regard to WaterSmart and urge your approval of its funding request.

The other issue we wish to discuss in this testimony is the Corps of Engineers Construction Grants and General Investigations account. WESTCAS was very disappointed with the Administration requesting a cut of over $350 million in the Corps' Construction grants account. The $2.031 billion provided in your FY10 bill was, as you note in your accompanying Committee report, inadequate to fund the core mission of the Corps, including flood control, navigation, and environmental restoration, and would certainly not adequately address additional Congressional priorities in support of environmental infrastructure. This last element is particularly important to WESTCAS members because in the past it has been an important tool for creating partnerships that have built much needed infrastructure in our communities.

As you know, Corps construction funding is only possible after the local sponsors have gone through a difficult, multi-year process including authorization through the Water Resources Development Act, years of studies, and years of funding from this Committee, providing for the Federal portion of these studies. It is bad policy for local sponsors to complete this process successfully, only to find that the Federal resources will not be available to complete the mission. We urge the Committee to, at a minimum restore the FY11 Corps Construction grants account to at least its FY10 funding level and to consider providing additional funding if at all possible.

We were also very disappointed that requested funding for Corps General Investigations was reduced from $169 million in FY10 to $104 million. The General Investigations program is the very basis for the Corps to work in an organized fashion with local sponsors and determine first if a project is feasible from both an engineering and financial standpoint, and second if it can meet standards for protecting the environment. To propose cutting the funds for such a crucial national effort, particularly when they represent only a tiny portion of what is needed, appears short-sighted. WESTCAS urges the Committee to at a bare minimum to restore FY11 Corps General Investigation funding back to its FY10 level and to strongly consider increasing this amount as much as possible.

The FY11 budget was particularly disappointing because it came after a year when the Committee's $2 billion in FY10 construction grants funding and $170 million in General Investigations fund was further enhanced by an additional $2 billion in ARRA funding, including the Congressional set aside of $200 million of these ARRA funds for environmental infrastructure. When added to the FY10 funding over $4 billion was available for the nation's needs.

This small, but important step in meeting the huge backlog for infrastructure appears to have been reversed with the Administration's FY11 funding requests for the Corps. We ask that the

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W E S T C A S

Committee continue with the leadership and vision which you have shown in the past by restoring, at a bare minimum, the Corps Construction Gants and General Investigation accounts to their FY10 funding levels.

In summation, the only way our nation can meet its major challenges is to promote cooperation and vision among all parties. The programs which we have addressed in this testimony are a proven path for bringing local, State, and Federal interests together in support of solving long-range problems. When compared with other budgetary needs of our nation, the programs of the Bureau of Reclamation and the Corps are small, but represent important steps in ensuring sustainable water supplies for the Arid West. This funding is a good investment to create projects and policies of lasting benefit to the United States. We thank you again for the opportunity to provide our perspective on the issues before your Committee. WESTCAS can also be counted on as a resource to the Congress should you have any questions concerning water issues in the West.

The Voice of Water Quality in the Arid West
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Testimony of
Mark Lively, Ph.D., President
Federation of American Societies for Experimental Biology

On
FY 2011 Appropriations for the Department of Energy Office of Science

Submitted to the
House Committee on Appropriations
Subcommittee on Energy and Water Development
Congressman Peter J. Visclosky, Chair
Congressman Rodney P. Frelinghuysen, Ranking Member

March 19, 2010

On behalf of the **Federation of American Societies for Experimental Biology (FASEB), I respectfully request an appropriation of $5.24 billion for the Department of Energy, Office of Science in FY 2011.** This figure is in keeping with President Obama's vision for doubling the DOE SC budget. Further, it will enable the Office of Science to continue supporting essential research programs that enhance human health and quality of life, invigorate the economy, bring the nation closer to energy independence, and drive scientific innovation.

FASEB is composed of 23 societies representing more than 90,000 members, making it the largest coalition of biomedical research associations in the United States. Our mission is to improve human health and welfare by promoting progress and education in biological and biomedical sciences.

The Office of Science is dedicated to investing in "the most exciting and daring research that human kind has ever conceived." The programs and facilities of the DOE SC enable important discoveries in computational sciences, environmental and biological sciences, and energy sciences. For example, DOE scientists are developing tools such as hollow glass microspheres, tiny glass capsules that are half the width of a human hair, which have applications ranging from targeted drug delivery to hydrogen storage for batteries. Additionally, work at the DOE national laboratories is increasing the capabilities of supercomputers, allowing for more efficient access to data and faster processing speeds. This and other research funded by the DOE SC drives cutting-edge science and technological innovations that ensure our nation's safety, bolster our nation's economy, and improve the day-to-day lives of the American people.

More than 25,000 researchers from various government agencies, academic institutions, and private industry use the DOE SC's state-of-the-art laboratories and research facilities every year. The national laboratory system is the most advanced of its kind and permits the agency to support vital research in a variety of fields, as well as interdisciplinary research that extends the basic research of many other federal agencies. In fact, much of the research funded by non-DOE science agencies would not be possible without the DOE's dedicated research infrastructure. At the Brookhaven National Laboratory the synchrotron particle accelerator, with its ability to produce intense light at a variety of wavelengths, is being used by medical scientists from the

National Institutes of Health. In research funded by the National Institute of General Medical Sciences, X-rays from the synchrotron are being used to study the structure of proteins involved in Alzheimer's disease. The Office of Science also provides support to many graduate students and early-career postdoctoral researchers. Almost half of the DOE SC's research funding supports projects at over 300 academic institutions nationwide.

Discoveries that Improve Health and Well-Being

DOE-supported scientists are making remarkable contributions to human health.

• **Restoring Sight to Patients with Vision Loss:** In conjunction with the National Science Foundation and the National Eye Institute, the DOE Office of Science helped to fund a team of ophthalmologists, engineers, and neuroscientists to create the first ever artificial retina. The groundwork for this development was laid by more than a century's worth of basic research into the structure and function of the eye. By drawing on the work of anatomists, biochemists, electrophysiologists and others, scientists were able to create a device delicate enough not to damage the eye yet complex enough to provide visual input to the human brain. The resulting artificial retina has been shown to restore some level of sight to those who have lost vision due to retinal disease. By 2011, the research team expects to start clinical testing on a version that will allow reading and facial recognition. These studies are bringing new hope to patients who have gone decades without sight.

• **Improving Bone Regeneration:** Following a fracture, the process of bone proliferation and healing takes several weeks, even months. A research team funded by the DOE SC is currently developing safe, effective, and inexpensive implant materials to improve this process and shorten healing time. They have identified a growth factor known as lysophosphatidic acid (LPA) that promotes bone regeneration with no detectable toxicity. What's more, LPA can be manufactured at the fraction of the cost of the other bone healing stimulators that are currently available. The next step is for researchers to combine LPA with a hydrogel that, when injected around a damaged bone, will release the growth factor in a controlled manner. This research has the potential to significantly reduce recovery time for the eight million Americans who suffer bone fractures every year.

• **Mitigating the impact of low dose radiation:** The DOE Low Dose Radiation Research Program funds basic research to determine the effects of exposure to low doses of radiation. Researchers long ago established that ionizing radiation, which is present in a wide range of occupational settings, can lead to breast cancer by causing genetic mutations. Recent research DOE has funded, however, has revealed that exposure to ionizing radiation also acts as a carcinogen by affecting the cell proteins responsible for cell-to-cell communication and cellular structure. Thus exposure may result in breast or other types of cancer, even where genetic mutations are not detectible, and the damage can amplify by translating to subsequent generations of cells. Understanding the fundamental cell biology of radiation exposure paves the way for the development of treatments for and protections against low-dose radiation.

Cleaner and More Secure Energy Future

Discoveries in fundamental energy sciences funded by DOE SC are already changing the way we use energy and paving the way for the next generation of environmentally-friendly, sustainable energy sources. Specifically, the Department's newly-formed Advanced Research Projects Agency-Energy (ARPA-E) is working on technologies to meet our most pressing energy needs.

- **Hydrogen Technologies:** Hydrogen is one of the most abundant elements on the planet, making it an appealing clean energy alternative. However, almost all hydrogen is locked up in water and other compounds. Researchers at the Savannah River National Laboratory are working to advance the most promising method of extracting hydrogen from water – the Hybrid Sulfur Process. This two-step reaction is driven by electricity and heat, both of which can be generated by a nuclear reactor. This simple, efficient process is slated to be used in conjunction with next-generation nuclear plants and has the potential to produce enough hydrogen to power more than one million fuel cell cars.

- **Carbon Capture Technologies:** Natural systems use an enzyme known as carbonic anhydrase (CA) to convert carbon dioxide to bicarbonate, which can then be transported out of tissue. A program funded through ARPA-E is working to apply this process to make the use of fossil fuels less environmentally damaging. The program will develop membrane technology for separating carbon dioxide from flue gas streams, using synthetic forms of CA. The synthetic analogue was created to be more robust than naturally-occurring CA, and thus able to function in harsh environments. This membrane technology developed by the DOE SC is one of many ways currently being explored to increase the efficiency of and reduce the cost involved in carbon capture.

Recognizing the Importance of DOE Research

In 2007, the passage of the *America COMPETES Act* demonstrated Congress's commitment to U.S. science and technology. Now, Congress has the opportunity to reassert this commitment by both reauthorizing *America COMPETES* and supporting the goal of doubling the budgets of DOE SC, NSF and NIST. Funding DOE SC based on the plan outlined in the President's budget will allow DOE to greatly enhance its groundbreaking research portfolio and permit it to confront current and future energy and health challenges. **In keeping with this vision for doubling DOE SC budget, FASEB recommends an appropriation of $5.24 billion for the Department of Energy, Office of Science in FY 2011.**

American Society of Plant Biologists

Official Written Testimony for Fiscal Year 2011 Budget
Submitted to the Subcommittee on Energy and Water Development
Committee on Appropriations
United States House of Representatives
Washington, DC

Submitted by
Dr. Tuan-hua David Ho, President, American Society of Plant Biologists
and
Dr. Gary Stacey, Chair, Public Affairs Committee, American Society of Plant Biologists

March 19, 2010

On behalf of the American Society of Plant Biologists (ASPB), we submit this statement for the official record to support the requested level of $5.12 billion for the Department of Energy's Office of Science for Fiscal Year (FY) 2011. The testimony highlights the importance of biology, particularly plant biology, as the nation seeks to address vital issues including climate change and energy security. We would also like to thank the Subcommittee for its consideration of this testimony, for its strong support for the basic research mission of the Department of Energy's Office of Science, and for recognizing that funding for the Office of Science is an investment in America's future.

ASPB is an organization of more than 5,000 professional plant biologists, educators, graduate students, and postdoctoral scientists. A strong voice for the global plant science community, our mission – which is achieved through engagement in the research, education, and public policy realms – is to promote the growth and development of plant biology and plant biologists and to foster and communicate research in plant biology. The Society publishes the highly cited and respected journals *Plant Physiology* and *The Plant Cell*, and it has produced and supported a range of materials intended to demonstrate fundamental biological principles that can be easily and inexpensively taught in school and university classrooms by using plants.

Food, Fuel, Climate Change, and Health: Plant Biology Research and America's Future

Plants are vital to our very existence. They harvest sunlight, converting it to chemical energy for food and feed; they take up carbon dioxide and produce oxygen; and they are almost always the primary producers in the Earth's ecosystems. Indeed, plant biology research is making many fundamental contributions in the areas of fuel security and environmental stewardship; the

continued and sustainable development of better foods, fabrics, and building materials; and in the understanding of basic biological principles that underpin improvements in the health and nutrition of all Americans. To go further, plant biology research can help the nation both predict and prepare for the impacts of climate change on American agriculture, and it can make major contributions to our nation's efforts to combat global warming.

In particular, plant biology is at the center of numerous scientific breakthroughs in the increasingly interdisciplinary world of alternative energy research. For example, interfaces among plant biology, engineering, chemistry, and physics represent critical frontiers in both basic biofuels research and bioenergy production. Similarly, with the increase in plant genome sequencing and functional genomics, the interface of plant biology and computer science is essential to our understanding of complex biological systems ranging from single cells to entire ecosystems.

Despite the fact that plant biology research – the kind of research funded by the DOE – underpins so many vital practical considerations for our country, the amount invested in understanding the basic function and mechanisms of plants is relatively small when compared with the impact it has on multibillion dollar sectors of the economy like energy and agriculture.

Recommendations

ASPB is in an excellent position to articulate the nation's plant science priorities as they relate to bioenergy and, specifically, with regard to recommendations for bioenergy research funding through the Department of Energy's Office of Science. Our recommendations, in no particular order, are as follows:

1. We commend the DOE Office of Science, through their Divisions of Basic Energy Sciences (BES) and Biological and Environmental Research (BER) for funding the Bioenergy Research Centers (BER) and the Energy Frontier Research Centers (BES). Although these efforts are well designed and a significant step forward, these large centers will not have a monopoly on good ideas. Therefore, *ASPB strongly encourages the appropriation of additional funds for the DOE Office of Science that would be specifically targeted to the funding of individual or small group grants for bioenergy research.*

2. The DOE Office of Science is the primary funding agency for physical science research. Past experience teaches us that many major scientific and technical breakthroughs occur at the interface between traditional scientific disciplines. Indeed, the importance of disciplinary integration is a central theme of the recent National Research Council report "A New Biology for the 21st Century: Ensuring the United States Leads the Coming Biology Revolution." Therefore, *ASPB recommends appropriations that would specifically target the interface between plant biology and the physical sciences to encourage multidisciplinary and cross-disciplinary research that would address significant problems in bioenergy research.*

3. Photosynthetic research is one clear example of an interface between the physical sciences and biology. The DOE Office of Science has been the major source of funds for fundamental studies of photosynthesis, which is the primary source of chemical energy on the planet. After all, fossil fuels are just photosynthetic energy that was trapped eons ago and converted through natural processes into the forms in which we use it today. However, the current funding available for photosynthetic research is not commensurate with the central role that photosynthesis plays in energy capture and carbon sequestration. Hence, *ASPB calls for an increase in appropriations to the Office of Science to expand its research portfolio in the area of photosynthesis and carbon capture.*

4. There are significant questions that must be answered as to how climate change will impact food production and the environment. There are also clear opportunities to use biological systems to ameliorate climate change, such as through carbon sequestration or modification of plants to resist environmental stress. *Therefore, ASPB calls for additional funding focused on studies of the effect of climate change on agricultural cropping systems, basic studies of effects on plant growth and development, and targeted research focused on modification of plants to resist climate change and for use in carbon sequestration.*

5. Current estimates predict a significant shortfall in the needed scientific and engineering workforce in the energy area. *Given the expected need for additional scientists and engineers who are well-grounded in interdisciplinary research and development activities, ASPB applauds DOE's Early Career Research Program and calls for additional funding of specific programs (e.g., training grants) that are targeted to provide this needed workforce over the next 10 years and to adequately prepare them for careers in the interdisciplinary energy research of the future.* It should be noted that this recommendation is also directly in-line with the above mentioned "New Biology" report from the NRC.

6. Computational biology is a relatively new discipline that arose from the interface of computer science and biology. These new technologies and approaches provide the only means by which these large biological datasets can be integrated and mined for new, relevant biological knowledge. *Therefore, as discussed in item 2 above, ASPB calls for additional funding that would target this interface between biology and computer science. Specifically, we call for additional funding to develop computational platforms to develop a systems-level view of biology through the integration of data obtained from a variety of functional genomics approaches.* This is clearly a 'grand challenge' that is currently limiting the utility of this information. The above mentioned NRC report reinforces this point through the recommendation that "priority be given to the development of new information technologies." One means to address this need would be to expand the BER KnowledgeBase initiative that is now only a pilot program.

7. Considerable research interest is now being paid to the use of plant biomass for energy production. If biomass crops are to be used to their full potential, however, considerable effort must be expended to improve our understanding of their basic biology and development, as well as their agronomic performance. *Therefore, ASPB calls for*

additional funding that would be targeted to efforts to increase the utility and agronomic performance of bioenergy crops.

Thank you for your consideration of our testimony on behalf of the American Society of Plant Biologists. Please do not hesitate to contact the American Society of Plant Biologists if we can be of any assistance in the future.

Dr. Tuan-hua David Ho
President
American Society of Plant Biologists
Washington University, St. Louis, MO

Dr. Gary Stacey
Chair, Public Affairs Committee
American Society of Plant Biologists
The University of Missouri, Columbia

Testimony of

Dave Koland, General Manager
GARRISON DIVERSION CONSERVANCY DISTRICT
Carrington, North Dakota

Submitted to the

COMMITTEE ON APPROPRIATIONS
US HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON ENERGY & WATER DEVELOPMENT
Peter J. Visclosky, CHAIRMAN

March 19, 2010
(Submitted for the Record)

Mr. Chairman, Members of the Committee:

My name is Dave Koland; I serve as the general manager of the Garrison Diversion Conservancy District. This is a request for a $67.766 million appropriation for the Pick-Sloan Missouri Basin Program/Garrison Diversion Unit, Bureau of Reclamation, Water and Related Resources, Department of the Interior. The mission of Garrison Diversion is to provide a reliable, high quality and affordable water supply to the areas of need in North Dakota. Over 77% of our state residents live within the boundaries of the District.

The President's FY2011 budget request was inadequate in meeting the commitments the federal government has made to North Dakota. In return for accepting a permanent flood on 500,000 acres of prime North Dakota Missouri river bottom land, the federal government promised the state and tribes that they would be compensated as the dams were built. The dams were completed over 50 years ago and still we wait for the promised compensation.

The Municipal Rural & Industrial (MR&I) program was started in 1986 after the Garrison Diversion Unit (GDU) was reformulated from a million-acre irrigation project into a multipurpose project with emphasis on the development and delivery of municipal and rural water supplies. The statewide MR&I program has focused on providing grant funds for water systems that provide water service to previously unserved areas of the state. The state has followed a policy of developing a network of regional water systems throughout the state.

NORTH DAKOTA'S SUCCESS STORY

Rural water systems are being constructed using a unique blend of local expertise, state financing, rural development loans and MR&I grant funds to provide an affordable rate structure; and the expertise of the Bureau of Reclamation (BOR) to deal with design and environmental issues. The projects are successful because they are driven by a local need to solve a water quantity or quality problem. The solution to the local problem is devised by the community being affected by the problem. The early, local buy-in helps propel the project through the tortuous pre-construction stages.

The desperate need for clean, safe water is evidenced by the willingness of North Dakota's rural residents to pay water rates well above the rates EPA considers affordable. The EPA Economic Guidance Workbook states that rates greater than 1.5% of the median household income (MHI), 1.5% of $67,560=$84.45 in 2009, are not only unaffordable, but also "may be unreasonable".

The average monthly bill on a rural water system for 6,000 gallons of water is currently $60.62. The water rates in rural North Dakota would soar to astronomical levels without the 75% grant dollars provided by the MR&I program. For instance, current rates would have to average a truly unaffordable $242.48/month or a whopping 3.6%

of the MHI. Rates would have ranged as high as $341.60/month or a prohibitive 5.1% of MHI without the assistance of the MR&I program.

BUDGET IMPACTS ON GARRISON DIVERSION UNIT

Let me begin by reviewing the various elements within the current budget request and then discuss the impacts that the current level of funding will have on the program.

This year, Garrison Diversion Conservancy District is asking Congress to appropriate a total of $67.766 million for the GDU. Attachment 1 is a breakdown of the elements in Garrison Diversion's request. To discuss this in more detail, I must first explain that the GDU budget consists of several different program items. For ease of discussion, I would like to simplify the breakdown into two major categories. The first I would call the base operations portion of the budget request. This amount is nominally $15.5 million annually. However, as more Indian MR&I projects are completed, the operation and maintenance costs for these projects will increase and create a need that should be addressed.

The second category of the budget is the MR&I program. This consists of both Indian and non-Indian funding. The Dakota Water Resources Act of 2000 authorized an additional $200 million for each of these MR&I programs. It is our intent that each program reaches the conclusion of the funding authorization at the same time. We believe this is only fair and have worked with the North Dakota Tribes toward this goal.

The MR&I program consists of a number of projects that are independent of one another. They are generally over $50 million in total construction cost. Some are, of course, smaller and others somewhat larger; one that is considerably larger is the Northwest Area Water Supply Project (NAWS). The first phase of that project is under construction. The optimum construction schedule for completion of the first phase has been determined to be five years. The total cost of the first phase is $133 million. At a 75% cost share, the federal funding needed to support that project is $99 million. On the average, the annual funding needed for that project alone would be over $19 million. Several other projects including the Southwest Pipeline Project and the South Central Regional Water District have been approved for funding and numerous projects on the reservations are ready to begin construction. It will be a delicate challenge to balance the funding needs of these projects. Nevertheless, we believe that once a project is started, it needs to be pursued vigorously to completion. If it is not, we simply run the cost up and increase the risk of incompatibility among the working parts.

An example of the former would be the certain impact of the increased cost of construction over time through inflation but also by protracting the engineering and administration costs.

The Dakota Water Resources Act of 2000 authorized $200 million for the construction of facilities to meet the water quality and quantity needs of the Red River Valley

communities. Over 42% of North Dakota's citizens rely on the drought-prone Red River of the North as their primary or sole source of water. It is my belief that the final plans and authorizations should be expected in approximately two years. The only federal funding needed at this time will be for a biota treatment plant to comply with the Boundary Waters Treaty of 1909.

This major project, once started, should also be pursued vigorously to completion. The reasons are the same as for the NAWS project and relate to good engineering and construction management. Although difficult to predict at this time, it is reasonable to plan that the RRVWSP features, once started, should be completed in approximately four years.

Using these two projects as examples frames the argument for maintaining the current level of funding. There is a need to maintain the MR&I program to assure the timely completion of the NAWS project and then to accommodate the need for construction funds for the biota treatment plant when the RRVWSP pipeline construction is underway.

It is simply good management to blend these needs to avoid drastic hills and valleys in the budget requests. By continuing the construction of NAWS and other projects which are ready for construction now, some of the pressure will be off when the RRVWSP biota treatment plant funding is needed. A smoother, more efficient construction funding program over time will be the result.

The Bureau of Reclamation, Rural Development, Garrison Diversion Conservancy District, North Dakota State Water Commission and local rural water districts have formed a formidable alliance to deal with the lack of a high quality, reliable water source throughout much of North Dakota. This cost-effective partnership of local control, state-wide guidance and federal support has provided safe, clean, potable water to hundreds of communities and thousands of homes across North Dakota.

ATTACHMENT 1

Garrison Diversion Unit (GDU)
Justification for $67.766 million appropriation
FY 2011

North Dakota's Municipal, Rural and Industrial (MR&I) water supply program funds construction projects state-wide under the joint administration of the Garrison Diversion Conservancy District (GDCD) and the State Water Commission (SWC).

Northwest Area Water Supply Project (NAWS) is under construction after 19 years of study and diplomatic delay. Construction costs (federal) are estimated to be $88 million.

Indian MR&I programs on four reservations are also under construction. Tribal and state leaders have agreed to split the MR&I allocation on a 50/50 basis.

These projects are critical to bringing a safe reliable water supply to North Dakota communities. One project is the $68 million South Central Regional Water District system currently under construction in Emmons County.

OPERATION AND MAINTENANCE OF INDIAN MR&I SYSTEMS AND JAMESTOWN DAM **$ 5.896 million**
(Provides for the O&M of the Tribal water systems and the Jamestown Dam.)

BREAKDOWN OF $61.87 MILLION CONSTRUCTION REQUEST:

Operation and Maintenance of existing GDU system (Provides for the O&M of the Snake Creek pumping plant, McClusky and New Rockford Canals.)	**$ 5.472 million**
Wildlife Mitigation & Natural Resources Trust (Provides for O&M of Arrowwood, Audubon, Kraft Slough, Lonetree and Canalside Lands, and Natural Resources Trust.)	**$ 3.314 million**
Red River Valley Water Supply (Provides for the work on the RRVWSP.)	**$ 0.224 million**
Indian and non-Indian MR&I (Provides funding for the state and tribal MR&I programs. Funding is split 50/50 between the two programs.)	**$52.00 million**
Oakes Test Area and Miscellaneous (Provides for the O&M of the Oakes Test Area and Recreation Facilities.)	**$ .860 million**
Total for Construction	**$61.87 million**
Grand Total	**$67.766 million**

Testimony of the Izaak Walton League of America
Subcommittee on Energy and Water

March 19, 2010

Submitted by Scott Kovarovics, Conservation Director

The Izaak Walton League of America appreciates the opportunity to submit testimony concerning appropriations for fiscal year 2011 for programs under the jurisdiction of the Subcommittee. The League is a national, nonprofit organization founded in 1922. We have nearly 38,000 members and more than 260 local chapters nationwide. Our members are committed to advancing common sense policies that safeguard wildlife and habitat, support community-based conservation, and address pressing environmental issues. The following pertains to programs administered by the U.S. Army Corps of Engineers.

Corps of Engineers, Operations and Maintenance, Upper Mississippi River

The League is an active and long-time proponent of restoring the Upper Mississippi River (UMR) ecosystem. We have supported the Environmental Management Program (EMP) since its inception and continue to support this vital restoration program. We urge the Subcommittee to provide $33.2 million for EMP as authorized by the Water Resources Development Act (WRDA). Although we are encouraged by the president's request for FY 2011, pressing restoration needs on-the-ground require at least the full amount authorized for EMP.

The League has also strongly expressed its opinion that the large-scale navigation modifications included in the Recommended Plan for the Upper Mississippi Navigation and Ecosystem Sustainability Program (NESP), as authorized by the Water Resources Development Act of 2007, have not been justified by the Corps and should not be pursued. Previous reviews from the National Academy of Sciences and the Assistant Secretary of the Army, Civil Works found that the navigation construction component of NESP was not economically justifiable. A report released last month by the Nicolett Island Coalition, of which the League is a member, provides additional evidence that proposed locks and dams in this region are not a good investment for American taxpayers. With this in mind, the League supports the administration's decision not to request funding for NESP in FY 2011.

The League has strong roots in the Upper Mississippi River region. Protecting the basin has been a key issue for our members since we led the fight to create the Upper Mississippi River Fish and Wildlife Refuge in 1924. The League has spearheaded efforts to reform the lock and dam navigation system to ensure that flows and habitat remain as natural as possible. We also work to promote sustainable agriculture practices and implement farm conservation programs to reduce polluted runoff. Our testimony reflects many decades of experience on the Upper Mississippi River and our direct 15-year involvement with the Upper Mississippi River – Illinois Waterway (UMR-IWW) navigation study.

The Upper Mississippi River is one of the most complex ecosystems on earth. It provides habitat for 50 species of mammals, 45 species of reptiles and amphibians, 37 species of mussels, and 241 species of fish. The need for ecosystem restoration is unquestionable. As the Corps correctly stated in its study of navigation expansion, this ecosystem is "significantly altered, is currently degraded, and is expected to get worse." Researchers from the National Academy of Sciences have determined that river habitat is disappearing faster than it can be replaced through existing programs such as the Corps' Environmental Management Program, which was authorized at $33.2 million annually by Congress in 1999, but has never received full appropriations. As habitat vanishes, scientists warn that many species will decline and some will disappear.

Our nation relies on a healthy Mississippi River for commerce, recreation, drinking water, food supply and power. More than 12 million people annually recreate on and along the Upper Mississippi River spending $1.2 billion and supporting 18,000 jobs. More people recreate on the Upper Mississippi than visit Yellowstone National Park. Notably, barge traffic has remained static on the river for more than two decades with real declines in recent years.

In assembling the UMR-IWW navigation study, the Corps recognized the critical need for UMR ecosystem restoration work and encouraged Congress to invest approximately $130 million annually in Upper Mississippi River habitat restoration efforts. With this demonstrated need in mind, the League strongly encourages the Subcommittee to prioritize investment in ecosystem restoration by appropriating at least $33.2 million for the Environmental Management Program. Providing additional funding for restoration will provide near-term economic stimulus in communities along the UMR and long-term conservation and economic benefits for the region and the nation.

Corps of Engineers, Operations and Maintenance, Missouri River

The League joins the Missouri River Association of States and Tribes and other groups in urging the Subcommittee to appropriate $119 million in FY 2011 for the Missouri River Recovery Program. This request represents the total value of restoration projects that the Corps of Engineers and U.S. Fish and Wildlife Service (FWS) could actively implement next fiscal year. With this funding, the Corps, FWS, states, and other partners could accelerate ecosystem restoration efforts that are already producing long-term ecological and economic benefits.

The Missouri River basin encompasses land in 10 states and covers one-sixth of the continental United States. The Missouri, America's longest river, is one of the most altered ecosystems on earth. While recovery and restoration efforts have begun, much more needs to be done. League members, especially those in Iowa, Nebraska and South Dakota, want to see the recovery efforts continue and expand.

The Corps, FWS, and many state agencies have been working on restoring habitat for fish and wildlife species along the river. This work is critical for the Interior Least Tern and

Pallid Sturgeon, which are listed as endangered under the Endangered Species Act, and the Piping Plover, which is listed as threatened. Moreover, the positive impacts of restoration extend to virtually all fish and wildlife throughout the region.

A study conducted by the Fish and Wildlife Service near Lisbon Bottoms in Missouri showed that over twice as many fish species were utilizing the created shallow water habitat (SWH) areas compared with the section of the river with a dredged channel. A Corps' study has shown that the emergent sandbar habitat (ESH) projects have had tremendous response from nesting terns and plovers. These habitat restoration projects are working with the river -- not against it.

These projects have also been a boon for recreation along portions of the river. Anglers, hunters, boaters and others have been using some of these areas proving the old adage "if you build it, they will come." Although the majority of the population lives in the lower basin, most recreational spending is currently occurring in the upper basin because facilities and opportunities are more abundant. These developed habitat projects are bringing people back to the river in the lower Missouri basin.

In addition to boosting the economy through tourism, restoration projects provide near-term economic stimulus in small communities throughout the region. These projects involve restoring and creating habitat for terns, plovers and pallid sturgeon in the middle and lower basin. To perform this work, the Corps contracts with local construction companies, which creates or maintains jobs and inject dollars into local economies through purchases of materials, fuel, food and lodging. With the additional funding we request, the Corps could readily implement some of these important restoration projects.

The League encourages the Subcommittee to provide $119 million for recovery and restoration efforts along the Missouri River. Benchmarks have been set by the Biological Opinion establishing goals for habitat restoration. With adequate funding and a lot of hard work on the ground, we can meet these goals and restore critical segments of America's longest river.

We appreciate the opportunity to submit this testimony and look forward to working with the Subcommittee to strengthen the investment in ecosystem restoration and recovery along the Upper Mississippi and Missouri rivers.

Statement of the Coalition of Northeastern Governors
to the Committee on Appropriations
Subcommittee on Energy and Water Development
United States House of Representatives
Regarding FY2011 Appropriations
for the U.S. Department of Energy's
Weatherization Assistance Program, State Energy Program,
Building Technologies, Energy Information Administration,
Northeast Home Heating Oil Reserve, and the National Biomass Partnership
March 19, 2010

The Coalition of Northeastern Governors (CONEG) is pleased to provide this testimony to the House Committee on Appropriations Subcommittee on Energy and Water Development regarding FY2011 appropriations for the U.S. Department of Energy (DOE). The CONEG governors request funding for the following Energy Efficiency and Renewable Energy Programs: $300 million for the Weatherization Assistance Program and $30 million for the Innovation in Weatherization Program, at least $75 million in the base appropriations for the State Energy Program, and $230 million for the Building Technologies Program. In addition, the governors request at least $129 million for the Energy Information Administration, and sufficient funding for maintenance and operation of the Northeast Home Heating Oil Reserve. The governors support the President's request for increased funding of solar energy, wind energy and electricity reliability programs; and also urge the Committee to ensure that, through the U.S. Department of Energy, $7.5 million is provided to maintain the critical networks and market development work of the National Biomass Partnership (previously known as the Regional Biomass Energy Program).

The governors recognize the daunting fiscal challenges facing the Subcommittee this year, and thank you for your past support for these vital programs. Continued investment in these very successful energy programs is a crucial step toward achieving the nation's energy security, economic and environmental goals.

Weatherization Assistance and State Energy Programs

The nation's current economic situation has placed a new emphasis on the benefits of the Weatherization Assistance Program (WAP) and the State Energy Program (SEP). Working with all 50 States, the District of Columbia and U.S. Territories, these successful programs allow states to quickly and efficiently implement energy saving technologies and practices, creating green jobs and achieving real savings for families struggling with unaffordable home energy costs. The governors thank the Subcommittee for providing substantial funding for these crucial programs in the American Recovery and Reinvestment Act (ARRA). While there have been some challenges at the state and federal level in ramping-up these programs and meeting new ARRA program requirements, states and the federal government have worked together to find effective solutions. More than one-half of the SEP funds (over $1.8 billion) are committed, and spending of WAP funds is accelerating rapidly and on target to reach the goal of weatherizing

600,000 homes by March 2012. Continued base funding is needed in FY2011 to help sustain valuable green jobs and to realize and effectively assess the continuing energy and environmental benefits of these programs.

Weatherization Assistance Program: The CONEG governors request $300 million in FY2011 for the WAP, plus $30 million for continuation of the Innovation in Weatherization program. Weatherization is an immediate and effective tool to manage the energy use of low-income households. The need continues to be great. Forty-nine percent of these households are occupied by the elderly or disabled; and these households can spend as much as 20 percent of their annual income on home energy bills compared to just three percent by other households. Since its inception in 1976, WAP has weatherized more than 6.25 million low-income residences across the county. In addition to the stimulus funds, the program uses nearly $1 billion in federal, state, local, utility, and private funds to reach more than 150,000 homes each year.

Through a state-managed network of more than 900 local weatherization providers, WAP increases residential energy efficiency. The program, which provides specialized training and career development, creates a workforce trained in the most advanced assessment and installation techniques. Weatherization service providers perform comprehensive computerized energy audits of each home, and provide a package of efficiency measures tailored to the individual needs of each household.

Many of these weatherization measures include inexpensive, yet effective upgrades such as installing insulation; sealing ducts; and tuning and repairing heating and cooling systems. In addition, the program uses a "whole house" approach, incorporating advanced technologies to address comprehensive energy usage in low-income homes, as well as related health and safety improvements. DOE estimates that the program returns $1.67 in energy-related benefits for every $1 invested.

This successful public-private partnership creates considerable investments in local economies across the country; provides continued professional development for workers; and contributes to increased home values, and the health and safety of the nation's most vulnerable citizens. The program yields benefits that are far-reaching and long-lasting.

The goal of the complementary Innovation in Weatherization program is to demonstrate new ways to weatherize low-income homes while lowering the federal cost for residential energy retrofits. Through partnerships with organizations such as non-profits, labor unions, and private contractors, the program strives to obtain $3 in non-federal contributions for every $1 invested by DOE.

State Energy Program: The CONEG governors request at least $75 million in the base appropriations for the SEP in FY2011. Ensuring this base funding level is critical for the SEP to continue as the nation-wide cornerstone of the state-federal-private partnership for many energy efficiency and conservation programs. Especially for the smaller states, the base SEP program allows them to dramatically expand program delivery and leverage non-federal resources with federal funds. SEP is vital to achieving energy efficiency and conservation in energy end-use sectors such as buildings, industrial, agriculture, transportation, and power generation. The

program, which has a proven track record of effectiveness, assists states' initiatives that help realize national goals of greater energy efficiency; reduced energy costs; development of alternative and renewable energy resources; and reduced reliance on imported sources of energy. The SEP also helps states in their critical emergency preparedness activities, improving the security and reliability of energy infrastructure, and preparing for natural disasters.

SEP funding provides states with the flexibility to tailor their renewable energy and energy efficiency programs to maximize the effectiveness of the program's resources. The northeast states have used SEP funds to support projects to update emergency plans to anticipate and respond to potential shortages of electric power, natural gas and deliverable fuels. SEP funds have also been used by state agencies to assist in reducing energy use in commercial and institutional buildings, fleets, and equipment; perform small business energy audits; and provide public information and education to local residents, small businesses, farmers, and others to make them aware of opportunities to reduce energy consumption and energy bills.

The modest (non-ARRA) federal funds provided to the SEP are an efficient and effective federal investment, yielding substantial and extensive energy and economic benefits. States can ensure that the energy improvements are delivered, since most SEP work is undertaken through leveraged agreements and reimbursable contracts. According to the most recent Oak Ridge National Laboratory study, $1 in SEP funding yields: $7.22 in annual energy cost savings; $10.71 in leveraged funding; annual energy savings of 47,593,409 million source BTUs; and annual cost savings of more than $333 million. The environmental benefits are equally as impressive resulting in an annual reduction of carbon emissions of 826 million metric tons – the same amount produced by 582,000 automobiles in a single year.

Building Technologies

The CONEG governors request $230 million in FY2011 for the Building Technologies Program (BTP). The program has created unique and effective partnerships with states, industry, national laboratories, universities and manufacturers to improve the energy efficiency of new and existing buildings, and the equipment and systems within them.

According to the Department of Energy, buildings account for more than 70 percent of the electric energy consumed in the U.S. and are responsible for 38 percent of total U.S. carbon dioxide emissions. With roughly 15 million new buildings projected to be built by 2015, a tremendous opportunity exists for the development and deployment of energy efficient technologies and building practices. The potential environmental benefits and energy and cost savings are significant.

BTP develops and promotes deployment of technologies to make new and existing homes and buildings less energy intensive. One of the strategic goals of BTP is to create net zero energy buildings that, through a combination of on-site renewable energy and increased efficiency, can generate an equal or greater amount of energy than they consume from the grid. The program pursues this goal through complementary activities that include R&D; development and improvement of equipment standards and analysis; and introduction of new advanced technologies and the widespread use of highly efficient technologies already in the market.

BTP also collaborates with other DOE programs as well as partners of the highly successful ENERGY STAR program to increase awareness, availability and purchase of energy efficient appliances, lighting and windows. According to DOE, in 2006, ENERGY STAR saved 170 billion kilowatt hours – or almost 5 percent of the total 2006 electricity demand – and helped avoid greenhouse gas emissions equivalent to those from 25 million automobiles.

Energy Information Administration

The governors support FY2011 funding for the Energy Information Administration (EIA) at least at the level of $129 million. EIA is the nation's foremost source of reliable independent information, analyses and forecasts on the energy produced, imported and consumed in the United States. As Congress and the Administration continue to develop and debate critical energy and environmental strategies, EIA is increasingly and consistently called upon to provide unbiased, timely and reliable information. In addition, states rely on EIA data as the core of their information for energy emergency planning. New requirements included in the Energy Independence and Security Act of 2007, as well as the evaluation of an increasingly more complex and interdependent energy industry has created a vastly increased workload for EIA and the need for more rigorous data collection and analysis.

A modest increase in funding in FY2011 will help ensure that EIA can continue to provide the most accurate and reliable information on the energy markets and industry.

Northeast Home Heating Oil Reserve

The CONEG governors request sufficient FY2011 funding for maintenance and operation of the Northeast Home Heating Oil Reserve. The nation's heightened emphasis on energy reliability and security places renewed importance on the Reserve.

Almost 70 percent of the 7.7 million households heating primarily with home heating oil are in the Northeast, making the region particularly vulnerable to the effects of supply disruptions and price volatility. The northeast region is literally at the end of the energy product pipeline. Any disruption along the delivery infrastructure anywhere in the country negatively impacts the Northeast. The Reserve is strategically placed in ports along the northeast coast to respond rapidly and efficiently to any emergency supply interruption. The Reserve is designed to provide an emergency supplemental supply over a 10 day delivery period – the time required for ships to carry heating oil from the Gulf of Mexico to New York Harbor – in the event of a supply disruption or shortage in the Northeast. Adequate funding will ensure the Reserve is maintained in a high state of readiness and capable of completing an immediate drawdown if needed.

Renewable and Reliable Energy

Renewable, reliable energy contributes to the achievement of multiple regional and national goals, including lowering greenhouse gas emissions, increasing and diversifying domestic energy supply, creating new jobs, and enhancing the nation's energy security. A strong federal partner and consistent and sustained funding for solar energy, wind energy and electricity reliability

programs are essential. Therefore, the governors support the President's request for increased funding for these important programs.

The governors also request that the Committee ensure that, through the U.S. Department of Energy, $7.5 million is provided to maintain the critical networks and market development work of the National Biomass Partnership (previously known as the Regional Biomass Energy Program). The Partnership, a collaboration of five regional biomass energy programs created by Congress, is a critical link in the chain of research, resource production and technology commercialization that is essential to bringing bioenergy technologies successfully into the marketplace.

The states contribute significant resources to support the development of biomass fuels, technology, and infrastructure. The Partnership has demonstrated its ability to expedite deployment of the biomass fuels, technology, and infrastructure that is necessary to reach common goals of states and the federal government. In the Northeast alone, the Northeast Regional Biomass Program (NRBP) directly influenced $24 million in biomass investments – 69 percent of the overall biomass investment made in the region in 2003. Working with state, federal and private sector officials, the NRBP has provided bioenergy education and training to nearly 3,000 people in the region and contributed to state-developed bioenergy policies and programs. However, the absence of a strong federal partner threatens this state-private sector effort to better coordinate the institutional and physical infrastructure for deployment of sustainable biomass fuels and bioenergy technologies.

In conclusion, the Coalition of Northeastern Governors (CONEG) request that you provide $300 million for the Weatherization Assistance Program and $30 million for the Innovation in Weatherization Program, at least $75 million in the base appropriations for the State Energy Program, $230 million for the Building Technologies Program, at least $129 million for the Energy Information Administration, and $7.5 million for the work of the National Biomass Partnership. In addition, the governors support the President's request for increased funding of solar energy, wind energy and electricity reliability programs, and sufficient funding for maintenance and operation of the Northeast Home Heating Oil Reserve.

NUSCALE POWER

NP-LO-0310-023

Paul G. Lorenzini
Chief Executive Officer
NuScale Power, Inc.

March 19, 2010

The Honorable Byron Dorgan, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
US Senate
Washington, DC 20510

The Honorable Robert F. Bennett, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
US Senate
Washington, DC 20510

RE: Public Witness Testimony for the Record
Energy and Water Development Appropriations Subcommittee
$38.8 m for DOE Small Modular Reactors

Dear Mr. Chairman and Ranking Member:

On behalf of NuScale Power of Corvallis, Oregon we request that the Subcommittee approve the President's budget request of $38.8 million for small, modular reactors within the Office of Advanced Reactor Research Development and Demonstration. Our request is directed at both the research portion for advanced SMR's and especially the commercialization cost-share portion for up to two light water reactor SMR's designs.

It is also our request that language be included to clarify that government-industry cost-sharing include but not be limited to NRC fees and other related work activities leading to the submission of a Design Certification Document to the NRC. This later clarification is consistent with other previous government-industry cost shared programs. We would be happy to discuss ways to control the taxpayer's long-term financial commitment to such a program for SMR's.

The President has recognized the need for nuclear power as part of a comprehensive energy, environment and employment strategy for this country, including new financial incentives. The specific request for funding of small, modular reactors reflects the opportunity these new, innovative plant designs

offer to strengthen our ability to achieve those goals. Small, modular reactor technologies build on a rich history of American innovation and world class nuclear design and operations. In particular, they will expand the potential market for new nuclear plants by reaching smaller markets, and they would do so while minimizing the magnitude of the financial challenge posed by larger nuclear plant designs.

The NuScale design was originally developed by Oregon State University, working with Idaho National Laboratory and Nexant-Bechtel, as part of a Department of Energy funded research program and validates the effectiveness of such programs in bringing new technologies to the market. In addition to developing the design, this program funded the development of a one-third scale "test facility" at Oregon State University, uniquely positioning the NuScale technology for licensing. NuScale Power is a privately funded company which was formed in 2007 for the sole purpose of commercializing this design under a Technology Transfer Agreement with Oregon State University.

Much has been accomplished already in this ambitious undertaking:

- Some 30 highly-skilled engineers and contractors now work for NuScale and as many more work for the company under contract with U.S. companies. We expect to triple that number in the next 12-18 months.
- Two separate panels of independent experts have evaluated the safety of the NuScale plant and their conclusions have been confirmed by a Level 1 Probabilistic Risk Assessment. These results were presented to the NRC in September 2009 and showed NuScale has achieved a safety margin that is exponentially greater than the already large margins of existing nuclear power plants.
- In 2008, NuScale organized a Customer Advisory Board with senior executives representing five major utilities in the United States. In February of 2009, one of those companies, Energy Northwest, entered a Memorandum of Understanding with NuScale to explore the siting of a NuScale plant in their system.
- In a report prepared by the Electric Power Research Institute, NuScale was identified as the first small, modular reactor vendor to fully vet a Customer Requirements Document with its potential customers. In NRC parlance this means NuScale is already working with customers to make its plant "market ready."

All these efforts to date have been funded by private investments. Notwithstanding these encouraging developments, significant financial barriers remain before this technology can reach the market. The costs to prepare and

submit an application for design certification and the subsequent costs for NRC review can be daunting and pose financial challenges that are increasingly difficult in the current economic climate. Customers too are concerned about the incremental costs of first of a kind investment. We are encouraged that the independent Nuclear Regulatory Commission staff – with the support of all three newly appointed Commissioners – is preparing for the submission of new SMR designs in the coming years in order to conduct the proper public safety evaluation, design and operating licensing certification. But if America is to maintain its place in the global market, and if the full potential of this new technology is to impact the domestic market in support of the President's energy goals, the cost-sharing proposal in the current budget request would make a vital difference.

Yes, much has been accomplished. And yes, there is much work yet to be done. We ask for your support in these efforts.

Sincerely,

Paul G. Lorenzini
Chief Executive Officer

U.S. HOUSE- COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
DEPARTMENT OF ENERGY FY 2011 APPROPRIATIONS

STATEMENT OF JOE LEE, PRESIDENT
THE GROUND WATER PROTECTION COUNCIL

March 19, 2010

Honorable Chairman Visclosky and Members of the Sub-Committee:

The following request by the Ground Water Protection Council (GWPC) is for continued funding in FY 2011, of the US Dept of Energy's Oil Technologies- Effective Environmental Protection: Risked Based Data Management System (RBDMS). The request for FY 2011 is $1,200,000, which is the same amount as the 2010 budget and represents no increase.

The Risk Based Data Management System reduces barriers to data exchange between industry and state and federal agencies by offering easy-to-use web and desktop applications. The efficiencies derived from RBDMS and the GWPC's peer supported network can be measured by state agencies' consistent matching of Federal support for continued program development. Support for this program will allow states to make improvements to RBDMS to expand data tracking for well stimulations, expand RBDMS to monitor enhanced oil recovery projects, and to continue to automate permitting, environmental reporting, and data access. Additionally, funds will support automated transfer of industry data to state agencies, track national trends in oil and gas production, and develop a website to promote best management practices. RBDMS serves as the principle data system for over 20 state agencies.

2011 PROGRAM GOALS

FY 2011 Funding would provide states the opportunity to:

1. Expand RBDMS to track data from well stimulations including water quality, water quantity, chemicals used, and disposal of waste
2. Expand RBDMS to monitor enhanced oil recovery
3. Continue to automate permitting, environmental reporting, and data access
4. Automate the transfer of industry's laboratory data to agency servers to evaluate the effectiveness of oil and gas and other mineral extraction regulations in protecting water resources
5. Continue to track national trends in environmental compliance
6. Develop a Web site to promote oil and gas BMPs for pollution prevention

WHY SUPPORT RBDMS?

- With RBDMS, states and the public will be able to view a GIS map which provides data on the number of drilling operations that occurred near drinking water sources, wellhead protection areas, environmental details of those operations, and data on the chemicals used.

RBDMS reduces barriers to data exchange between industry and federal and state agencies by offering easy-to-use Web and desktop applications.

- With RBDMS electronic commerce applications, operators can obtain quicker approval of routine permits and increase their compliance with permit conditions so drilling programs can be managed with efficiency and environmental safety.

- The efficiencies derived from RBDMS and the GWPC's peer support network can be measured by state agencies' consistent matching of Federal support for continued program development. In 2009, state agencies contributed $1.5 million in direct match and in-kind support for RBDMS.

- Nationwide, much environmental compliance monitoring data is not yet in electronic format. We must share and validate data across agency jurisdictions and provide for public review so we can accurately assess trends in oil and gas, source water quality and supply, and the balance of these two resources.

- RBDMS is unlocking vast amounts of stored data for trend analyses and accurate interpretation of the environmental effects of fossil fuel and mineral extraction operations. Supporting the GWPC's RBDMS initiative will help give environmental managers working in both regulatory agencies and industry clear guidance for decisions to protect the country's source waters.

RBDMS ACCOMPLISHMENTS

Data utilities from the Risk Based Data Management System are installed and used in 25 states and one Indian Nation. The use of RBDMS streamlines state oil and gas permit and response times, enhances ground water protection, provides improved public and industry joint access to data and records, saves money for state and federal agencies, reduces paper reporting, and creates real time efficiencies in state and federal domestic oil and gas programs. Over the life of this successful program, the states have matched federal funding with their own funds at a 3:1 ratio. If state in-kind contributions are added, the state-to-federal participation ratio increases substantially. This has been, and continues to be, a sound investment of federal funds.

ABOUT THE GROUND WATER PROTECTION COUNCIL

GWPC is a respected national organization of state ground water, UIC, and oil and gas regulatory agencies with a successful track record of providing solutions to ground water protection related issues that are environmentally protective, scientifically based, cost effective and publicly accepted. We are the proud recipient of the Secretary of Energy's "Energy 100 Award"-given to the top 100 most successful and publicly beneficial projects (RBDMS) in the last 30 years of USDOE. We hope the Committee will continue to support these efforts in FY 2011.

We are grateful for your past support and would like to also request that the Committee continue to support the USDOE Office of Fossil Energy, and the National Energy Technology Lab (NETL). Without their national presence not only our successes, but those of many others would not have been accomplished. The programs they administer serve a valuable purpose and are important to the long term efficiency of the front line state and federal agencies and the small domestic operators who would not otherwise have been able to extend the life of domestic reservoirs and increase environmental and ground water protection at the same time.

Thank You

Joe Lee
President
Ground Water Protection Council

Testimony on the Fossil Energy R&D Program for Fiscal Year 2011

Submitted to

Subcommittee on Energy and Water Development Appropriations
The U.S. House of Representatives
Room 2362-B Rayburn House Office Building
Washington, DC 20515

by

Roe-Hoan Yoon, Director
Center for Advanced Separation Technologies
Virginia Polytechnic Institute and State University

March 19, 2010

Chairman Visclosky, Ranking Member Frelinghuysen, and Members of the Subcommittee, I represent the Center for Advanced Separation Technologies (CAST), a consortium of five universities with strong programs in coal mining and processing. I appreciate the opportunity to submit this testimony requesting that your committee add $3 million to the President's budget request for the 2011 Fuels Program, Fossil Energy Research and Development, U.S. Department of Energy, for *advanced separations research*. The Energy Policy Act of 2005, Title IX, Subtitle F, Sec. 962, mandates research on the development of advanced separation technologies. I am pleased to be joined by my colleagues from four other universities in this testimony:

Richard A. Bajura,	West Virginia University
Rick Q. Honaker,	University of Kentucky
Peter H. Knudsen,	Montana Tech of the University of Montana
Jan D. Miller,	University of Utah

The five states, Virginia, West Virginia, Kentucky, Montana, and Utah, as represented by this consortium, produced approximately $20 billion's worth of coal in 2008, which accounted for more than two-thirds of the total dollar values of coal produced in the U.S. the same year.

PROPOSED WORK AT THE CENTER FOR ADVANCED SEPARATION TECHNOLOGIES

The U.S. mining industry produced minerals and coal worth $102.4 billion in 2008. Some of the raw materials, including coal and uranium, were used to produce 70% of the electricity generated in the U.S. According to the 2008 Mineral Commodities Summary, the value-added mineral materials contributed $2.3 trillion to the nation's economy, which accounted for 16% of the GDP. Thus, the domestic mining industry is important to the U.S. economy. Yet, there are no federally funded R&D programs to develop new technologies for the U.S. mining industry.

Freshly mined coals contain mineral matter impurities which produce ash, SO_2, mercury, and other undesirable elements in power plants. Many of these impurities are removed at mine sites to reduce shipping costs, meet customer specifications, and comply with environmental regulations. The efficiency of cleaning coal is high for the coal particles that are large in size (*e.g.*, >0.15 mm). It is difficult, however, to clean finer coal particles. Therefore, many coal producers discard the fine coal to impoundments, creating serious environmental concerns for those living in the coal mining communities. According to a recent National Research Council (NRC) report, the U.S. coal industry discards annually 70-90 million tons of fine refuse to slurry impoundments. Assuming that 30-40 million tons of the refuse are recoverable coal, the dollar value of the coal wasted in this manner is estimated to be $1.5-2 billion per year.

It has been reported that approximately 2.5-3 billion tons of fine coal have been discarded over the years to numerous impoundments in the U.S., mostly in Appalachia. These estimates were made more than 20 years ago; therefore, the amounts of fine coal discarded to date may be substantially larger, possibly in excess of 4 billion tons. Assuming that roughly one third of this amount is recoverable, the dollar value of the coal discarded in the existing impoundments may exceed $100 billion.

The problems associated with the disposal of fine coal refuse have been created by the lack of appropriate separation technologies. Therefore, CAST has been developing advanced technologies that may be used i) to help companies eliminate the problem at the source, *i.e.*, stop discarding fine coal to impoundments and injecting it into old underground workings, and further ii) to recover the coal from existing impoundments. Citizens groups in Appalachian coal mining districts are lobbying for the elimination of the large impoundments by law. They consider the fine coal impoundments to be the worst form of valley-fill mining, as the water containing heavy metals and fine coal particles seep into the ground water and percolate into their drinking water. They are also afraid of major fatalities in the event a large coal sludge impoundment fails. If they succeed in mandating the elimination of the impoundments by law, the cost of producing coal would rise significantly, and the recoverable coal in existing impoundments would be lost. An alternative would be a technological solution to the problem, *i.e.*, developing advanced separation technologies and making them available for companies to use.

To this end, CAST has been focusing on the development of advanced fine coal cleaning technologies over the years. A series of advanced technologies has already been developed, which include the Microcel™ flotation column, dewatering aids, and hyperbaric centrifuge, all of which are marketed commercially under appropriate license agreements. The hyperbaric centrifuge was tested at pilot scale in 2009, and successful test results have been reported in DOE's Fossil Energy Techline report, February 9, 2009. Encouraged by the test results, a first full-scale unit has recently been tested successfully in February, 2010, in Alabama, and the results will be presented for the first time at the XVI International Coal Preparation Congress, April 25-29, 2010, in Lexington, KY.

Most of the technologies developed to date by CAST are designed to maximize the efficiency of cleaning fine coal at operating plants and, thereby, help companies minimize the amounts of coal being discarded. Therefore, they are not ideally suited for recovering coal from

existing impoundments. Typically, fine coal recovery projects can have life spans of 3-8 years, for which a large capital investment is difficult to justify. A solution to this problem would be to develop new technologies that could be implemented as a mobile unit, which can be moved to another site after completion of one project. The Microcel columns developed previously are too large (4-5 m diameter with 8-10 m height) to be installed in a mobile unit. Further, a large number of the columns may need to be used as their throughput capacities decrease with decreasing particle size.

More recently, CAST has developed a novel process that is ideally suited for recovering ultrafine coal (<44 microns) with high throughput. Further, the process can dewater both the clean coal and refuse products. Preliminary test results, as disclosed in a recent patent application, show that moisture contents can be reduced to less than 5% by weight of coal. These results are as good as obtainable by thermal drying, which is costly and less environmentally acceptable due to air quality issues. It is necessary, however, that the new technology be further developed before the technology can become commercially available. The requested funding will be used to construct a bench-scale continuous unit, which will be a stepping stone for designing a full-scale mobile plant that can be used to recover coal not only from existing impoundments but also from operating plants. This technology should also be useful for addressing the issues concerning ash ponds near power plants.

The requested funding will also be used to develop other domestic energy resources and environmental control technologies. At present, CAST is developing methods of extracting methane (CH_4) from the gas hydrate resources at the continental margins of the U.S., sequestering CO_2 as hydrate, transporting and storing Marcellus shale gas as hydrate, and separating one type of gas (*e.g.*, CO_2) from another (*e.g.*, nitrogen and hydrogen) by selectively forming hydrates. In addition, CAST is helping FLSmidth Salt Lake City, Inc., to design more efficient flotation machines that can be used to upgrade coal and minerals. During the last two years, the company has provided more than $1.5 million of research funding for CAST. As part of the Asia Pacific Partnership (APP) for Clean Development and Climate, the U.S. Department of State has been funding CAST to help India clean coal without using water. In addition, CAST is in the final stages of negotiations to design advanced fine coal cleaning plants for Coal India Limited, the largest coal producer in the country, and Dengfeng Power Plant, Henan Province, China.

FUNDING REQUEST

It is requested that $3 million be added to the FY 2011 Fuels Program budget, Fossil Energy R&D, the U.S. Department of Energy. The funding will allow CAST to continue to develop advanced technologies that can be used to produce cleaner-burning solid and gaseous fuels in a manner that can increase environmental quality. More specifically, the advanced fine coal cleaning technologies to be developed at CAST may be used to clean-up and/or eliminate troublesome fine coal impoundments and create jobs. The new technologies can also help developing countries produce cleaner fuels that can help reduce CO_2 emissions. In additions, the university research at the five major mining schools will help produce future leaders of the U.S. mining industry.

Testimony for the Public Record
Wayne A. Norton
President and CEO of Connecticut Yankee and Yankee Rowe and CNO of Maine Yankee Nuclear Power Plants (decommissioned) on behalf of
The Decommissioning Plant Coalition

Summary

Mr. Chairman and Members of the Subcommittee:

As Chairman of the Decommissioning Plant Coalition[1] (DPC), I am submitting this testimony for the record. In it, the DPC respectfully requests that the FY 2011 Energy & Water Development appropriation bill contain direction to the Secretary of Energy and the recently established Blue Ribbon Commission on America's Nuclear Future (the Commission) for the development of specific recommendations that will facilitate the prompt removal of legacy spent fuel and waste material stored at permanently shut-down, single unit civilian nuclear plant sites throughout the United States. We also ask that report language accompanying the appropriation clearly state the importance of this specific tasking. Finally, we urge the Subcommittee and Committee to reject, as you did last year, the Administration's request for a reinstitution of the tax levied against utilities (pursuant to the Energy Policy Act of 1992) to pay for the clean up of certain DOE facilities.

Background

Since enactment of the Nuclear Waste Policy Act of 1982 and the 1987 amendments to that Act, the members and participants of the DPC have both complied with its requirements to pay into the Nuclear Waste Fund (NWF) and supported the valiant efforts of this Committee to ensure that the Department of Energy (DOE) expeditiously conclude its investigation of the proposed Yucca Mountain repository site in Nevada. For your continued interest and support, we thank you.

In total, we have contributed over $700 million (through fees paid or obligated and interest earned thereon) to the NWF. Not unlike other utility/contract holders, we have now been forced to sue the DOE for its failure to meet statutory and contractual obligations to begin the acceptance of spent nuclear fuel and other waste material at our sites. This litigation has been complex, time consuming, and resource intensive; and it doesn't promise to get much easier if

[1] The Decommissioning Plant Coalition was established in 2001 to highlight issues unique to nuclear power plants that have undergone or are undergoing decommissioning. The DPC is focused on addressing the needs of reactors at single-unit sites that are undergoing or have completed decommissioning activities. Since its inception, members and participants of the Decommissioning Plant Coalition have included the owners of the Big Rock (MI), Connecticut Yankee (CT), LaCrosse (WI), Maine Yankee (ME), Rancho Seco (CA), and Yankee Rowe (MA) facilities.

the Congress grants the Administration's request to effectively double the number of attorneys assigned to this litigation at the Department of Justice. The irony of the fact that the Executive Branch is proposing to spend more money defending itself from lawsuits (none of which it has yet to win) than prosecuting a program that will allow it to fulfill its statutory and contractual obligations is not lost on us. And, as the members of this panel well know, there is now no question about the government's liability and we are well advanced in multiple lawsuits that will determine the extent of the damages we have incurred. Initial judgments, now on appeal, tell us that those damages will run into the hundreds of millions of dollars over the next few years just for DPC members and participants, judgments that will likely be paid out of the permanent appropriations account known as the Judgment Fund.

We are very disappointed that the President and Secretary have decided to propose the termination of the Yucca Mountain licensing proceeding at this time. Many billions of dollars were spent in the development of the license application for that facility, we are not aware of any scientific or engineering defect that has been identified that justifies its abandonment, and it strikes us that much could be learned by expending relatively modest amounts of the money that is continuing to be collected by the NWF to defend that application in proceedings before the Nuclear Regulatory Commission (NRC). Notwithstanding the commitment expressed by the Secretary to the development of alternative approaches to managing the so-called "back-end" of the nuclear fuel cycle, there have been none suggested to date that would obviate the need for the United States to develop a deep geologic repository at some point in time and it is for this reason that we are strongly opposed to the request of the Department to withdraw the Yucca Mountain application, and in particular, to withdrawal "with prejudice."

While we have no option but to seek compensation for our damages, and notwithstanding our disappointment regarding the apparent fate of the Yucca Mountain program, we are far more interested in focusing our efforts on the development of a sustainable policy that will lead to the government's fulfillment, rather than breach, of its obligations to us and our ratepayers.

Support for the BRC

In that light, we are very supportive of the establishment of the Blue Ribbon Commission on America's Nuclear Future (BRC). We agree with others that the 15 Members selected to serve on the panel are distinguished Americans who bring a necessary variety of backgrounds to the tasks set forth in the President's memorandum and initial charter. We have every confidence that these Members will be able to develop consensus on a sustainable future course that will guide the development of a nuclear "back-end" fuel cycle policy and provide the regulatory stability necessary to assure the deployment of new reactors as the Nation continues to develop a new energy policy that considers constraints on carbon emissions.

What we hope is not lost in this forward looking thinking is the dilemma caused for our localities by the additional delay in government performance of its current obligations that is an inevitable result of the new policy process that has been initiated.

A Growing Consensus Regarding Shutdown Reactor Priority

The DPC is appreciative of the longstanding support of the Subcommittee and Committee in our efforts to call attention to the need to treat the removal of legacy spent fuel from our sites on a priority basis. In various reports filed by the Committee, you have made the following observations:

- For FY 2002 -- "The Committee remains concerned that the Department will not be ready to fulfill its waste acceptance responsibilities consistent with the repository schedule, particularly for spent fuel from reactors presently undergoing decommissioning. The Committee recommendation includes $1,800,000 within available funds to initiate the procurement of one transportation cask for each of the six reactor sites presently undergoing dismantlement and decommissioning. Such procurement does not constitute a settlement or fulfillment of the Secretary's obligation to take acceptance of spent nuclear fuel."
- For FY 2003 -- "The Department should also reinitiate its activities to obtain proposals from the private sector for the procurement of transportation casks for reactor sites presently undergoing dismantlement and decommissioning."
- For FY 2004 -- "...the Committee believes the Department should be working more actively with the contract holders and the DOE sites that will be shipping spent nuclear fuel and high-level waste to the repository to develop a detailed and comprehensive acceptance and transportation plan for the years 2010-2020...In addition, the Department should either ensure that the detailed acceptance criteria that will be part of the license application will include appropriate criteria and specifications for greater-than-class-C waste, or present Congress with a separate plan proposing an alternative disposal path for greater-than-class-C waste. The comprehensive acceptance and transportation plan shall ensure that spent nuclear fuel and high-level waste from those reactor sites that are undergoing decommissioning, including the Dairyland Power Cooperative La Crosse Boiling Water Reactor, shall be accepted and transported as soon as practicable to facilitate the closure of these sites. Finally, the Committee expects the Department to commence the institutional coordination and procurement actions necessary to support a national transportation campaign to begin shipping spent nuclear fuel and high-level waste to the repository beginning in 2010."
- For FY 2008 -- "The Committee directs the Department to develop a plan to take custody of spent fuel currently stored at decommissioned reactor sites to both reduce costs that are ultimately borne by the taxpayer and demonstrate that DOE can move forward in the near-term with at least some element of nuclear waste policy. The Department should consider consolidation of the spent fuel from decommissioned reactors either at an existing DOE site, at one or more existing operating reactor sites, or at a competitively-selected interim storage site. The Department should engage the 11 sites that volunteered to host GNEP facilities as part of this competitive process."
- For FY 2010 -- "Therefore, the Committee makes the $5,000,000 available for the Blue Ribbon Commission only for an analysis of alternatives that includes all options for nuclear waste disposal based on scientific merit, as previously discussed in the Management of Nuclear Spent Fuel and Radioactive Waste section of this report ..... Additionally, the Committee directs that the proposed Blue Ribbon Commission shall

include an appropriate level of representation of decommissioned reactor sites to ensure their interests are considered in the formulation of a national nuclear waste policy."

The Subcommittee and Committee have not been alone in calling for attention to the removal of material from DPC sites. From 2007 to present, no fewer than 11 responsible organizations have endorsed the prompt need to plan the removal of spent fuel and other legacy waste material from decommissioned sites, including: the American Physical Society, the National Commission on Energy Policy, The Keystone Center, The New England Council, the National Association of Regulatory Utility Commissioners, The Nuclear Waste Strategy Coalition, the National Conference of State Legislatures, the National Research Council, the GAO and the New England Governors Conference.

In the past 15 months, many Members of Congress have called upon the Administration to ensure that it and the BRC recognize the priority need to specifically plan for the prompt removal of material from otherwise decommissioned sites, including your colleagues: Representatives Courtney (CT), Kind (WI), Lundgren (CA) Michaud (ME), Olver (MA), Pingree (ME), and Stupak (MI). Indeed, Secretary Chu seemed to recognize the need for an examination of the unique circumstances affecting decommissioned sites in response to a letter he received last year from Senator Kerry (MA) and the late Senator Kennedy.

We believe these organizations and individuals understand, as you do, that the used fuel and other material at our sites has been, and will continue to be, safely and securely stored under NRC regulation for as long as it remains on-site. We believe they also understand, as we do, that a prompt removal of this material will, in addition to ending the complexity of securing and overseeing the material on sites that have no other purpose and produce no revenue, will:

- ensure that the sites can be considered for a wider range of reuse;
- demonstrate the ability of the Department to fulfill its commitments regarding spent fuel and other civilian wastes that are Greater-Than-Class-C;
- relieve these non-revenue producing facilities of continuing liabilities and eliminate remaining nuclear safety, security and environmental risk concerns at these sites; and
- bring to an end the currently endless contributions of ratepayers to secure and manage the sites and those of taxpayers who incur increasing and currently unending damages for the government's failure to execute its obligations.

For these reasons, we earnestly ask the Committee to ensure that the Commission be tasked to provide specific and separate recommendations that will facilitate the prompt removal of legacy spent fuel and waste material stored at permanently shut-down, single unit civilian nuclear plant sites throughout the United States.

Oppose Additional Taxes for DOE Facility D&D

We would also ask the Committee to once again reject the Administration's request to tax anew those companies that have utilized civilian nuclear technologies for the production of electricity. The Administration's request is intended to raise additional funds for the decontamination and

decommissioning (D&D) of certain DOE facilities that produced enriched uranium for first, defense, and subsequently civilian, programs.

While we certainly support the cleanup of these facilities, we would note that we already paid our proportionate share of such costs, pursuant to contracts for purchase of the material that by their terms included all program costs, including eventual D&D. We also paid a second time, when Congress decided to impose, as part of the legislation that led to the privatization of the government's uranium enrichment enterprise, a special assessment to support the cleanup of three uranium enrichment plants. This tax raised, industry-wide, $150 million a year, adjusted for inflation, and expired under the terms of the legislation at the end of 2007 after 15 years.

This second utility tax, which has raised over $2.6 billion, was supposed to be matched with even larger government contributions. Utilities, including DPC members and participants, have fully met their obligation; the federal government has not. The fund to which utility payments were made, has a current balance in excess of $5 billion, notwithstanding the fact that the government has yet to pay all of the sums called for in the 1992 implementing legislation. Clearly, the imposition of yet a third obligation to pay will have an inordinate impact on our customers, as it would be assessed against a non-revenue producing facility. The cost of this new tax would be passed along to electric utility customers at a time when they can least afford it. We would ask the Subcommittee and Committee to again reject the Administration's proposal.

In Conclusion

In conclusion, we again express our gratitude to the Members of the panel who have long recognized the special circumstances confronting permanently shut down nuclear plants. We look forward to working with you as the Congress continues its efforts to address the Nation's used nuclear fuel and high-level nuclear waste issues.

Peter Raabe
Policy Director for Budget and Appropriations
American Rivers

American Rivers, on behalf of our 65,000 supporters nationwide urges the Committee to provide $2,796,795,000 for the following programs in the Energy and Water Development Appropriations bill for Fiscal Year 2011, including programs run by the U.S. Army Corps of Engineers, the Department of Energy and Department of Interior. I request that this testimony be included in the official record.

1. U.S. Army Corps of Engineers

The **Project Modification for Improvement of the Environment**(Section 1135) allows the U.S. Army Corps of Engineers (Corps) to restore river systems degraded by existing Corps projects. Under Section 1135, the Corps can modify existing dams and flood control projects to increase habitat for fish and wildlife, and restore areas affected by Corps projects. Non-federal interests must provide for 25 percent of project costs, and modifications must not interfere with a project's original purpose. American Rivers urges the Committee to appropriate $40 million for the Project Modification for Improvement of the Environment program in FY 2011.

The **Aquatic Ecosystem Restoration** (Section 206) program allows the Corps to undertake small-scale projects to restore aquatic habitat, even in areas not directly harmed by past Corps projects. Projects carried out under this program must improve the quality of the environment, be in the public interest, and be cost-effective. American Rivers urges the Committee to appropriate $50 million for the Aquatic Ecosystem Restoration program in FY 2011.

The **National Levee Safety Program** (NLSP) was established by the Water Resources Development Act of 2007 with two primary requirements- form a Committee on Levee Safety to develop recommendations and an implementation plan for a National Levee Safety Program, and inventory and inspect federal and non-federal levees across the nation. There are thousands of miles of levees across the U.S. that were constructed and are maintained in a haphazard way by all levels of government and private entities. Millions of people live and work in the flood risk areas behind these levees and have the right to know the condition of the structures they rely on. The Corps has been gathering data on the levees under its jurisdiction but significant work remains to be done for the NLSP to adequately protect communities. American Rivers urges the Committee to appropriate $20 million for the National Levee Safety Program in FY 2011.

Navigation and Ecosystem Sustainability Program (NESP) is a long term plan to balance navigation needs and ecological restoration in the Upper Mississippi River System. It will tackle many of the cumulative environmental impacts incurred from operating the river as a navigation system. The Corps will have a wide range of options from floodplain restoration and dam removal to land acquisition through easements to accomplish its restoration goals. Projects developed under this program will undergo independent analysis and will be monitored to assure that project goals are being met and taxpayer dollars are being used wisely. The NESP was authorized as part of the Water Resources Development Act of 2007 and works in concert with the Upper Mississippi River and Illinois Waterway System. American Rivers urges the

Committee to appropriate $17 million for the Navigation and Ecosystem Sustainability Program in FY 2011.

Upper Mississippi Environmental Management Program- The Upper Mississippi River Environmental Management Program (EMP), the primary habitat restoration and monitoring program on the Upper Mississippi, has a goal of restoring more than 97,000 acres of habitat; the Army Corps reports that EMP has restored or created 28,000 acres of habitat to date. American Rivers urges the Committee to appropriate $33.2 million for the Upper Mississippi River Environmental Management Program in FY 2011.

Lower Mississippi River Resource Assessment- The Lower Mississippi River Resource Assessment (LMRRA) was authorized by Congress in the Water Resources Development Act of 2000. Conducting the Lower Mississippi River Resource Assessment is the first step in consolidating into one region-wide assessment all information about the current status of aquatic habitat in the 954-mile-long Lower Mississippi River, specific habitat development/enhancement opportunities to restore the river ecosystem, and recreational needs. American Rivers urges the Committee to appropriate $1.5 million for the Lower Mississippi River Resource Assessment project in FY 2011.

Lower Columbia River Ecosystem Restoration OR & WA- Coastal estuaries in the Pacific Northwest play a vital role in supporting healthy stocks of wild salmon and steelhead trout and other species and improving the quality of life of countless communities. The Northwest Coastal Estuary Program is designed to restore more than 16,000 acres of critical fish and wildlife habitat, augment existing monitoring efforts, and help citizens protect and manage resources by bringing together local governments, state and federal agencies, environmental groups, ports, and citizens. American Rivers urges the Committee to appropriate $3 million for the Lower Columbia River Ecosystem Restoration project in FY 2011.

Missouri River Fish and Wildlife Recovery Project: IA, NE, KS & MO- The Missouri River Fish and Wildlife Recovery Project is the primary habitat restoration program for the lower Missouri River between Sioux City and St. Louis. Congress established it in 1986 to primarily help reverse the long-term impact on habitat due to the federally sponsored channelization and stabilization projects of the Pick-Sloan era. Supporting the Missouri River Fish and Wildlife Recovery Project will help reverse the decline of river wildlife by restoring historic chutes, side channels, wetlands, backwaters, and other habitat that fish and wildlife need survive. American Rivers urges the Committee to appropriate $100 million for the Missouri River Fish and Wildlife Recovery Project in FY 2011.

Puget Sound Restoration- The Puget Sound is one of nation's premier watersheds, supporting a diverse ecosystem and is the heart the communities that have grown up around it. The Sounds faces significant threats as evidenced by declines in salmon, orcas and marine birds, closures of shellfish beds, and a growing dead zone in Hood Canal. The building blocks of a healthy environment for people and all other living things – clean water, healthy and connected habitat and an intact food web – are continuing to erode. To reverse these trends American Rivers urges the Committee to appropriate $7 million for the Puget Sound and Adjacent Waters program and $2.5 million for the Puget Sound Nearshore Ecosystem Restoration Project in FY 2011.

Individual River Restoration Projects- Over the past 100 years, the United States has led the world in dam building for a variety of uses, including hydropower, irrigation, flood control and water storage. While they can provide benefits to society, numerous dams have outlived their intended purpose and no longer make sense. Many are old, unsafe, and represent a threat to their river ecosystems. Several individual dam removal projects will restore natural river functions, restore access to migratory fish habitat, and provide economic benefits to neighboring communities. American Rivers urges the Committee to appropriate to the Corps the following for individual river restoration projects in FY 2011:

i) $5 million for the removal of the Matilija Dam on the Ventura River in southern California;
ii) $595,000 for the feasibility study on the removal of Rindge Dam on Malibu Creek, CA.

2. Department of Energy Programs

Federal Energy Regulatory Commission, Hydropower Licensing- The Federal Energy Regulatory Commission is responsible for issuing licenses and permits that govern the operation and construction of non-federal hydropower dams. Congress authorizes the amount of money FERC may spend in a given year, but that money is collected entirely from licensees through annual fees and not from tax dollars. Thus, an increase in FERC's authorized hydropower budget will be passed onto the dam owners and will not impact taxpayers or the deficit. American Rivers urges the Committee to appropriate $57.5 million for FERC hydropower relicensing in FY 2011.

Energy Efficiency & Renewable Energy Resources- Many different types of energy production, including hydropower dams and fossil fuels, affect our rivers. As we advance in energy-efficient technology and the use of renewable energy sources, we can reduce demand and soften the impacts of energy production on rivers. Congress should take steps to eliminate our dependency on fossil fuels by supporting enhanced appropriations for DOE's energy supply and energy conservation programs. American Rivers urges the Committee to appropriate $2.4 billion for the Energy Efficiency & Renewable Energy Resources program in FY 2011.

3. Department of Interior- Bureau of Reclamation:

The **Water Conservation Field Services Program** partners with water users, States, and other interested parties to improve water resource management and the efficiency of water use in the western United States. The early projects of the Bureau converted desert and arid western lands into some of the most intensely used agricultural areas and urban centers in the world. In order to continue to serve those purposes, more efficient water use is becoming a key component of the water resource management strategy. The programs efforts to implement efficiency not only increase water supply for future use and ecological protection but reduces costs of water supply, improves reliability of existing water supplies, increases the resilience to droughts, improves and protects water quality by reducing waste water, and reduces energy consumption. American Rivers urges the Committee to appropriate $8 million for the Water Conservation Field Services Program in FY 2011.

The **Klamath River Restoration** will represent the biggest dam removal and river restoration effort the world has ever seen, restoring access to over 350 miles of salmon habitat, resolving

decades-long disputes over water in the basin, and providing greater economic security for fishing, tribal, and agricultural communities. The Klamath Basin Restoration Agreement settles many disputes concerning water and fisheries resources and the Klamath Hydroelectric Settlement Agreement calls for the removal of PacifiCorp's lower four Klamath River dams. The four dams produce a nominal amount of power, which can be replaced using renewables and efficiency measures, without contributing to climate change. A study by the California Energy Commission (CEC) and the Department of the Interior found that removing the dams and replacing their power would save PacifiCorp customers up to $285 million over 30 years. PacifiCorp will be responsible for much of the costs, but the Department of the Interior will be required to provide on the ground support and technical assistance. American Rivers urges the Committee to appropriate the Klamath River Restoration $5 million in FY 2011.

Yakima River Basin Enhancement Project- The Yakima River Basin is home to Washington's largest Native American tribe and contains one of the largest Bureau of Reclamation projects in the west. The various Reclamation projects in the basin have depleted and polluted river flows, and water rights conflicts in this basin are legendary. Partly as a result, Yakima River bull trout and steelhead are now listed under the Endangered Species Act. Phase II of The Yakima River Basin Water Enhancement Project, authorized by Congress in 1994, was designed to ameliorate these conditions for both fish and farmers. It aims to restore the river and make better use of the existing water supplies. This legislation was a compromise agreed to by the basin's disparate stakeholders, and the program it created is a model for water conservation and water rights acquisition. This program aims to restore the river and make better use of the existing water supplies. American Rivers urges the Committee to appropriate $14 million for the Yakima River Enhancement Project in FY 2011.

The **Deschutes Resources Conservancy** (DRC) is focused on restoring streamflow and improving water quality in the Deschutes Basin of Central Oregon. The DRC acts as a catalyst, bringing together all groups working to restore the Deschutes through its restoration grants program, enterprise programs creating markets for environmental services, and community development work aimed at developing a shared vision for basinwide restoration smoothing the endangered species recovery process. American Rivers urges the Committee to appropriate $2 million for the Deschutes Ecosystem Restoration Project in FY 2010.

California-Federal Bay Delta Program is a partnership between federal and California agencies to provide a balanced, collaborative approach to the water resource demands on the San Francisco Bay and San Pablo Bay watersheds. The Ecosystem Restoration and Watershed program within CalFed works to restore and improve wildlife habitat through out the watershed, improve fish passage, integrate flood control and ecosystem restoration, and implement specific watershed restoration projects in conjunction with watershed plans. American Rivers urges the Committee to appropriate $40 million for the CalFed Ecosystem Restoration and Watershed Program in FY 2011.

The Nature Conservancy
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Statement of Robert Bendick, Director of U.S. Government Relations
Before the Subcommittee on Energy and Water Development
Committee on Appropriations
March 19, 2010

Mr. Chairman and the members of the Subcommittee,

Thank you for the opportunity to present The Nature Conservancy's recommendations for FY 2011 appropriations for the US Army Corps of Engineers (Corps) and Bureau of Reclamation.

The Nature Conservancy's recommendations represent a priority set of efforts that are both individually important and collectively designed to demonstrate innovations in restoration to help guide future resource allocation. Further, if done well, ecosystem restoration projects pay dividends through services such as provision of more reliable and higher quality water, natural flood attenuation, sustaining commercial fisheries, and supporting economically-important outdoor recreation. Moreover, the nation's resiliency to climate change will be substantially dictated by the health of our ecosystems. In short, we believe the public investments we are requesting now will pay far larger dividends for decades to come.

Corps Construction Priorities

Continuing Authorities Program: We thank the Subcommittee for continuing its strong support of the ***Section 1135: Project Modifications for Improvement of the Environment*** and ***Section 206: Aquatic Ecosystem Restoration*** programs. However, demand for these programs continues to outstrip funding. The Conservancy requests that the programs be fully funded by appropriating $40 million for Section 1135 and $50 million for Section 206.

The Conservancy seeks funding for one Section 1135 project. The Spunky Bottoms project (IL) is a model floodplain restoration and-reconnection effort on the Illinois River that needs $500,000 to complete a feasibility study, develop a project partnership agreement, and begin designs for the next project phase; the Conservancy is the nonfederal cost share partner. Additional dollars will be necessary for the planning, specifications, construction and monitoring phases, totaling approximately $7.5 million.

The Conservancy also seeks funding for one Section 206 project: Emiquon East (IL), a floodplain restoration and reconnection project that needs $600,000 to complete a feasibility study, sign a project partnership agreement and begin design. The Conservancy is the cost share partner for this project.

We continue to be concerned about the Committee's guidance for these programs. The prioritization requirements and "no new starts" rule included in the FY 2009 report and renewed in FY 2010 block the implementation of important conservation priorities that enjoy strong support from their local communities. We urge the Subcommittee to adopt a more flexible approach. Appropriating the requested amounts will help address the backlog in these programs.

Upper Mississippi River Navigation and Ecosystem Sustainability Program: The Navigation and Ecosystem Sustainability Program (NESP) is a dual purpose authority for integrated management of the Upper Mississippi River (UMR) system's habitat and navigation facilities. All activities implemented under the existing **Environmental Management Program (EMP)** can be transitioned

into NESP, but it is critical to fund both programs until the transition is complete. In recognition of the current budgetary constraints, we request a NESP FY 2011 new start of $15 million. The Conservancy also supports $25 million for EMP in FY 2011.

Illinois River Basin Restoration Program: This federal-state partnership sustains the health of the entire Illinois River Basin through projects that restore habitats, species, and the natural processes that sustain them. It complements other federal programs such as EMP and NESP, but is unique in its basin-wide approach to restoration. The Conservancy supports $7.9 million in Construction funding and $1 million in Investigation funding for this program in FY 2011.

Aquatic Nuisance Species Dispersal Barrier: The Conservancy supports funding for the construction and maintenance of the Dispersal Barriers on the Chicago Sanitary and Ship Canal (CSSC) at no less than $12,650,000. Additionally, we request at least $1 million to conduct an expedited feasibility study of the comprehensive set of permanent solutions to prevent the movement of all invasive species though the CSSC. We note that the Corps has the capacity to effectively expend up to $23,650,000 on construction and $2,500,000 on the separation study, and we encourage the committee to consider this greater investment to address this urgent problem.

Missouri River Fish and Wildlife Recovery Program (MRRP): Under this program, the Corps has completed 30 projects in the lower Missouri basin states to assist in the recovery of three listed species, restoring more than 40,000 acres of habitat. New authority was provided in WRDA 2007 for the expenditure of funds in the upper basin states and for the Intake Dam project on the Yellowstone River in Montana. Construction of fish passage and screens at Intake Dam is a priority for the recovery of the endangered pallid sturgeon and other warm-water fish. The Conservancy supports $119 million for the MRRP in FY 2011, including $20 million to continue progress on the design and construction of fish passage and screens at Intake Dam.

Cartersville Diversion Dam Fish Passage: This project would construct a fish passage at Cartersville Dam, allowing fish, including the federally listed endangered pallid sturgeon, to reach the upstream portions of the Yellowstone River. This project, along with its companion project at Intake Dam, would open an additional 296 miles of habitat, which is critically needed for successful recovery of the sturgeon population. The Conservancy supports $300,000 for this project in FY 2011.

South Florida Ecosystem Restoration Program: Corps flood control projects, coupled with agricultural and urban development, have degraded the Everglades, one of the most diverse and ecologically rich wetlands ecosystems in the world. WRDA 2007 authorized construction of the first projects under the Comprehensive Everglades Restoration Plan (CERP), and we support funding for the Indian River Lagoon South, Picayune Strand, and the Site 1 Impoundment. We place priority on funding the Kissimmee River Restoration Project, which is almost 75% complete and already a restoration success story. The Conservancy requests $246 million for the South Florida Ecosystem Restoration Program in FY 2011.

Puget Sound and Adjacent Waters: The Puget Sound and Adjacent Waters Program provides funding for early action projects to restore Puget Sound and its watershed. The Conservancy requests $7 million for Puget Sound and Adjacent Waters in FY 2011. Identification of these early action projects is informed by the **Puget Sound Nearshore Marine Habitat Restoration project** (in the Investigations account), for which the Conservancy requests $1.5 million in FY 2011.

Hamilton City Flood Damage Reduction and Ecosystem Restoration: This project will increase flood protection for Hamilton City, CA and surrounding agricultural lands and restore approximately 1,500 acres of riparian habitat. The PED phase for this project was completed in 2009, the nonfederal sponsor is in place and the project received construction authorization in WRDA 2007. The Conservancy supports $15 million in FY 2011 to complete the first phase of construction.

Chesapeake Bay Oyster Recovery: Eastern oyster populations in the Chesapeake Bay have been decimated from historical levels by a century of overfishing, disease and pollution. This project will help move the oyster population towards sustainable levels. The requested appropriation will create more than 60 acres of additional oyster habitat. The Conservancy supports $6 million in FY 2011 for this program.

Sustainable Rivers Project

The Sustainable Rivers Project (SRP) is an initiative launched by the Corps in partnership with the Conservancy that recognizes the urgent need to update decades-old water management practices to meet society's needs today and in the coming decades. The SRP is developing and demonstrating innovative approaches to reservoir operations that restore critical ecosystems and valuable ecosystem services, while continuing to provide for (and often improving) water supply and flood risk management. These innovative approaches also offer substantial promise for social and ecological adaptation to climate change. The SRP currently involves work in to improve more than 1,500 of the nation's river miles in eight demonstration basins containing 36 federal reservoirs, as well as training and development of next-generation decision support tools for water management. The Conservancy supports funding for several initiatives that will support the SRP:

Global Change Sustainability: Most Corps dams and levees were constructed in the mid-20th century. Evolving and accumulating challenges to water management, such as expanding water and energy demands, shifting economic and land use patterns and environmental degradation, require innovation in our water management practices. This project will allow the Corps to advance a variety of new practices through several initiatives, including the SRP, the, working with other federal agencies to develop a national strategy for climate change adaptation, updating drought contingency plans, and others. The Conservancy supports $10 million for this program.

National Portfolio Assessment for Reallocations: Launched in FY2008, this assessment is a national effort to learn from past water management techniques and improve upon them. A national database will incorporate data from water supply surveys, climate studies, drought contingency plans, and other sources, helping the Corps assess its past practices and make project- and basin-scale predictions for the future. The SRP will be part of this effort, developing new methods and tools that can be transferred to Corps dams nationwide. The Conservancy supports $1 million for this program.

Willamette River Floodplain Restoration Study: The Corps and the Conservancy are working together to identify ecological flow requirements downstream of Corps dams, and to incorporate those flows into dam operations. Initial efforts have focused on the Middle and Coast Forks of the Willamette, in conjunction with a study to identify floodplain habitat restoration opportunities, and implementation and monitoring of flow releases are ongoing. Flow analysis has begun in additional tributaries, with the ultimate goal of system-wide changes in dam operation and floodplain management that improve fish and wildlife habitat and community flood protection. The Conservancy supports $153,000 in FY 2011 to continue this study.

Connecticut River Watershed Study: This project will restore 410 miles of river flow and thousands of acres of natural habitat in the Connecticut River Basin. The basin is a priority landscape for the Conservancy due to its high quality tributary systems, unique natural communities and multitude of ESA-listed species. The study identifies dam management modifications for environmental benefits while maintaining beneficial human uses. We support $750,000 in FY 2010 for this study.

White River Basin-Wide Comprehensive Study: The ecology of the White River Basin is impacted by federal impoundments, water withdrawals for agriculture, power generation,

modifications for navigation and a variety of other uses. This project will determine the current condition of the basin and help determine its future ecological and human needs. The Conservancy supports $1,500,000 for this study.

Big Cypress Basin Watershed Study: This project will restore the natural river flow of Big Cypress Bayou to enhance the health of the aquatic ecosystem and the downstream Caddo Lake wetlands, one of 27 sites in the United States recognized as globally significant by the Ramsar Convention on Wetlands. This study would allow the Corps to evaluate the potential ecosystem restoration benefits and impacts of the flow recommendations developed with The Nature Conservancy and address other ecological issues. In addition, the feasibility study would develop sediment and nutrient loadings and evaluate the feasibility of modification to the Caddo Lake weir to allow manipulation of lake levels for the purposes of bald cypress regeneration and aquatic plant control. We support $175,000 in FY 2011 for this study.

Other Corps Investigation Priorities

Long Island Sound Oyster Restoration: This project will develop a comprehensive Master Plan for the restoration of oysters and other shellfish in Long Island Sound, supporting both ecological and economic well-being by providing a sustainable oyster fishery and creating habitat for other coastal and marine species. The Conservancy supports $250,000 for this important effort.

Lower Mississippi River Resource Assessment: Flood control and drainage systems have accelerated erosion and habitat loss along the 954-mile Lower Mississippi River and its tributaries. Working with the U.S. Department of Interior, the Corps will evaluate the state of river management, habitat and public access along the Lower Mississippi and recommend action to address current and future needs. The Conservancy supports $200,000 in FY 2011 for this project.

West Pearl River Navigation Study: The aquatic communities of the Pearl, West Pearl and Bogue Chitto Rivers are severely disrupted by old and disused navigation structures. This study will allow the Corps to consider removing them or repurposing the structures to accommodate environmental and recreational needs. The Conservancy supports $100,000 for the Reconnaissance study.

Thames River Basin Watershed Study: The Thames River Basin ecosystem, including its tributaries to Long Island Sound, depends on naturally variable water flow, good water quality and suitable habitat. This study will determine what research and measures are necessary to improve the management of water control structures in the basin. We support $100,000 in FY 2011 to complete the reconnaissance phase.

Middle Potomac River Watershed Comprehensive Study: This study will develop a comprehensive, multi-jurisdictional sustainable watershed management plan for the Middle Potomac River watershed, balancing the ecological functions and services provided by the river with the human demands upon it. To support the completion of the watershed assessment, we support $68,000 in FY 2011.

Yellowstone River Corridor Comprehensive Study: Funding this ongoing study of economics, fisheries, and wetlands studies will help ensure that the longest free-flowing river in the lower 48 states maintains its natural functions while supporting irrigation and other economic uses of its waters. The Conservancy supports $750,000 for FY 2011.

Susquehanna River Basin Low Flow Management and Environmental Restoration: Drought conditions, combined with current and projected demands for water use, have the potential to impact natural ecosystems in the Susquehanna River basin and the upper Chesapeake Bay. This appropriation will fund a basin-wide study to investigate low flow conditions and establish

ecologically based goals and standards for low flow management. The Conservancy supports $400,000 in FY2011 for this project.

Corps Expenses

Mid-Atlantic River Basin Commissions: The Delaware, Potomac, and Susquehanna River Basin Commissions are essential to advancing and coordinating the water management and conservation interests of the federal government, the affected states, and the Conservancy. Funding was restored in FY 2009, but it was not continued in FY 2010. The Conservancy requests that the federal government continue support of the Commissions' essential work by appropriating $2,365,000 in FY 2011.

Bureau of Reclamation

Upper Colorado River Endangered Fish Recovery and San Juan River Basin Recovery Programs: These programs take a balanced approach to restore four endangered fish species in the Colorado River system while allowing water use to continue in the arid West. A full appropriation will fund work on remaining major capital projects, including the Orchard Mesa Irrigation District Canal Automation Project and fish rearing ponds at the Horse Thief Canyon Wildlife Area. . The Conservancy supports $8,354,000 in FY2011 for these Programs.

Platte River Recovery Implementation Program: An agreement between the Governors of Wyoming, Nebraska and Colorado and the Secretary of Interior sets forth a plan to restore habitat for five endangered or threatened species in the Platte River basin. The Conservancy supports $12,707,000 for this recovery effort in FY 2011.

Basin Studies and WaterSMART: Basin Studies are a component of the new WaterSMART program that helps the Bureau of Reclamation address the threat of climate change across our nation's western waters. The Basin Study being conducted on the Colorado River will assess water supply and demand imbalances that may be exacerbated by climate change, work to resolve those imbalances, and consider the impact of such strategies on the basin's ecological resiliency. The WaterSMART program can complement the Colorado River Basin Study by delivering grants to local stakeholders working to develop new water banking mechanisms and improvements that improve both water supply imbalances and environmental flows. The Conservancy supports a $62 million appropriation to the Bureau of Reclamation for the WaterSMART program in FY11, including $6 million for its Basin Studies.

The Conservancy would like to thank the Subcommittee for supporting the restoration of large scale restoration programs over the last decade. These programs have been essential to restoring and maintaining some of America's most recious and imperiled ecosystems. We are also appreciative of past support for smaller-scale projects that provide cumulative benefits and serve as powerful demonstrations of effective restoration.

Thank you for the opportunity to present our comments on the Energy and Water Appropriations bill. If you have any further questions, please do not hesitate to contact me (rbendick@tnc.org).

Sincerely,

Robert Bendick
Director of U.S. Government Relations
The Nature Conservancy

Joint Statement of

RICHARD M. LARRABEE, DIRECTOR, PORT COMMERCE DEPARTMENT
The Port Authority of New York & New Jersey
JAMES S. SIMPSON, COMMISSIONER
State of New Jersey, Department of Transportation
PETER DAVIDSON, EXECUTIVE DIRECTOR, Division of the Executive Director & Subsidiaries
State of New York, Empire State Development Corporation

REGARDING U.S. ARMY CORPS OF ENGINEERS APPROPRIATIONS FOR FISCAL YEAR 2011
FEDERAL CHANNELS IN THE PORT OF NEW YORK & NEW JERSEY
Appropriations Subcommittee on Energy & Water Development
United States House of Representatives
March 19, 2010

Endorsed By:

APM Terminals ~ Association of Bi-State Motor Carriers, Inc. ~ Board of Commissioners of Pilots of the State of New York ~ Business Council of New York State ~ Cashman Dredging Company ~ ConocoPhillips Bayway Refinery ~ CSX Corporation ~ Donjon Marine Co., Inc. ~Environmental Defense Fund ~ Hudson County Chamber of Commerce ~ Great Lakes Dredge and Dock Company ~ Greater Maritime Port Council of New York/New Jersey and Vicinity ~ I.L.A. Local 1235 ~ International Union of Operating Engineers Local 25 Marine Division ~ Maher Terminals ~ Manhattan Chamber of Commerce ~ Maritime Association of the Port of NY/NJ ~ Marine Engineers Beneficial Association ~ Maritime Trades Department AFL-CIO ~ Matrix Development Group ~ Nation'sPort ~ NJ Sandy Hook Pilots Association ~ New Jersey Alliance for Action ~ New Jersey State AFL-CIO ~ New York Sandy Hook Pilots ~ New York Shipping Association ~ New York-New Jersey Port Promotion Association ~ Newark Regional Business Partnership ~ Norfolk Dredging Company ~ Norfolk Southern Corporation~ Seafarers International Union ~ Weeks Marine Inc

This Subcommittee has consistently supported the Nation's navigation system, including the Port of New York and New Jersey. We thank you for your continued support. Now more than ever, we are in need of your assistance as we near the end of the construction of the New York and New Jersey Harbor Deepening Project (HDP), but face a $33 million reduction from last year's funding level. The HDP has received strong financial support since 2004, which has enabled the Federal government and us to improve the infrastructure required to handle cargo growth in our region and the nation. In order to keep this top priority project on schedule, we respectfully ask that the President's request for the NY & NJ Harbor Deepening Project be augmented to **$80,000,000**, which is less than the level that was appropriated this fiscal year. We also respectfully request added funds totaling **$5,000,000** to construct the vital Liberty State Park wetlands restoration project, **$1,500,000** to move forward on other essential Hudson-Raritan Estuary (HRE) restoration projects, and **$50,838,000** to address critically important operations and maintenance needs.

We understand the fiscal constraints facing the Subcommittee and the nation, but would like to emphasize that the Federal investment in the Port has yielded great returns. New York and New Jersey marine terminals handled over 4 million TEU's in 2009. This freight moved throughout the region and to most states in the continental U.S accounting for approximately 13% of the nation's containerized imports and exports and 22% of the nation's import of refined petroleum products such as heating oil. The Port supports more than 269,000 on and off-terminal jobs locally and nation-wide, and the NY/NJ port industry contributed $5.8 billion in local, State and Federal tax revenues. The Port continues to serves as a critical economic engine in these trying times of an economic downturn.

The Port and its partners are mindful of the need to balance commerce with protection of the environment. The Port Authority has dedicated funds to expand its rail capacity in New York and New Jersey in order to reduce truck congestion and associated air emissions. The funds also financed the acquisition of environmentally sensitive land for preservation and studies to identify and prevent sources of contamination from entering the harbor estuary. The Port Authority has also spent over $20 million for emission-offset programs associated with the HDP. In 2010 we will have reduced 796 tons of NOx emissions annually in the Harbor due to these efforts; by 2013, we will have reduced NOx emissions by over 1,100 tons per year. These improvements and emissions reductions are a legacy to this region; their benefits continuing long after the HDP is completed. Over 40 million cubic yards of dredged material will be removed in association with the HDP. To date 100 percent of the material dredged has been beneficially reused within the region to improve the Historic Area Remediation Site, enhance artificial reefs within the coastal waters of New York and New Jersey, and support upland activities such as landfill closures and brownfield remediation projects. Additionally, terminal operators have voluntarily installed electric cranes, switched to ultra-low sulfur diesel and replaced cargo-handling equipment with cleaner models—a strong signal of private sector commitment toward greening the Port. In addition the Port Authority, together with its sister agencies and port partners, has developed and is implementing a Clean Air Strategy for the Port of New York and New Jersey. The HDP, including our partnership with the Corps, is the centerpiece of a commitment to make this important American gateway internationally competitive while restoring the harbor estuary and protecting our environment. We invite all members of the Subcommittee and staff to visit the Port to learn more about its role in the environment and the U.S. transportation system. Below are our comments on the FY 2011 budget request. We respectfully request that the Subcommittee appropriate additional funds for the specific projects (in bold) as discussed below.

Construction	**President's FY11 Budget**	**Port Request**
New York & New Jersey Harbor	$ 57,000,000	**$80,000,000**
Liberty State Park	---	**$ 5,000,000**
TOTAL:	$ 57,000,000	**$85,000,000**

New York and New Jersey Harbor - This project was authorized by Section 101(a)(2) of WRDA 2000 (P.L. 106-541). We respectfully request that the President's request for the NY & NJ Harbor Deepening Program be augmented to **$80,000,000**, which while higher than the budget request would be 12 percent lower than the appropriated level for the current year. The continuing NY & NJ Harbor Deepening Project will improve transportation efficiency and

benefit the national markets served by this port. In order to complete the 50-foot deepening of the pathways to the container-handling facilities in the Harbor by FY 2013 and reap the full benefits of the Federal government's investment, a significant number of contracts must be awarded over the next two years. Project slippage will have serious negative impacts on maritime commerce and the regional and national economy. The President's budget allows for the construction of this project to continue, but does jeopardize the timeline at a critical juncture. The project currently stands near the 50% completion mark. With only three years remaining in the schedule, reduced funding at this time hampers construction efficiencies, delays the benefits of sections already constructed, and subjects the project to possible further delays and increased cost as the price of labor and construction inevitably rises in the next years. Any hindrance to the timely completion of this project risks the possible delay of the realization of first year economic benefits to the nation in the range of $140 million. In addition, a delay in funding could mean that this nationally important project would not be completed by the opening of the Panama Canal's third set of locks. For these reasons, we urge adoption of our **$80,000,000** funding recommendation, which is a continuation of the funding levels the subcommittee has approved in previous fiscal years. This approach is consistent with the stated goal of the Administration of placing priority and resources on the completion of Corps projects already underway.

Liberty State Park - We also request **$5,000,000** to execute the Project Partnership Agreement with the State of New Jersey and construct the critical wetlands restoration project within Liberty State Park. The project was authorized for construction in WRDA 2007. This project will both restore critical habitat within the estuary and also provide significant public access and education opportunities.

Continuing Authority Program (CAP): We request that CAP Sections 1135 and 204 are funded to fund the following ongoing projects within the Jamaica Bay complex: Plumb Island, NY ($500,000) and Spring Creek, NY ($50,000).

Surveys (Studies)	President's FY11 Budget	Port Request
HRE, Hackensack-Meadowlands, NJ	200,000	**250,000**
HRE, Lower Passaic River, NJ	200,000	**250,000**
HRE New York & New Jersey	200,000	**1,000,000**
TOTAL:	$ 600,000	**$ 1,500,000**

HRE - *Hackensack Meadowlands* - We respectfully request an increase in funding of an additional $50,000 for a total of **$250,000** to continue design work. The area's wildlife habitat preserves are threatened by dwindling open marshes. In April 2003, the Corps executed the FCSA with the NJ Meadowlands Commission, and initiated the feasibility study.

HRE - *Lower Passaic* – An increase in funding by $50,000 for a total of **$250,000** is needed for the HRE- Lower Passaic River to complete a Draft Comprehensive Restoration Plan for the entire lower 17-mile watershed. The plan is critical component of the integrated Remedial Investigation/Feasibility Study underway with EPA as a pilot project of the joint Corps-EPA Urban Rivers Restoration Initiative. Many changes have occurred over the last year and it is

important that the positive momentum gained not be lost on this critical project.

HRE *(overall), NY and NJ* -- There is a critical need to increase funding to $1,000,000 to allow the Corps to complete the Comprehensive Restoration Plan (CRP) that will outline the unified vision of a restored estuary based on specific science based and stakeholder endorsed ecosystem targets. It will also continue the feasibility study and programmatic Environmental Impact Statement, which is needed to implement the CRP. This study, as well as the Hackensack Meadowlands and Lower Passaic River studies, were authorized by House Resolution dated April 25, 1999 and are critical components to achieving the common stakeholder vision of a World Class Harbor estuary that recognizes ecological restoration as being of equal importance with economic development. This project directly aligns with other Administration initiatives and focus for the Corps in FY 2011.

Operation and Maintenance	President's FY 11 Budget	Port Request
Newark Bay, Hackensack and Passaic Rivers, NJ	100,000	**10,200,000**
Project Condition Surveys, NJ	1,506,000	**1,953,000**
Raritan River to Arthur Kill Cut-off, NJ	100,000	**1,450,000**
Raritan River, NJ	80,000	**120,000**
Buttermilk Channel, NY	8,600,000	**10,000,000**
East River, NY	2,800,000	**3,350,000**
East Rockaway Inlet, NY	$ 200,000	$ **1,750,000**
Eastchester Creek, NY	150,000	150,000
Flushing Bay and Creek, NY	100,000	100,000
Hudson River Channel, NY	100,000	**200,000**
Jamaica Bay, NY	120,000	120,000
New York and New Jersey Channels, NY	6,150,000	6,150,000
New York Harbor, NY	3,796,000	**3,998,000**
Portchester Harbor, NY	60,000	60,000
Project Condition Surveys, NY	1,928,000	**2,092,000**
Westchester Creek, NY	100,000	100,000
New York Harbor, NY & NJ (Drift Removal)	7,200,000	**7,900,000**
New York Harbor, NY&NJ (Prevent Obstructive Deposits)	1,045,000	**1,145,000**
TOTAL:	$34,135,000	**$50,838,000**

Operation & Maintenance: Maintenance projects are critical to the commerce, navigation and security of this National Priority port system, its channels and the Nation. Billions of public and private dollars are continuing to be spent to deepen the Port's channels and improve landside infrastructure. The considerable investment in deepening the network of channels is devalued if the system is not adequately maintained, especially in one of the most highly utilized ports in the country. Additionally, the risk of groundings will increase. The new budget continues the unfortunate pattern of past budgets that enable only partial channel maintenance, leaving significant areas and in some cases whole shipping lanes at inefficient and potentially unsafe depths. The Port is the Nation's busiest petroleum port, and the Arthur Kill (under NY & NJ Channels) is critical to that trade, which serves the greater NY/NJ Metropolitan area and much of the Northeast. Channel maintenance in this National Strategic Port is needed to support the

industry and military. Maintenance also protects and perpetuates the Federal infrastructure investment. We identified several critical projects with pressing channel safety concerns and it is important to state for the record that this part of the FY 2011 budget is insufficient to meet the practical needs of commerce. The irony is that the budget proposes using only around 50 percent of the estimated Harbor Maintenance Trust Fund receipts for the fiscal year. As such the Harbor Maintenance Trust Fund is fully capable of covering the full cost of dredging in our port and a good many others. To provide additional perspective, a January 2010 report from the Congressional Research Service (7-5700) notes that the NY/NJ port is a "large net generator" of Harbor Maintenance Tax revenue. It also illustrates how the NY/NJ port is one of most efficient ports when measured in HMTF maintenance expenditures per ton of cargo. We respectfully request the budget be increased as shown in the above list.

Conclusion: The Port of New York & New Jersey continues to be a major international gateway for the Nation and a significant producer of Harbor Maintenance Tax revenue to support the nation port system. Furthermore we would be remiss if we did not highlight the importance of continuing contracts as a valuable tool in managing the complexities of channel deepening and maintenance. National projects, like the NY & NJ Harbor Deepening Project, are better served with two-year continuing contracts supported by a five and ten year Corps priority project schedule. The Corps' Civil Works Program, coupled with public and private sector investments, has served the Nation's economic and security interests well for the better part of two centuries. We are proud of our part in that history. We commit to continuing our productive partnership with the Federal government and to ensuring that continued development and use of the Port and its supporting infrastructure is balanced between commerce and the environment.

March 19, 2010

The Honorable Peter J. Visclosky
Chairman
House Committee on Appropriations
Subcommittee on
Energy and Water Development
Room 2362-B Rayburn
Washington, DC 20515

The Honorable Rodney P. Frelinghuysen
Ranking Member
House Committee on Appropriations
Subcommittee on
Energy and Water Development
Room 2362-B Rayburn
Washington, DC 20515

Dear Chairman Visclosky and Ranking Member Frelinghuysen,

We, the undersigned labor organizations and corporations, write to respectfully request that the President's Fiscal Year 2011 request for the NY & NJ Harbor Deepening Program be augmented to $80,000,000.

The New York and New Jersey's port system has been a source of great strength for the region, generating important economic and strategic benefits. While many people are aware of this, there is a widespread assumption that our port system of waterborne commerce exists independently in and of itself, requiring modest capital investment or maintenance upkeep. That simply is not the case. Like highways, bridges, rail and airline terminals, our seaports and its channels need sufficient investment and care to ensure that they function properly. Channels must be deepened to accommodate larger and more sophisticated vessels. Existing connectors need to be upgraded to ensure that our port remains adequately linked to our highways and railroad terminals.

In other words, this is all about our vital infrastructure, port modernization, productivity and economic competitiveness. Roughly 95 percent of our nation's trade enters or leaves through 36 of the nation's largest seaports, the port of New York and New Jersey being the third largest. With international trade set to double over the next 15 years, the New York and New Jersey seaport will play an even greater role in the economic life of the nation and our local region.

Central to all of this is dredging. Dredging is to the maritime industry what a healthy diet and exercise are to the human body. Unfortunately, for decades now, funding levels have not kept pace with present and future demands.

In the midst of this economic crisis, the need for new infrastructure investment and continued maintenance remains great. The Labor Organizations and Corporations listed in this letter believe and support that investment in New York and New Jersey's port modernization along with channel and harbor dredging, which will provide good jobs now while preparing our region to continue to be a major player in the growing international trade market.

Our nation may be slowly pulling itself out of a recession, however jobs still remain the number one factor determining the country's success in that effort. The official national figure for the amount of people out of work is around 10 percent. That means one out of every 10 working-age American is out of a job and seeking employment, however, we know the problem is even worse. For almost every person included in the official count, there is another who is either

underemployed or who has just flat-out quit looking. Some analysts say the number of unemployed and underemployed in the United States may be approaching 18 percent. In minority communities, that figure is close to 25 percent – one out of every four.

There is no better time than the present, people can be put back to work now by building and maintaining our nation's vital maritime infrastructure, which will help strengthen our road to recovery. Now is the best time to provide funding for our nations economic development through infrastructure investments, which leads to job growth.

Sincerely,

LABOR ORGANIZATIONS:

Maritime Trades Department, International Union of Operating Engineers, Seafarers International Union, Marine Engineers Beneficial Association, Greater Maritime Port Council of New York/New Jersey and Vicinity, IUOE Local 25 Marine Division

CORPORATIONS:

Great Lakes Dredge and Dock Company, Weeks Marine Inc., Norfolk Dredging Company, DonJon Marine Inc., Cashman Dredging Company

Dredge Contractors Association of America

AMERICAN
SOCIETY FOR
MICROBIOLOGY

Public and Scientific Affairs Board

Statement of the American Society for Microbiology
Submitted to the
House Appropriations Subcommittee
On Energy and Water Development
On the Fiscal Year 2011 Appropriation for the Department of Energy Science Programs

The American Society for Microbiology (ASM) is pleased to submit the following testimony on the Fiscal Year (FY) 2011 appropriation for the Department of Energy (DOE) science programs. The ASM is the largest single life science organization in the world with more than 40,000 members. The ASM mission is to enhance the science of microbiology, to gain a better understanding of life processes, and to promote the application of this knowledge for improved health and environmental well-being.

The ASM supports the Administration's FY 2011 budget for the DOE and urges Congress to fund the Office of Science at $5.1 billion, a 4.4 percent increase from FY 2010. The ASM endorses the Administration's pledge to double funding for the Office of Science by FY 2017.

The DOE's Office of Science is the largest sponsor of basic research for the physical sciences in the United States. It supports more than 7,000 individual research projects at more than 300 academic institutions, and ten DOE national laboratories. It also provides access to leading edge research facilities for extramural investigators, including an estimated 26,000 that will use these facilities in FY 2011.

The Office of Science funds intramural and extramural research that might not otherwise exist due to its complexity or cutting edge, theoretical nature. Such research exemplifies the path to technological innovations needed to enhance our economy, our workforce, and our environment.

Biological and Environmental Research (BER)
The Office of BER, administered within the Office of Science, oversees research and facilities that support DOE's energy, environment, and basic research missions. BER sponsored research provides the foundational science underpinning DOE's goals for development of clean bioenergy sources, remediation and/or long term stewardship of legacy environmental contamination and understanding the impacts of climate change on Earth's ecosystems.

BER programs enable solutions for some of the nation's most difficult energy-related and environmental challenges by advancing our basic understanding of climate change, biofuels, carbon sequestration, remediation of subsurface contaminants, and interactions of biological and physical systems. Wide ranging studies of microbes are central to all of these efforts and include pioneering studies of the genetic potential of individual organisms and microbial communities in complex environments, as well as with development of new bioinformatics tools for effectively managing and utilizing large datasets to advance genome enabled scientific research.

Genomic Science

The BER Genomic Science program (formerly Genomics: GTL) accelerates the development of practical solutions to energy and environmental problems by understanding the integrated biological systems of microbes and plants that govern their structure and function. This program uses a combination of high throughput genome sequencing and cutting-edge systems biology research techniques to understand key biological processes, ranging from molecular-scale networks of single cells to community-scale interactions of ecosystems. In addition to directly supporting DOE mission-driven research efforts at both academic institutions and DOE national laboratories, publically accessible genomic and metagenomic sequence data produced by DOE facilities encourage and support innovation while helping to solve environmental problems and energize commercial biotechnology in the United States.

Addressing complex environmental and energy problems requires innovative, cross-cutting research, and the Genomic Science program supports a wide range of interdisciplinary research efforts with a strong microbiological component. For example, a recent research topic, "Biological Systems Research on the Role of Microbial Communities in Carbon Cycling" seeks to develop new integrated research efforts in genome-enabled systems biology, environmental microbiology, and modeling of biogeochemical processes aimed at understanding how shifts in environmental variables impact microbially-mediated carbon cycling processes. Gaining better quantitative knowledge of these processes is critical to predict the storage or release of carbon from ecosystems and potential levels of CO_2, methane, and other greenhouse gasses in the atmosphere.

Joint Genome Institute (JGI)

BER funding supports the DOE-Joint Genome Institute (JGI), which has sequenced over 450 microbial genomes, more than 200 "metagenomes" of microbial communities, as well as 25 plant genomes with energy and environmental significance. The JGI provides access for external researchers to its state of the art sequencing and bioinformatic capabilities. Current sequencing capacity is about four Tera-base pairs per year, and this capacity is continually expanding with advances in sequencing technology and computing. JGI researchers generate results that push the boundaries of 21st century genomics, sequencing organisms that degrade cellulose, capture carbon, and transform environmental contaminants. Their discoveries help stakeholders make decisions about the selection of new bioenergy crops and cost effective bioenergy production. Examples of JGI-supported research reported in 2009 included:

- Descriptions of genomes of two ocean algae with a focus on the genes that enable carbon capture by fixing CO_2; these results may lead to improved production of algae-derived biofuels
- Comparisons of genomes and proteins expressed from ten strains of *Shewanella* bacteria; these microbes play important roles in environmental remediation due to their ability to absorb and detoxify certain metals and organic compounds
- The sequencing of 56 microbes (the "Genomic Encyclopedia of the Bacteria and Archaea" project) from less-explored branches of the microbial taxonomic tree (microbial "dark matter") to widen the set of reference sequences for comparisons of metagenomic sequencing data and for continued "prospecting" for genes with novel catalytic or enzymatic activities relevant to DOE needs in Bioenergy, carbon cycling, or contaminant remediation.
- Using a bioreactor to incubate a compost microbial community with switchgrass, it was possible to select for microbes that degraded switchgrass and thus identify new glycoside

hydrolases that may have utility in grass cell wall deconstruction, critical to exploiting plants for biofuels.

Bioenergy Research Centers
BER supports three DOE Bioenergy Research Centers (BRCs), established in 2007, tasked with developing innovative new strategies for biofuels production. When created, the multidisciplinary Centers brought together teams of researchers from 18 of the nation's leading universities, seven DOE national laboratories, at least one nonprofit organization, and a range of private companies. The collective mission is to perform fundamental research addressing barriers to economic production of energy from cellulosic biomass and drastically reduce the nation's consumption of fossil fuels. Goals include identification of next generation bioenergy crops, discovery of enzymes and microbes that degrade biomass, and creation of microbe-mediated models of fuel production of bioethanol and other next generation biofuels. Each center applies cutting-edge technologies and research methods, working with a wide range of biomass source materials and managing massive data sets in the search for tomorrow's clean energy.

Headquartered at DOE's Oak Ridge National Laboratory, the University of Wisconsin-Madison, and DOE's Lawrence Berkeley National Laboratory, the three BRCs are investigating microbial processes that can convert diverse crops, such as switchgrass and poplar, into usable fuels. Specific examples include the BioEnergy Science Center's approaches for screening of samples from natural thermal springs to identify enzymes and microbes that effectively break down and convert biomass at high temperatures and genetically engineering a lignocellulose-degrading microbe for ethanol production. Researchers at the Great Lakes Bioenergy Research Center are developing more refined metabolic models of in microbes to enable rational design of metabolic engineering strategies for enhanced biofuels production. The Joint BioEnergy Institute is pursuing synthetic biology research on microbial synthesis of a variety of hydrocarbon compounds with higher energy content than ethanol and better compatibility with existing fuel distribution infrastructure.

Basic Energy Sciences (BES)
The Office of BES, administered within the Office of Science, supports fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels, providing the foundations for new energy technologies and supporting DOE missions in energy, environment, and national security. The portfolio supports work in the natural sciences, emphasizing fundamental research in materials sciences, chemistry, geosciences, and aspects of biosciences. BES also operates sophisticated, state-of-the-art equipment and facilities open to extramural investigators from private institutions, universities, and national laboratories. Research highlights include determination of the structure and organization of the highly efficient light-harvesting chlorosome antenna complex in green sulfur photosynthetic bacteria, elucidation of the methanogenic archaeal translational machinery that allows incorporation of the 22nd amino acid pyrrolysine into proteins, characterization of critical components of the algal light-harvesting complex, and determination of the biosynthetic pathway for methane production from CO_2 and molecular hydrogen.

In 2009, BES Energy Biosciences evolved into two complementary and synergistic programs, Photosynthetic Systems and Physical Biosciences. Both programs support unique areas of fundamental research on plant and non-medical microbial systems.

Photosynthetic Systems
The BES Photosynthetic Systems program supports fundamental research on the biological conversion of solar energy to chemically stored forms of energy, bringing together biology, biochemistry, chemistry, and biophysics approaches to study natural photosynthesis and related processes including carbon fixation and metabolism. Advances in genomics technologies such as metabolomics along with increased availability of plant genomic sequences are also providing new opportunities to leverage the strengths of the Photosynthetic Systems program in molecular biology and biochemistry with powerful capabilities in imaging and computation. Example topics of study include light harvesting, exciton transfer, charge separation, transfer of reductant to carbon dioxide, and the biochemistry of carbon fixation and carbon storage. Emphasized areas are those involving strong intersection between biological sciences and energy-relevant chemical sciences and physics, such as in self-assembly of nanoscale components, efficient photon capture and charge separation, predictive design of catalysts, and self-regulating/repairing systems. The program aims to provide a critical scientific knowledge base that can inspire the roadmap for artificial photosynthesis and enable new strategies and technologies for more efficient generation of biomass as a renewal energy source.

Physical Biosciences
The BES Physical Biosciences program combines experimental and computational tools from the physical sciences with biochemistry and molecular biology. The goal is increased fundamental understanding of the complex processes that convert and store energy in plants and non-medical microbes, including archaea. Examples of research supported by this program include studies that investigate the mechanisms by which energy transduction systems are assembled and maintained, the processes that regulate energy relevant chemical reactions within the cell, the underlying biochemical and biophysical principles determining the architecture of biopolymers and the plant cell wall, and active site protein chemistry that provides a basis for highly selective and efficient bioinspired catalysts. Combined with efforts in molecular biology and biochemistry, increased use of physical science and computational tools (ultrafast laser spectroscopy, current and future x-ray light sources, quantum chemistry) to probe spatial and temporal properties will give us an unprecedented architectural and mechanistic understanding of biological systems and allow the incorporation of identified principles into the design of bio-inspired synthetic or semi-synthetic energy systems.

EPSCoR
The BES administered Experimental Program to Stimulate Competitive Research (EPSCoR) also supports a significant sector of the nation's energy research, distributing university grants in a number of states across the country. EPSCoR's interdisciplinary program areas include, among many others: biological and environmental science, advanced computer science, renewable energy science, climate change, genomics, and science education. EPSCoR has traditionally provided academic incubators for innovation and economic recovery.

Research Infrastructure and the Nation's Workforce
More than 30,000 scientists and engineers work at DOE laboratories and technology centers, but many more are supported through grants and fellowships, or the use of cutting edge facilities and equipment that often are one of a kind. An example was last September's announcement of up to $12.5 million in Recovery Act funding for at least 80 graduate fellowships to US students pursuing advanced STEM-related degrees, through the Office of Science's new Graduate Fellowship program.

DOE's Office of Science has also initiated an Early Career Research Program, designed to bolster the nation's scientific workforce by providing support to exceptional researchers during the crucial early career years, when many scientists do their most formative work.

Another Office of Science program, Workforce Development for Teachers and Scientists, specifically targets workforce shortages and provides college undergraduates and K-12 teachers with DOE laboratory experiences, designed to attract more young Americans into the STEM workforce.

The Office oversees ten world class facilities: the Ames, Argonne, Brookhaven, Lawrence Berkeley, Oak Ridge, Pacific Northwest, and Princeton Plasma Physics national laboratories, plus the Fermi, Thomas Jefferson, and SLAC accelerator facilities. These institutions encourage use by outside researchers and students, typically without cost, if results are posted for public knowledge. Each SC facility is an invaluable resource of unique research tools for scientific specialists. The Environmental Molecular Sciences Laboratory at the Pacific Northwest National Laboratory has hosted more than 10,000 scientists from all 50 states and more than 60 countries since its opening in 1997. This year, the DOE will permit extramural use of roughly 1.3 billion supercomputer processor hours at its Argonne and Oak Ridge facilities, awarded to researchers whose projects would be impossible without petascale (quadrillion calculations per second) computing.

Conclusion

The ASM supports increased funding for the DOE Office of Science in FY 2011 and urges Congress to fund the Office of science with at least $5.1 billion. The diverse Office of Science programs and their successes advance the DOE's strategic mission to sustain the pace of scientific discovery and to educate and train the vital scientific workforce. Global climate change, clean energy, and pristine environments are challenges that demand unflinching responses from the United States' science and technology sectors. DOE funded science and engineering are integral to our nation's search for solutions. The Office of Science leads this effort with notable basic and applied energy research, which often is unique in its complexity, technical requirements, or high risk, high impact design.

The ASM appreciates the opportunity to provide written testimony and would be pleased to assist the Subcommittee as it considers the FY 2011 appropriation for the DOE.

OUTSIDE WITNESS TESTIMONY

Energy and Water Development Subcommittee on Appropriations
Honorable Peter Visclosky, Chairman

Mni Wiconi Project (PL 100-516, as amended), testimony submitted by
Oglala Sioux Rural Water Supply System, Frank Means, Director
Oglala Sioux Rural Water Supply System, Reno Red Cloud, Director WMC
West River/Lyman Jones Rural Water System, Jake Fitzgerald, Manager
Rosebud Rural Water System, Syed Huq, Director
Lower Brule Rural Water System, Jim McCauley, Manager

Agency: Bureau of Reclamation

1. FY 2011 Request

The Mni Wiconi Project beneficiaries respectfully request $37.222 million in appropriations for construction and $11.754 million for operation and maintenance (OMR) activities for FY 2011, a total request of $48.976 million:

FY 2011 Total Request		
Construction	OMR	Total
$37,222,000	$11,754,000	$48,976,000

The construction request includes $1.0 million for Bureau of Reclamation oversight, and the OMR request includes $1.447 million for Bureau of Reclamation oversight.

2. Construction Funds

Construction funds would be utilized as follows:

Project Area	Construction Request FY2011
Oglala Sioux Rural Water Supply System	
Core	Complete
Distribution	22,069,000
West River/Lyman-Jones RWS	3,719,000
Rosebud RWS	11,434,000
Total	$37,222,000

As shown in the table below, the project will be 88% complete at the end of FY 2010. Construction funds remaining to be spent after FY 2010 will total $54.518 million within the current authorization (in October 2009 dollars). Additional administrative and overhead costs of extending the project, additional construction costs, and inflation at 3.7% over the next 3 years are expected to increase remaining project costs to $111.667 million after FY 2010.

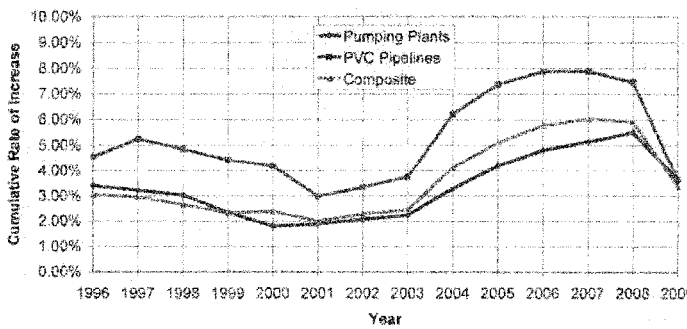
Total Federal Construction Funding (Oct 2009 $)	$	460,014,364
Estimated Federal Spent Through FY 2010	$	405,496,000
% Spent Through FY 2010		88.15%
Amount Remaining after 2010		
Total Authorized (Oct 2009 $)	$	54,518,364
Adjusted for Extension to FY 2013 and Other Cost	$	103,958,000
Adjusted for Annual Inflation	$	111,667,000
Completion Fiscal Year (Statutory FY 2013; PL 110-161)		2013
Years to Complete		3
Average Annual Required for Finish in FY 2013	$	37,222,000

Cost indexing over the last five years has averaged 3.66 % for pipelines, primarily due to a 7.7% reduction last year during recession. Pipelines are the principal components yet to be completed (see chart below). Assuming average 3.66% inflation in construction costs over the remaining three years, average funding of $37.222 million is required.

This is an increase in the annual rate of appropriations needed to complete the project since last year's estimate of $31.4 million. Appropriations were limited to $22 million last year, which increases the average annual rate of funding needed to complete in 2013 on the statutory schedule.

The request will create an estimated 298 full-time equivalent (FTE) construction jobs and 89 OMR jobs in an area of the nation with the lowest per capita income and deepest poverty.

RATE OF CONSTRUCTION COST INCREASE
FOR ANNUAL AND 5-YEAR RUNNING AVERAGES SINCE 1992,
US BUREAU OF RECLAMATION



3. Oglala Sioux Rural Water Supply System (OSRWSS)

Core System

The Oglala Sioux Tribe has completed the core system. The completion of the OSRWSS core system was an historic milestone and permits greater focus in remaining years of the Project on completion of the distribution systems.

Distribution System

The Pine Ridge Indian Reservation will receive significantly more water from the OSRWSS core system in FY 2010. This is another historic year, but considerable work remains to distribute the water supply throughout the Reservation. Over 40% of the Project's population resides on the Pine Ridge Indian Reservation, and only 52% of the distribution system is complete. The Reservation public received its first Missouri River supply in small amounts in 2009 after waiting 15 years for construction of core facilities to the Reservation.

Project funds in FY 2011 will continue building the on-Reservation transmission system between the community of Wounded Knee and Pine Ridge Village. The latter community is the largest on the Reservation and the point of greatest demand. Funding will also be used for transmission and service line development east of Pine Ridge Village toward Wakpamni, Batesland and Allen and south toward the Nebraska State line where groundwater is the most feasible water source for the future. This area has been deferred in the past due to funding constraints.

Delivery of Missouri River water to Kyle in FY 2010, delayed due to funding, will allow distribution to completed OSRWSS pipelines that serve the communities of Kyle, Sharps Corner, Rocky Ford, Red Shirt, Manderson, Evergreen and Porcupine and the large number of rural homes between the communities along these pipelines. FY 2011 funds will be used to extend service south of Wanblee to Hisle.

As set forth above, activity on the Pine Ridge Indian Reservation in FY 2011 continues to focus on constructing the transmission system that serves as the "backbone" of the Project on the Reservation from the White River in the northeast corner of the Reservation to Pine Ridge Village. The Tribe will continue focus on the disinfection requirements to blend Missouri River water and high quality groundwater without creating harmful contaminants. State-of-the-art designs are being implemented for water quality control and SCADA systems, and the Project will serve as a model for other projects requiring these facilities.

The Oglala Sioux Tribe is supportive of the funding request of other sponsors.

4. West River/Lyman-Jones Rural Water System

West River/Lyman-Jones RWS projects for FY2011 include standby generation facilities, conversion of community water systems, storage reservoirs, SCADA, and cold storage additions.

The upper mid-west and specifically the Mni Wiconi Project area regularly experience power outages as the result of winter weather conditions. Regulatory authorities in South Dakota have recommended standby generation as the result of statewide power outages experienced during the winters of 2005-06 and

2009-10. The Bureau of Reclamation has concurred in the addition of standby generation to the Mni Wiconi plan of work. WR/LJ has outlined a three year standby generation project schedule.

The WR/LJ project includes four areas in which area ranchers are served by a common well of limited capacity and unacceptable water quality. The construction of WR/LJ facilities to serve them as individual members of WR/LJ will provide the pipeline capacity and water quality meeting Mni Wiconi project design standards.

Water storage needs include an elevated tower in the Reliance service area, a ground storage reservoir in Mellette County and supplemental storage in the Elbon service area.

System Control and Data Acquisition (SCADA) capability provides accurate and efficient transmission of data and allows remote control of pumping and storage facilities. The WR/LJ SCADA system will be completed using the requested funding.

Storage facilities at the Murdo and Philip operations centers will complete the building components of the WR/LJ project.

Previous Federal appropriations to the Mni Wiconi Project have made possible the delivery of much needed quality water to members of the West River/Lyman-Jones RWS and to the livestock industry in the project area. This would not have been possible with State and Federal assistance.

5. Rosebud Sioux Rural Water System – Fiscal Year 2010

In FY 2011 work on the Rosebud Sioux Rural Water System (RSRWS or Sicangu Mni Wiconi) focuses on supplying high quality water to southern Todd County. It was hoped that this area of the Rosebud Reservation would not need to be connected to the Mni Wiconi Project because of the presence of the Ogallala aquifer. The estimated demands for the area were however included in system planning and it now appears this foresight was beneficial because portions of the aquifer have high nitrates and other areas are not as high yielding as originally thought.

Because of quality and quantity limitations of the aquifer, high quality surface water from OSRWSS will be conveyed by a transmission pipeline to a new elevated storage reservoir at Sicangu Village. The elevated reservoir is being constructed this year with ARRA funds. Sicangu Village is an expanding housing area and the local wells cannot meet demands of expansion. The transmission line and elevated reservoir will provide a reliable supply of high quality water to the development corridor centered on Highway 83 between Mission and Sicangu Village.

The other major projects will extend service to two schools in southern Todd County. The wells that supply water to the schools have high nitrates. The Mni Wiconi Project will ensure that future generations on the Rosebud Reservation, both Indians and non-Indians alike, will be supplied with water that meets safe drinking water standards.

While supply to meet the demands in southern Todd County was included as a contingency in the Tribe's Needs Assessment and the Mni Wiconi Final Engineering Report, costs of infrastructure was not. In order to supply these schools, other areas may not be served unless an amendment authorizing an increase in the project ceiling and extending the sunset date is enacted.

The ongoing effort to connect rural homes to transmission and distribution lines will also continue in 2011. This work is undertaken through the Tribe's force account program that not only provides a reliable source of high quality water to rural homes it also provides employment to numerous tribal members and helps circulate dollars on the Reservation thereby stimulating the local economy.

6. OMR

The Sponsors will continue to work with Reclamation to ensure that their budgets are adequate to properly operate, maintain and replace (OMR) respective portions of the core and distribution systems. The Sponsors will also continue to manage OMR expenses to ensure that the limited funds can best be balanced between Construction and OMR.

The Project has been treating and delivering more water each year from the OSRWSS Water Treatment Plant near Fort Pierre as construction is advanced in the Rosebud, WRLJ and Oglala service areas. Completion of significant core and distribution pipelines has resulted in more deliveries to more communities and rural users. The need for sufficient funds to properly operate and maintain the functioning system throughout the project has grown as the Project has now reached 88% completion. The OMR budget must be adequate to keep pace with the system that is placed in operation.

The Lower Brule Rural Water System (LBRWS) is essentially complete with all major components such as the water treatment plant, booster stations and tanks/reservoirs in full operation. As a result, LBRWS's operation and maintenance portion of the budget has reached a baseline amount to which only slight adjustments along with inflation should be made each year. The portion of the LBRWS OM&R budget that is somewhat variable is the Replacement Additions and Extraordinary (RAX) maintenance items. LBRWS will continue to work with the Bureau of Reclamation and the other sponsors to prioritize their needs and ensure that their system is operating to the standards that have been established over the past several years. With that in mind, the LBRWS request for OMR for FY 2011 is $1,550,000.

OSRWSS will incur unanticipated core OMR expenses in FY 2011 to replace valves, remove sludge at the water treatment plant and supplement ARRA funds for chlorine booster stations and generators/transfer switches. The unanticipated costs are $661,000, which will improve facilities that benefit all project sponsors.

The Mni Wiconi Project tribal beneficiaries (as listed below) respectfully request appropriations for OMR in FY 2011 in the amount of $11.754 million.

Project Area	FY 2011 OMR Request
Oglala Sioux Rural Water Supply System	
Core	$3,380,000
Distribution	3,100,000
Lower Brule	1,550,000
Rosebud RWS	2,277,000
Reclamation	1,447,000
Total	$11,754,000

7. Trust Responsibility

PL 100-516, the Mni Wiconi Project Act, provides that "*...United States has a trust responsibility to ensure that adequate and safe water supplies are available to meet the economic, environmental, water supply, and public health needs of the... Indian Reservation[s]...*"

The field staff and the Regional Office of the Bureau of Reclamation have been extremely helpful in advancing this project, but there is growing concern that Reclamation mid-managers are making unilateral decisions that harm the trust relationship. We are also concerned with the manner of budgeting. The following are specific instances:

- Reclamation has re-distributed funds allocated to the Oglala Sioux Tribe to West River/Lyman Jones without the urging of West River Lyman Jones to further Reclamation performance objectives. While OSRWSS has consistently carried funds over from one fiscal year to another, there has never been an instance or a threat of an instance of not spending funding appropriated in the same year and the year that follows. The Oglala Sioux Tribe strongly feels that this hampers the ability of the OSRWSS to complete the OSRWSS distribution system prescribed by the statutory completion date.

- To our complete satisfaction on construction, Reclamation has yielded to the leadership of the Indian and non-Indian sponsors to permit their collaborative development of annual funding allocations and budgets. On the other hand, Reclamation has imposed its structure and budget specifics in lieu of Indian leadership on the formulation of annual OMR allocations and budgets;

- Reclamation has prioritized total budgeted funds with a separation between Construction and OMR accounts based on its trust responsibility for OMR, which constrains the budgeted funds available to complete construction. OMR budgeting has been held relatively constant with higher percentages of construction completion, and construction budgeting has decreased. The fixed level of OMR funding has constrained the activities needed on the Indian distribution systems. The construction budget is diminishing at a time when acceleration of construction is needed to deliver the benefits of the project to the Indian people. At a minimum, the construction budget should be a priority and should be held at a level needed to complete the project on the statutory schedule in 2013 while providing an adequate OMR budget. The trust responsibility for ensuring adequate and safe water supplies for the reservations involved necessarily includes both the construction and OMR activities;

- Mid-level managers often view the project as a Reclamation project, rather than as an Indian project as provided by PL 100-516, and their vision is affected.

Testimony of the Biomass Energy Research Association
ON BIOMASS ENERGY RESEARCH, DEVELOPMENT & DEMONSTRATION

Joan L. Pellegrino, President
Board Members: Charles E. Wyman, U. of California, Riverside; Evan Hughes, Consultant, formerly Electric Power Research Institute; Mark Paisley, Taylor Biomass Energy; and Phil Badger, General Bioenergy, Inc.

Department of Energy Fiscal Year 2011 Budget Appropriation
Submitted to the House Committee on Appropriations
Subcommittee on Energy and Water Development

March 19, 2010

SUMMARY

This testimony pertains to fiscal year 2011 (FY11) appropriations for biomass energy research, development, and demonstration (RD&D) conducted by the **Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE), Biomass Program (OBP)**. This RD&D is funded by the Energy and Water Development Bill, under Energy Supply and Conservation, Energy Efficiency and Renewable Energy. BERA recommends a total appropriation of **$360 million in FY11 for Biomass and Biorefinery Systems R&D**. This is an increase of ~$140 million over the U.S. Department of Energy request for FY11 for this programmatic area. Specific lines items are summarized below (also see Table 1).

- **$30,000,000** for **Feedstocks** (regional partnerships, high yield feedstocks, simpler/cheaper algae routes)
- **$130,000,000** for **Conversion Technologies**, distributed as follows:
  - *$50,000,000* for **Biochemical Conversion** (emphasis on low cost sugars, advanced fuels, traditional plus non-traditional conversion routes, e.g., aqueous processing, chemical catalysis)
  - *$80,000,000* for **Thermochemical Conversion** (conversion to oils, long chain hydrocarbons, or other fuels/intermediates via pyrolysis, gasification, and non-traditional routes; low cost reactive intermediates such as CO and hydrogen)
- **$100,000,000** for **Integrated Biorefineries. (Systems integration, risk reduction through** technology demonstrations, sustained support for first-of-a-kind projects).
- **$20,000,000** for **Sustainability and Analysis** to assess life cycle impacts.
- **$80,000,000** for **Biopower** for pilot scale RD&D on decentralized applications; studies to assess cost, environmental impacts, and permitting issues; RD&D to address performance and other issues for larger scale boiler repowering.

BACKGROUND

On behalf of BERA's members, we would like to thank you, Mr. Chairman, for the opportunity to present the recommendations of BERA's Board of Directors for the high-priority programs that we strongly urge be continued or started. BERA is a non-profit association based in the Washington, DC area. It was founded in 1982 by researchers and private organizations conducting biomass research. Our objectives are to promote education and research on the

economic production of energy and fuels from biomass, and to serve as a source of information on biomass RD&D policies and programs. BERA does not solicit or accept Federal funding.

Table 1. FY 2011 Biomass &Biorefinery Systems R&D, Energy Supply & Conservation, DOE/EERE Biomass Program (Million Dollars)		
Program Area	**Description of RD&D**	**Total**
Feedstocks	- Regional feedstock partnerships - Research to improve energy crops, including super high yields: achieve 10 to 25 dry tons/acre/year via R&D compared with the 2 to 7 dry tons/acre/year possible today - Plants species amenable to thermochemical (e.g., high lignin) and biochemical (e.g., more easily processed lignin) processes - Simpler, less expensive algae production	$30.0
Conversion Technologies: Biochemical	- Conversion to next generation biofuels/processes (broader range of liquid fuels beyond ethanol) - Reduction of sugar costs through cheaper enzymes and other routes - Non-traditional technologies such as aqueous phase processing, chemical catalysis	$50.0
Conversion Technologies: Thermochemical	- Next generation biofuels and processes that can use a range of feedstocks (pyrolysis, gasification, other routes) - Low cost reactive intermediates such as CO and hydrogen - Synthetic routes to expand beyond Fischer-Tropsch fuels	$80.0
Integrated Biorefineries	- Risk reduction through demonstrations of biochemical and thermochemical conversion technologies in biorefineries, sustained support for first-of-a-kind projects, and underwriting of loan guarantees	$100.0
Analysis and Sustainability	- Life cycle analysis of new technology pathways - Land use issues	$20.0
Large Scale Biopower	- RD&D at pilot scale for decentralized biopower applications - Studies to analyze cost, permitting, and environmental issues	$80.0
TOTAL		$360.0

There is a growing urgency to diversify our energy supply, develop technologies to utilize indigenous and renewable resources, reduce U.S. reliance on imported oil, and mitigate the impacts of energy on climate and the environment. The benefits are many – economic growth, new American jobs, enhanced environmental quality, and fewer contributions to climate change. Economic growth is fueled and sustained in large part by the availability of reliable, cost-effective energy supplies. A diversified, sustainable energy supply is critical to meeting our energy challenges and maintaining a healthy economy with a competitive edge in global markets. Biomass can diversify U.S. energy supply in several ways:

- Biomass is the single renewable resource with the ability to **directly replace liquid transportation fuels.**
- Biomass can be used as a feedstock to **supplement the production of chemicals, plastics, and materials now produced from crude oil.**
- Gasification of biomass produces a syngas that can be utilized to **supplement the natural gas supply, generate electricity, or produce fuels and chemicals.**
- Biomass can be used directly or in combination with coal to **diversify our electricity supply**.

While biomass will not solve all our energy challenges, it can certainly contribute to the diversity of our supply, and do so in a sustainable way, while minimizing impacts to the environment or climate. Goals could be to reach at least the 10% to 15% levels in both the electricity generation and motor vehicle transportation sectors by the 2020 to 2030 decade, up from on the 1% to 25% levels today in these two sectors. Unlike solar and perhaps wind, biomass will be constrained to far below 100%, due to land use and water availability concerns. However, biomass can be developed from a minor role to a major role in a diversified, domestic and renewable energy supply for the United States, based on an expansion of our nation's agriculture and forest products industries. The Energy Independence and Security Act (EISA) of 2007 mandates increased use of alternative fuels, with a substantial portion to come from cellulosic biomass. A federal Renewable Portfolio Standard (RPS) is now under consideration (many States have already passed such legislation) which would increase the use of renewables for electricity, including biopower. To meet the EISA goals and potentially a federal RPS will require aggressive support for RD&D to move technology forward and reduce technical and economic risk.

OVERALL BERA RECOMMENDATIONS FOR US DOE/EERE BIOMASS RD&D

1. **PURSUE A BALANCED APPROACH TO BIOMASS R&D [All R&D Areas]** It is important for DOE to pursue a balanced approach to biomass R&D. This means striking a balance between the involvement of national labs, academia, and industry to take advantage of their distinctive strengths, rather than relying heavily on national laboratories, as in the past. The DOE should also pursue a balance between understanding fundamentals, advancing the technology, applying the technology, and integrating the technology. There has been a particular neglect of understanding fundamentals to provide a technology platform that would catalyze development of better technologies and enhance commercial success. Technology breakthroughs are needed because the scale (large) and the costs (too high) are barriers for the technology development pathways needed to meet today's energy and climate challenges. Mechanisms are needed to ensure that fundamental research and new processes and science get into the hands of the companies most likely to deploy the breakthroughs.
2. **MAKE INVESTMENTS TO BRING DOWN THE COST OF SUGARS FROM BIOMASS. [Biochemical and Thermochemical Conversion R&D]** One key to competiveness is reducing the cost of producing reactive intermediates from biomass. For biological systems, this means getting low cost sugars, as expensive sugars result in expensive products whether the product is ethanol or an advanced, infrastructure-compatible (drop-in) fuel. Making a drop-in fuel from expensive sugars is a pathway for

failure. Similarly, for thermochemical approaches, the key is getting low cost reactive intermediates such as CO and hydrogen. The balance advocated in Item 1 can help reduce the cost of making such intermediates. Include advanced biological routes that better integrate simplified combined biological methods with pretreatment to reduce enzyme costs dramatically, as enzymes followed by pretreatment are the major cost items that are susceptible to change.

3. **PROVIDE SUPPORT FOR BOTH TRADITIONAL AND NON-TRADITIONAL CONVERSION ROUTES [Conversion Technologies]** We recommend that while both biological and thermochemical processes be funded, greater emphasis should be given to thermochemical conversion for transportation fuels and substitutes for other petroleum-derived products to mitigate our dependency on imported oil. Thermochemical technology has been historically under-funded despite its potential to produce more infrastructure-compatible fuels. Biofuels R&D should be expanded beyond just ethanol and Fischer-Tropsch products. We advocate funding for chemical catalysis (rather than just fermentation) to broaden the spectrum for products from sugars; new catalysts and synthetic routes are needed. In addition to the traditional focus of biological and thermochemical routes, it is important to support new emerging technologies such as aqueous phase processing of biomass to diesel and jet fuel substitutes.
4. **REDUCE THE RISK OF NEW FUEL PRODUCTION TECHNOLOGY VIA DEMONSTRATIONS, LOAN GUARANTEES, AND SUSTAINED SUPPORT FOR FIRST-OF-A-KIND PROJECTS [Integrated Biorefineries]** It is important that DOE and the Congress understand the substantial challenges of introducing new fuel production technology, particularly in a market with large swings in prices. A fortune can be made when oil prices are high – and twice as many fortunes lost when they drop. A key approach is for DOE to "buy down" risk in a meaningful way to compensate for the huge fluctuations, and enable a few first-of-a-kind projects to succeed. DOE must also provide sustained support and avoid dropping projects prematurely. Technology demonstrations reduce technical and economic risk and accelerate the potential for private investment. A high level of guarantee is vital – as introducing any new fuel in today's petroleum-heavy market is extremely challenging. The capital costs for petroleum processing are paid off, making it a cash producer, while a biofuels facility must cover not only cash costs but make a high return on capital to compensate for first time risk. This is a heavy lift for first-of-a-kind technology.
5. **PURSUE SIMPLER AND LESS EXPENSIVE SYSTEMS FOR UTILIZING ALGAE [Feedstocks].** Much simpler and less expensive systems are needed, especially to harvest algae. This technology advancement should be pursued before other any new large scale projects are initiated.
6. **INCREASE SUPPORT FOR HIGH YIELD FEEDSTOCKS.** The cost efficient production and handling of energy crops—which is necessary for any significant impact on our national needs—continues to be a major cost and issue. However, it historically has been given a disproportionally small portion of funding.
7. **CONDUCT RD&D TO ENABLE GREATER USE OF DECENTRALIZED BIOPOWER.** A substantial increase over the requested $50 million should be made to support hands-on, applied RD&D to accelerate use of biopower. The bulk of these funds should go to RD&D rather than paper studies. Research activities of at least a pilot scale are a priority. While expensive, these are where the real path to commercialization happens.

Biopower RD&D activities should emphasize decentralized generation (5-50 MW), which plays to biomass's strengths (flexibility in delivery, broad applicability, localized/sustainable power) and environmental benefits (less transmission lines, less fuel hauling, less intrusiveness, more efficient/CHP). Biomass can also be pursued for centralized generation (large power) as a strategy for reducing greenhouse gases, and may be more attractive than other renewables as it is readily available and can be combusted much like coal. Large power uses may have a role for building biomass fuel supply infrastructure via fuel supplies developed locally with low capital cost because the coal plant is already built. RD&D could potentially focus on performance issues related to re-powering boilers with biomass.

8. **CONDUCT STUDIES NEEDED TO ASSESS COST, PERMITTING, AND ENVIRONMENTAL ISSUES RELATED TO BIOPOWER.** Studies are needed to inform industry, Congress, and the general public, but should not be the primary focus of biopower efforts. The cost and time for permitting of plants is already a significant factor in biomass industrial use and is growing. Permitting processes should be reviewed with a goal of facilitating industry growth by making permitting as simple, quick, and reasonable as possible. Regulators and companies need to be confident that they can obtain permits for biomass power or fuel plants. A scoping study of potential technologies meeting near-term scale-up potential or useable in retrofitting existing facilities could be useful, if it facilitates permitting or building of plants or retrofits. Detailed cost estimates for potential power generation and biomass conversion facilities could stimulate serious consideration from the business community raise awareness of successful DOE projects. Assessment of potential GHG emission reductions is needed to clarify the impacts on fossil energy and fossil CO2 that result from biomass crops, harvesting, energy from forests, etc., and moving to power plants. The goal is a fair net CO2 and net energy reduction value compared to fossil alternatives.
9. **LEVERAGE RESULTS FROM EXISTING/ONGOING WORK ON BIOMASS to SUPPORT BIOPOWER EFFORTS.** Cost-benefit analysis on feedstock type and delivery systems, for example, is not entirely unique to power and similar studies conducted for biomass feedstocks and biofuels can be leveraged to understand the biopower landscape.

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March 19, 2010 —BY E-mail to EW.Approp@mail.house.gov
Subcommittee on Energy and Water Development, and Related Agencies
Committee on Appropriations
2362B Rayburn House Office Building
U.S. House of Representatives
Washington, DC 20515

RE: FY11 Appropriations—Support for DOE Office of Science and Office of Energy Efficiency and Renewable Energy and other program areas

Dear Chairman Visclosky, Ranking Member Frelinghuysen and Members of the Subcommittee:

The **American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America (ASA-CSSA-SSSA)** are pleased to submit the following funding recommendations for the ***Department of Energy*** for FY 2011. For the ***Office of Science***, ASA, CSSA, and SSSA recommend a funding level of $4.9 billion, a 10% increase over FY 2010 ($4.5 billion). For the ***Office of Energy Efficiency and Renewable Energy***, we recommend a funding level of $2.4 billion, a 7% increase over FY 2010. Specifics for each of these and other budget areas follow below.

With more than 25,000 members and practicing professionals, ASA, CSSA, and SSSA are the largest life science professional societies in the United States dedicated to the agronomic, crop and soil sciences. ASA, CSSA, and SSSA play a major role in promoting progress in these sciences through the publication of quality journals and books, convening meetings and workshops, developing educational, training, and public information programs, providing scientific advice to inform public policy, and promoting ethical conduct among practitioners of agronomy and crop and soil sciences.

Department of Energy Office of Science
ASA, CSSA, and SSSA understand the challenges the House Energy and Water Appropriations Subcommittee faces with the tight budget for FY 2011. We also recognize that the Energy and Water Appropriations bill has many valuable and necessary components, and we applaud the Subcommittee for funding the ***DOE Office of Science*** in the FY 2010 Omnibus Appropriations bill at $4.5 billion. For FY 2011, ASA, CSSA, and SSSA recommend a funding level of $4.9 billion, an 10% increase over FY 2010. Congress approved the America COMPETES Act of 2007 (P.L. 110-69), recognizing that an investment in basic (discovery) scientific research is essential to providing America the brainpower necessary to maintain a competitive advantage in

the global economy and keep U.S. jobs from being shipped overseas. Such an investment is needed to keep U.S. science and engineering at the forefront of global research and development in the biological sciences and geosciences, computing and many other critical scientific fields. The ***Office of Science*** supports graduate students and postdoctoral researchers early in their careers. Nearly one third of its research funding goes to support research at more than 300 colleges and universities nationwide. Moreover, approximately half the users at ***Office of Science*** user facilities are from colleges and universities, providing further support to their researchers. The ***Office of Science*** also reaches out to America's youth in grades K-12 and their teachers to help improve students' knowledge of science and mathematics and their understanding of global energy and environmental challenges. This recommended funding level of $4.9 billion is critical to ensuring our future energy self-sufficiency and as a means to address major environmental challenges including global climate change. Finally, a funding level of $4.9 billion will allow the ***Office of Science*** to: maintain and strengthen DOE's core research programs at both the DOE national laboratories and at universities; provide support for 1,000 PhDs, postdoctoral associates, and graduate students in FY11; ensure maximum utilization of DOE research facilities; allow the ***Office of Science*** to develop and construct the next generation facilities necessary to maintain U.S. preeminence in scientific research; and enable DOE to continue to pursue the tremendous scientific opportunities outlined in the ***Office of Science*** Strategic Plan and in its 20 Year Scientific Facilities Plan.

Basic Energy Sciences

Within the ***Office of Science***, the **Basic Energy Sciences (BES) Program** is a multipurpose, scientific research effort that fosters and supports fundamental research to expand the scientific foundations for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use. ASA, CSSA, and SSSA support an FY 2011 funding level of $1.75 billion, a 7% increase over FY 2010, for BES. The portfolio of programs at BES supports research in the natural sciences by focusing basic (discovery) research on, among other disciplines, biosciences, chemistry and geosciences. Practically every element of energy resources, production, conversion and waste mitigation is addressed in basic research supported by BES programs. Research in chemistry has lead to the development of new solar photoconversion processes and new tools for environmental remediation and waste management. Research in geosciences leads to advanced monitoring and measurement techniques for reservoir definition. Research in the molecular and biochemical nature of photosynthesis aids the development of solar photo-energy conversion.

Within the **Basic Energy Sciences Program,** the Chemical Sciences, Geosciences, and Energy Biosciences subprogram supports fundamental research in geochemistry, geophysics and biosciences. For Chemical Sciences, Geosciences, and Energy Biosciences subprogram ASA, CSSA, and SSSA recommend $341.5 million for FY 2011, a 15% increase over the FY 2010 funding level. The Geosciences Research Program supports research focused at developing an understanding of fundamental Earth processes that can be used as a foundation for efficient, effective, and environmentally sound use of energy resources, and provide an improved scientific basis for advanced energy and environmental technologies. The Biosciences Research Program supports basic research in molecularlevel studies on solar energy capture through natural photosynthesis; the mechanisms and regulation of carbon fixation and carbon energy storage; the synthesis, degradation, and molecular interconversions of complex hydrocarbons and

carbohydrates; and the study of novel biosystems and their potential for materials synthesis, chemical catalysis, and materials synthesized at the nanoscale.

Biological and Environmental Research
Within the ***Office of Science***, the **Biological and Environmental Research (BER) Program**, for more than five decades, has advanced environmental and biological knowledge that supports national security through improved energy production, development, and use; international scientific leadership that underpins our Nation's technological advances; and research that improves the quality of life for all Americans. **BER** supports these vital national missions through competitive and peer-reviewed research at national laboratories, universities, and private institutions. In addition, **BER** develops and delivers the knowledge needed to support the President's plan to make America energy independent. ASA-CSSA-SSSA support a 10% increase for **BER** which would bring the funding level to $664.6 million for FY 2011. ASA, CSSA, and SSSA support a variety of programs within **BER** including the Life Sciences subprogram which supports Terrestrial Ecosystem Science (which we recommend funding for at $29.9 million for FY 11), Terrestrial Carbon Sequestration Research (we recommend $5.1 million for this program) and the Genomes to Life (GTL) program. Within Genomes to Life (GTL) are programs supportive of bioenergy development including GTL Foundation Research, GTL Sequencing, GTL Bioethanol Research, and GTL Bioenergy Research Centers, all playing an important role in achieving energy independence for America. We recommend a 12% increase over FY 10 for the Subsurface Biogeochemical Research program, with suggested funding for the program totaling $55.9 million in FY 11. Also within BER is the Environmental Remediation subprogram and its Environmental Remediation Sciences Research program, both critical programs to advancing tools needed to clean up contaminated sites.

ASA, CSSA, and SSSA recommend a funding level of $305.7, a 7% increase over FY 2010 for BER Climate and Earth System Modeling. Within this subprogram the Climate Change Research Division supports important areas of climate change research including the Ameriflux and network of research sites

Department of Energy Office of Energy Efficiency and Renewable Energy
Biomass is currently the only clean, renewable energy source that can help to significantly diversify transportation fuels in the U.S. DOE's Energy Efficiency and Renewable Energy Biomass Program is helping transform the nation's renewable and abundant biomass resources into cost competitive, high performance biofuels, bioproducts, and biopower. The ***Office of Energy Efficiency and Renewable Energy (EERE)*** manages America's investment in the research and development (R&D) of DOE's diverse energy efficiency and renewable energy applied science portfolio. For the ***Office of Energy Efficiency and Renewable Energy***, we recommend a funding level of $2.4 billion, a 7% increase over FY 2010. The FY 2011 ***EERE*** budget should continue to maintain focus on key components of the AEI and Twenty in Ten including the Biofuels Initiative to develop affordable, bio-based transportation fuels from a wider variety of feedstocks and agricultural waste products. Note: ASA, CSSA, and SSSA strongly oppose the use by the Department of the term "agricultural wastes". Crop residues, e.g., corn stover, play a very important in nutrient cycling, erosion control and organic matter development. Recent studies have shown that excessive removal of crop residues from

agricultural lands can lead to a decline in soil quality. By no means should they ever be referred to as "wastes".

Biomass and Biorefinery Systems
Within ***EERE***, the **Biomass and Biorefinery Systems R&D program** plays an important role providing support for Regional Biomass Feedstock Development Partnerships and Infastructure Core R&D programs, both within Feedstock Infrastructure. For the **Biomass and Biorefinery Systems R&D program**, we recommend a 7% increase for FY 2011 which would bring funding to $235 million. Activities included within this program are resource assessment, education, sustainable agronomic systems development, and biomass crop development. The mission of the Biomass Program is to develop and transform our domestic, renewable, and abundant biomass resources into cost-competitive, high performance biofuels, bioproducts and biopower through targeted RD&D leveraged by public and private partnerships. ASA, CSSA, and SSSA support $39.58 in funding for the ***Feedstock program (formerly the Feedstock Infrastructure program)***.

Climate Change Research
ASA, CSSA, and SSSA urge the Subcommittee to continue to provide strong support for Climate Change Research to the following programs as follows: U.S. Global Change Research Program (USGCRP), DOE allocation of $176.9 million. This program will increase our understanding of the impacts of global climate change and also develop tools and technologies to mitigate these impacts.

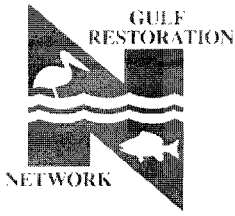
National Laboratories
The Office of Science manages 10 world-class laboratories, which often are called the "crown jewels" of our national research infrastructure. The national laboratory system, created over a half-century ago, is the most comprehensive research system of its kind in the world. Five are multi-program facilities including the Oak Ridge National Laboratory.

National Energy Technology Laboratory (NETL)
NETL's Carbon Sequestration Program is helping to develop technologies to capture, purify, and store carbon dioxide (CO_2) in order to reduce greenhouse gas emissions without adversely influencing energy use or hindering economic growth. Terrestrial sequestration requires the development of technologies to quantify with a high degree of precision and reliability the amount of carbon stored in a given ecosystem. Program efforts in this area are focused on increasing carbon uptake on mined lands and evaluation of no-till agriculture, reforestation, rangeland improvement, wetlands recovery, and riparian restoration. ASA, CSSA, and SSSA urge the Subcommittee to direct the Department to increase funding for its terrestrial carbon sequestration program, specifically The Regional Carbon Sequestration Partnerships, which are collaborations between government, industry, universities, and international organizations funded by DOE to determine the most suitable technologies, regulations, and infrastructure needs for carbon capture and sequestration.

Oak Ridge National Laboratory (ORNL)
ORNL is one of the world's premier centers for R&D on energy production, distribution, and use and on the effects of energy technologies and decisions on society. Clean, efficient, safe production and use of energy have long been our goals in research and development. At ORNL,

unique facilities for energy-related R&D are used both for technology development and for fundamental investigations in the basic energy sciences that underpin the technology work.

Thank you for your thoughtful consideration of our requests. For additional information or to learn more about the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America (ASA-CSSA-SSSA), please visit: www.agronomy.org, www.crops.org or www.soils.org or contact ASA-CSSA-SSSA Director of Science Policy Karl Glasener by email (kglasener@agronomy.org, kglasener@crops.org, or kglasener@soils.org) or by phone 202-408-5382.



UNITED FOR A HEALTHY GULF

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Statement of Raleigh Hoke, Mississippi Organizer, Gulf Restoration Network

I am writing on behalf of Gulf Restoration Network (GRN), a network of over 50 local, regional and national environmental, environmental justice, social justice, and public interest groups dedicated to uniting and empowering people to protect and restore the natural resources of the Gulf of Mexico region. The President's Fiscal Year 2011 budget request for the Department of Energy proposes the cancellation of $71 million in balances from prior year appropriations for an expansion of the Strategic Petroleum Reserve (SPR) at a site near Richton, Mississippi and assumes the use of these balances to partially fund the regular operations and management activities of the SPR.[1] The SPR program is part of the Office of Petroleum Reserves, which in turn is part of the Office of Fossil Energy in the Department of Energy. *GRN commends this decision, and strongly urges the House Committee on Appropriations Subcommittee on Energy and Water Development to support this portion of the budget request. The cancelation of this funding for the proposed expansion of the SPR near Richton (hereinafter referred to as the Richton project) is a good fiscal, environmental and policy decision.*

The proposed Richton project is a poor choice for a number of reasons: 1) it is estimated to cost at least $16.8 billion[2], a price tag that will likely only continue to grow; 2) the Richton site would require at least 330 miles of pipeline, increasing the likelihood of oil or brine spills into the environment;[3] and 3) this project would be the first time that DOE has ever relied

[1] "Appendix, President's Budget of the United States Government," (Fiscal Year 2011):430.

[2] Construction cost estimates from "Strategic Petroleum Reserve's New Richton Mississippi Site," United States Department of Energy: http://www.fossil.energy.gov/programs/reserves/spr/Richton_Fact_Sheet-Rev2_12-7-07.pdf
Petroleum price estimates based on "Short-Term Energy Outlook," United States Energy Information Administration (March 2010): http://www.eia.doe.gov/emeu/steo/pub/mar10.pdf

[3] "Strategic Petroleum Reserve's New Richton Mississippi Site," United States Department of Energy: http://www.fossil.energy.gov/programs/reserves/spr/Richton_Fact_Sheet-Rev2_12-7-07.pdf

upon an inland freshwater source to mine the salt, an experimental proposal that worries many scientists familiar with the variable water flows of the Pascagoula River.

Costs and Funding

The Richton project should not be receiving large federal investments because the Department of Energy has not completed the federally mandated National Environmental Policy Act (NEPA) process and released its Record of Decision (ROD). As this federally mandated process could ultimately lead to a decision to not move forward with the Richton project, any large-scale federal funding should wait for the completion of the NEPA process.

Furthermore, the construction costs for the Richton project are estimated to be $4 billion, and, while estimates for the cost of filling the storage area depend on variations in oil prices, the initial fill of the site, based on projected 2010 crude prices, could range between $12.8-13.6 billion.[4] Using a conservative estimate, this represents an expense of $16.8 billion or well over half of the DOE's proposed budget for this year. Although this expense would likely be spread out over multiple years, it still would involve a significant outlay of federal funds for questionable benefits to the taxpayer.

The Department of Energy considered several different sites as potential locations for an expansion of the SPR, and the Richton site was the most expensive project, and arguably the most environmentally harmful. Halting this destructive and costly project is a great way to begin shifting away from yesterday's problems and start addressing the daunting issues of tomorrow.

Environmental and Economic Impacts

Coastal Mississippi relies on its water resources and wetlands to maintain a thriving commercial and recreational fishing industry, promote tourism, and provide industry with their freshwater and transportation needs. Nationally significant water resources like the Pascagoula River, the Mississippi Sound, and the Gulf of Mexico are integral to the coastal economy and environment. Unfortunately, the plan for the Richton project could threaten these same resources. In fact, this plan to hollow out a series of underground salt caverns requires the

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[4] Construction cost estimates from "Strategic Petroleum Reserve's New Richton Mississippi Site," United States Department of Energy: http://www.fossil.energy.gov/programs/reserves/spr/Richton_Fact_Sheet-Rev2_12-7-07.pdf

Petroleum price estimates based on predicated crude prices in 2011 "Short-Term Energy Outlook," United States Energy Information Administration (March 2010): http://www.eia.doe.gov/emeu/steo/pub/mar10.pdf

withdrawal of 50 million gallons of water per day from the Pascagoula River for 5-6 years.[5] This water would be used to dissolve underground salt, and then the polluted and extremely salty byproduct would be pumped off the coast of one of Mississippi's barrier islands. These actions could have significant impacts on the area's environment, including reduction in water flows in the Pascagoula River that could impact coastal estuaries, and a large, salty Dead Zone where the polluted water is released.

Furthermore, according to Department of Energy estimates, the 330 miles of pipelines necessary to complete this project will harm or destroy over 1,500 acres of wetlands and lead to at least 56 brine spills and 19 oil spills during the construction and initial fill of the site.[6]

Conclusion

The Richton project is bad policy for the nation, and bad policy for the people of coastal Mississippi. For years, citizens in Mississippi and throughout the country have been working to stop this expensive and destructive project from moving forward. In fact, thousands of people have contacted Secretary of Energy Steven Chu, as well as their congressional representatives, over the last year to voice their opposition to this boondoggle. Congressman Gene Taylor, who represents Mississippi's 4th, the district that will be most impacted, and Senator Roger Wicker of Mississippi have also expressed significant reservations with the project as currently conceived. It is heartening to see that this proposed budget takes into account the public's input.

GRN strongly supports the cancellation of all previous funding for the Richton project in the President's FY 2011 budget request for the Department of Energy and we urge the House Committee on Appropriations Subcommittee on Energy and Water Development and its members to support this portion of the proposed budget.

Respectfully submitted,

[sent electronically]

Raleigh Hoke
Mississippi Organizer
Gulf Restoration Network

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[5] "Final Environmental Impact Statement for Site Selection for the Expansion of the Nation's Strategic Petroleum Reserve," United States Department of Energy (2006)

[6] "Final Environmental Impact Statement for Site Selection for the Expansion of the Nation's Strategic Petroleum Reserve," United Department of Energy (2006

ASSOCIATION OF STATES AND TRIBES

March 19, 2010

The Honorable Peter Visclosky
Chairman
Subcommittee on Energy
and Water Development
House Appropriations Committee
2362B Rayburn House Office Building
Washington, DC 20515

The Honorable Rodney Frelinghuysen
Ranking Member
Subcommittee on Energy
and Water Development
House Appropriations Committee
1016 Longworth House Office Building
Washington, DC 20515

RE: Public Witness Testimony for the Record
U.S. Army Corps of Engineers FY2011 budget

FROM: The Missouri River Association of States and Tribes
825 S. Kansas Avenue, Suite 500
Topeka, Kansas 66612-1253
Phone: (785) 235-3247, Fax: (785) 233-3104
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Dear Chairman Visclosky and Ranking Member Frelinghuysen:

We are requesting your support for four items in the FY2011 budget for the U.S. Army Corps of Engineers (USACE), related to the Missouri River Basin. These include: **1**) $78.4 million to continue implementation of the Missouri River Recovery Program, **2**) $5.5 million to continue funding for the Missouri River Authorized Purposes Study, **3**) $10 million to increase the operations and maintenance budget for the Northwestern Division, Omaha District, for protection of cultural and historical sites impacted by the operation of the Missouri River Mainstem Reservoir System and **4**) inclusion of a provision in the FY2011 budget to allow reimbursement of travel expenses by Tribal, State and non-governmental members of the Missouri River Recovery Implementation Committee to attend its meetings. No new funds are required for this action as the travel reimbursement can be paid with funds appropriated for the Missouri River Recovery Program, if the prohibition against reimbursement of travel in Section 5018 WRDA 2007 is amended by a provision in the budget bill.

The Missouri River Association of States and Tribes (MoRAST) is an association of representatives of the Governors of the States of Wyoming, Montana, North Dakota, South Dakota, Nebraska, Iowa and Kansas and many of the American Indian Tribes in the Missouri

River Basin. MoRAST is interested in the proper management and protection of natural resources, including water resources, fish and wildlife and other related issues of interest to the States and Tribes in the basin, including cultural resources. The programs and operations of the USACE are very important to our members, especially due to the legal responsibilities of the States and Tribes related to water and the fish and wildlife resources in the basin, as well as the trust responsibilities of the USACE to the Tribes. The following paragraphs provide detailed information regarding the bases for our support of the four items referred to above for FY2011 budget of the USACE, as outlined below:

Funding for Missouri River Recovery Program: $119 million is needed for compliance with the Biological Opinion (BiOP). We strongly support the $78.4 million in the President's budget as the minimum necessary for current year compliance with the BiOP. The Missouri River Recovery Program (MRRP) was established by the USACE as a collaborative program to protect, recover and restore the Missouri River ecosystem and its native species, including the endangered pallid sturgeon, least tern and piping plover. This program is authorized by Sections 3109, 3176 and 5018 of the Water Resources Development Act (WRDA) 2007. Support for this program is critical to ensure at least enough funding is available for compliance with the Biological Opinion, as amended in 2003. Compliance with the BiOP also protects economic uses as failure to comply with the Biological Opinion could require changes to reservoir operations and negatively impact other purposes.

The USACE, various Tribal, State and Federal Cooperating Agencies and the Missouri River Recovery Implementation Committee (MRRIC) that includes various Stakeholders, are also in the process of developing a collaborative study and plan known as the Missouri River Ecosystem Restoration Plan (MRERP) to identify and guide long term actions required to restore ecosystem functions, mitigate habitat losses, and recover native fish and wildlife on the Missouri River, while seeking to balance social, economic, and cultural values for future generations.

In addition to recovery and mitigation projects on the Missouri River Mainstem, a project to provide for fish passage through a diversion dam on the Yellowstone River near Intake, Montana is especially important to the recovery of the endangered Pallid Sturgeon, as it will open up a large segment of free flowing river. Work on this important tributary project is underway with FY2010 funding and is being implemented through a cooperative effort of the U.S. Bureau of Reclamation, USACE, U.S. Fish and Wildlife Service (USFWS) and the State of Montana.

In summary, funding the Missouri River Recovery Program at a minimum of $78.4 Million for FY2011 is essential to ensure compliance with the Biological Opinion on the Missouri River and to implement the project on the Yellowstone River near Intake, Montana, both of which are of critical importance to the recovery of endangered species and the restoration of the ecosystem.

Funding for the Missouri River Authorized Purposes Study (MRAPS). We strongly support appropriation of $ 5.5 million to continue funding for MRAPS in FY2011. Congress appropriated $4.483 million in FY2010. MRAPS was authorized to study the Missouri River Projects under the 1944 Flood Control Act (FCA) to determine whether changes to the purposes and existing Federal infrastructure may be needed. The study was authorized for a total cost of $25,000,000 at full Federal expense.

The Missouri River Basin Project (Pick-Sloan Program) envisioned a comprehensive system of projects and facilities in the Missouri River basin constructed by both the Bureau of Reclamation and the USACE. The plan was only partially completed and there continue to be water needs and related issues in the basin, many of which are different than they were in 1944. This study is important for many reasons. It has been about 65 years since the 1944 FCA was enacted and many changes have occurred. The Missouri River Mainstem Reservoir System continues to be operated in accordance with the 1944 FCA for various authorized purposes including flood control, water supply, water quality, irrigation, hydropower, navigation, recreation and fish and wildlife. However, while the construction of the reservoir system and other works have resulted in large project benefits from some of the authorized purposes and much less for others, it has also created substantial negative impacts on the economies and resources of Indian Tribes and others, as well as large environmental losses, such as wetlands and habitat for a number of native species, including three that are threatened or endangered.

In summary, there have been many changes in the physical, economic and environmental conditions that affect the Missouri River Projects and the basin since 1944. The USACE needs $5.5 million for the study in FY 2011. That amount should be provided so the study can objectively determine whether changes are needed to the 1944 FCA in order to best meet the contemporary needs of the Missouri River Basin. Once the study is complete, Congress can decide whether the law should be changed or not.

Funding to protect Tribal Cultural Resources: It is requested that Congress specifically appropriate $10 Million for FY 2011 as a line item for the Omaha District, Northwestern Division, USACE for the stabilization of cultural and historic sites that continue to be negatively impacted by the operation of the Missouri River Mainstem Reservoir System. Funding for the protection of cultural and historic sites within the Omaha District has remained at $3 Million for the past several years. Past funding through the USACE operation and maintenance budget has been woefully inadequate to address the ongoing damage to sites from operation of the Missouri River Mainstem Reservoir System.

The USACE has identified over four hundred (400) historic and cultural sites protected by federal law that will be potentially damaged by the current Annual Operations Plan and the Tribal Nations in the Missouri River Basin have identified many more sites that could be impacted. However, there have only been funds to mitigate damage to a few sites each year. The USACE has a unique trust responsibility to the 28 Missouri River Basin Tribes arising from the government-to-government relationship between the Tribes and the United States government, as well as an obligation under Section 106 of the National Historic Preservation Act, applicable Executive Orders, and other Federal laws, which require the USACE to either halt any federal undertaking that will damage or destroy sites protected, or to mitigate the potential damage.

Funding for travel and participation in MRRIC and MRRP activities: We support inclusion of a provision in the FY 2011 budget bill to remove the prohibition on federal reimbursement of travel expenses for non-federal members of the Missouri River Recovery Implementation Committee (MRRIC) to attend its meetings. No new funds are required for this action as it can

be funded through the Missouri River Recovery Program (MRRP), but this action is needed to improve the functionality and chances for success of MRRIC.

Section 5018 of WRDA 2007 authorized the creation of MRRIC, but prohibited federal reimbursement of travel expenses for non-federal members of the Committee. The same section of WRDA 2007 also authorized the development of a Missouri River Ecosystem Restoration Plan (MRERP), which is a part of the MRRP. The failure to reimburse travel expenses is a hardship for some MRRIC members. It also hinders participation and prevents balanced representation by Tribal, State and non-governmental members on the committee. Lack of travel reimbursement also makes participation difficult by States and Tribes difficult as Cooperating Agencies for the MRERP study, especially during these trying economic times and budget shortfalls for States, Tribes and others.

The USACE has a unique trust responsibility to the 28 Missouri River Basin Tribes and their participation in both MRRIC and MRERP activities is vital to the success of efforts to restore the ecosystem of the Missouri River consistent with the social, cultural and economic needs in the Basin. The failure to fund travel for the Tribes to attend these meetings will not save money and may result in delay or the need for more extensive government to government consultations if the Tribes are not able to participate adequately during the course of efforts by MRRIC to make recommendations to the USACE regarding recovery programs and the development MRERP.

We recognize that Section 5018 could also be amended by the next WRDA bill to remove the prohibition on travel reimbursement for attendance at MRRIC meetings. However, that may take more time, while the need to fund travel reimbursement should begin as soon as possible so that all members can participate, receive the background materials, develop relationships and provide meaningful recommendations to the USACE and other agencies regarding Missouri River Recovery programs as may be appropriate through the MRRIC process.

In summary, we believe each of these programs is essential to the success of efforts to properly manage and protect the natural resources of the Missouri River Basin, satisfy the USACE trust responsibilities to the Indian Nations in the basin and operate its projects in accordance with applicable federal law. We would appreciate your help in providing adequate funding for these important programs and projects. Please let David Pope, MoRAST Executive Director, or me know if you have questions.

Sincerely,

J Michael Hayden

J. Michael Hayden, Chair
Missouri River Association of States and Tribes
Topeka, Kansas
(785) 296-2281 or mike.hayden@outdoorks.com

cc: MoRAST Board of Directors
David L. Pope, Executive Director

Testimony of Dr. Vinod K. Duggal
Director, Strategic Planning & Advanced Engineering
Cummins Inc.,
March 22, 2010

Energy and Water Development Appropriations Subcommittee
Fiscal Year 2011

Cummins Inc. is pleased to provide the following statement for the record regarding the Department of Energy's FY 2011 budget for the Office of Industrial Technology Program and Office of Vehicle Technologies. Cummins Inc., headquartered in Columbus, Indiana, is a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emissions solutions and electrical power generation. We share the goal of reducing the nation's dependence on petroleum fuels and are committed to pursuing technologies that benefit the environment. The funding requests outlined below represent a sound federal investment towards a cleaner environment and improved energy efficiency for our nation. We request that the Committee fund the programs as identified below.

DEPARTMENT OF ENERGY FY2011 BUDGET – ENERGY CONSERVATION

OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

1. **Office of Industrial Technologies Program (ITP):**

Industries of the Future (Crosscutting), Advanced Reciprocating Engine Systems (ARES): Increase the Administration's request of $55.2 by $5 M to bring the program total to $60.2 M in FY2011. $53 M was appropriated in FY2010. The FY 2011 budget line includes an important Advanced Reciprocating Research Engine (ARES) project funded at approximately $10 M. The request is to increase ARES funding by $5 M to $15 M. Industrial Technologies Program activities are designed to reduce intensity of energy use (energy per unit of output) by the industrial sector. ARES is an important project for distributed generation and applications in Combined Heat and Power (CHP). The objective of this industry cost shared program is to develop high efficiency, low emissions and cost effective technologies for stationary engine systems (500-6500 kW) that can use natural gas or domestic renewable resources "opportunity" fuels. Natural gas-fueled reciprocating engine power plants are preferred for reliability, low operating costs and point of use power generation. Opportunity fuels can be renewable fuels (e.g. land fill gases) which exhibit low Btu, lower methane number and varying gas composition. Their use reduces the dependence on high quality natural gas. Technologies sponsored by the ARES program have already demonstrated 44% engine efficiency (18-35 % increase from the baseline), higher power densities than current products, with an expected reduction in life cycle costs and green house gas emissions. Improved combustion, air handling and controls developments have been successfully implemented in a field test engine and genset. FY 2011 budgets will

support advanced technologies challenges include combustion enhancements with low BTU and methane gases, nitrogen oxides (NOx) reductions, advanced sensors and controls, hardware durability and lower life cycle costs. Field demonstrations of some of these technologies are planned with FY 2011 funds. The development of distributed power generation supports national energy security needs, improves protection of critical infrastructure and decreases dependence on the national electrical grid system through point of use energy production.

2. **Office of Vehicle Technologies:**

Advanced Combustion Engine R&D: Increase the Administration's request of $ 47.2 M by $3 M to bring the program total to $50.2 M in FY2011. $ 47.2 M was authorized in FY2010. The FY 2011 budget line includes an important Advanced Power Train (APT) project. This request is to increase APT funding by $3 M. Advanced Combustion Engine R & D includes important research areas for diesel and gasoline engines to develop more energy efficient and environmentally friendly technologies. Diesel engine R & D is critically important to the engine industry efforts to improve efficiency, reduce greenhouse gases through better understanding of combustion technologies, and reduce petroleum use. Light duty trucks are the fastest growing segment of surface transportation. Application of diesel engine in light duty trucks and SUV's can significantly reduce fuel use in this sector. However, significant environmental hurdles remain before diesel engines can be fully utilized in this sector. Recently, the Department of Energy launched the 'Supertruck' initiative including light duty Advanced Power Train (APT). The goals of light duty APT program are to deliver a standard light duty pickup truck which can achieve at least 40 percent improvement in fuel economy over the state of the art gasoline engines while meeting Tier 2 Bin 2 tailpipe emissions (the same standards as gasoline powered vehicles). This project is in line with the Administrations investment in clean energy technologies to reduce dependence on foreign oil and accelerate the transition to a low carbon economy. High risk technologies, such as low temperature combustion, variable valve actuation and closed loop selective catalytic reduction (SCR) controls are planned under this project. The funding increase will help address significant technology hurdles in the areas of on-board diagnostics, parasitic loss reduction, aftertreatment requirements, minimizing fuel penalty due to the aftertreatment and the use of renewable fuels. Without the increased funding, research activities would be significantly limited.

3. **Office of Vehicle Technologies:**

Fuels Technologies: Increase the Administration's request of $11.0 M by $4M to bring the program total to $15M in FY2011. $24 M was authorized in FY 2010. This program funds research to better understand advanced petroleum and non petroleum based fuels, renewables (biodiesel, ethanol) and synthetic fuel properties effect on engine system performance when blended with petroleum fuels. While biodiesel fuel blends are becoming acceptable in the marketplace, their effect on various engine components, including fuel systems, lubricants and aftertreatment systems, is still unknown. Biodiesel may affect the performance of particulate filters which are now applied to all on- road diesel engines. Transition to a low carbon economy requires development of engine systems that are capable of burning lower

carbon fuels including natural gas, ethanol and other renewable fuels. The incremental funding will support technologies development for medium and heavy duty engines that efficiently combust low carbon fuels and leave low carbon foot print.

4. **Office of Vehicle Technologies:**

Materials Technologies: Support the Administration's request of $ 45.0M for FY2011. $45.0M was authorized in FY 2010. This program supports research and development of next generation materials to enable diesel engine efficiency improvements, improved reliability and reduced aftertreatment system costs. Traditional engine materials may not be adequate for the next generation of advanced combustion concepts, such as Low Temperature Combustion (LTC) and low carbon fuels. High pressure and flexible fuel injection systems (Piezo actuated) are needed to support higher efficiency combustion and lower emissions technologies. Smaller hole size injectors and injector clearances in emerging fuel systems also require new material capabilities to remove submicron particles from the fuel. Further research is also needed on advanced materials to mitigate cost issues relating to the use of precious metals required for advanced nitrogen oxides (NOx) reduction technologies. Funding for the program will support studies on a range of advanced materials technologies, including nano-scale fiber technologies to reduce crank case ventilation aerosols, and lightweight high strength materials for engine components, composites, catalysts and soot oxidation.

Thank you for this opportunity to present our views on these programs which we believe are of great importance to our nation's energy and economic security as well as continued environmental progress. These programs are critical to needed advancements in the transportation and power generation sectors.

FY 2011 ENERGY RESEARCH AND DEVELOPMENT PROGRAMS

Testimony submitted by
Richard Bajura
on behalf of the
National Research Center for Coal and Energy
West Virginia University

To the
Committee on Appropriations, Subcommittee on Energy and Water Development
U. S. House of Representatives
March 19, 2010

The National Research Center for Coal and Energy submits this testimony in support of the Fossil Energy and Office of Science programs of the United States Department of Energy. Our testimony addresses the need for both fundamental research programs for developing new, advanced technologies and also larger scale projects which prove out and hasten the deployment of emerging technologies. We request your continued and strong support for fossil energy research. Specific recommendations regarding programs are described in our testimony below.

Introduction

Coal fuels offer our nation a long term supply of energy that is inexpensive and lessens our dependence on foreign energy sources. Significant new resources are also emerging through access to deeper horizons containing natural gas. Carbon sequestration is also an integral part of our national energy plan and significant investments need to be made to develop this technology. We also require programs for converting coal and biomass to liquid fuels for our transportation sector. We should be mindful that today's low cost for oil is the result of a global economic downturn; retail prices are presently rebounding and our nation may soon find itself faced with shortages of oil, even at the cost of $150 per barrel.

Fuels Research in Office of Fossil Energy (+ $28 million)

The Administration has only requested $12 million in support for fuels research with a focus only on hydrogen fuels. We recommend support of the Fossil Energy Fuels Program at a level of $40 million for FY 2011, an increase of $15 million over the FY 2010 appropriation.

Transportation fuels comprise about half of our national energy costs. We need to reduce the cost of converting coal and biomass to liquid fuels and chemicals in order to be self sufficient in meeting our requirements for these resources. Co-production / polygeneration technologies, in combination with carbon sequestration, can reduce the environmental footprint of producing alternative fuels and hydrogen from coal. With the

maturation of hydrogen and fuel cell technologies, increased funding is necessary to support proof testing of alternative fuels production technologies in pilot and demonstration scale systems. We request continued support for advanced coal-to-liquids (CTL) research, including pilot and demonstration scale projects and for fundamental research such as conducted by the Consortium for Fossil Fuel Science.

The US-China Energy Center conducts a collaborative program of research with the Shenhua Coal Group, the world's largest coal company. The programs of the Center study the operation of a commercial scale CTL plant being built in China, including developing a strategy for storing more than 3 million tons per year of carbon dioxide generated by the plant. The information obtained from these studies costs only a small fraction of the amount the United States would have to pay to obtain the same results from our own facilities. We recommend a continuation of the US-China Energy Center program at a level of $1.5 million for FY 2011.

Work on hydrogen fuels from coal should be continued in FY 2011. In addition to supporting the development of pathways to produce high purity hydrogen, we recommend continued support for the Hydrogen Research, Demonstration, Training & Evaluation (RDT&E) program to develop a hydrogen corridor in West Virginia. This project will promote the acceptance and use of hydrogen as a transportation fuel and for other applications such as power systems for small scale electronic uses. The corridor will have hubs in Morgantown and Charleston, West Virginia. The program will demonstrate the value of using vehicles powered directly from hydrogen (and indirectly from coal) as a viable mode of transportation for the future. We recommend continuation of the program at a level of $1.5 million for FY 2011.

Events such as the failure of ash ponds in Tennessee and the impacts of produced water from Marcellus shale formations have highlighted the need for continued research in advanced separation technologies. Applications include coal cleaning, reclamation of impoundments, and the removal of minerals from water produced from coal mines and oil and gas wells. The Center for Advanced Separations Technologies (CAST) is developing new technologies to reduce the amount of coal fines discharged to ponds and is an important program addressing the extraction issues associated with using coal as a fuel. The work of CAST also can reduce the impacts of producing natural gas from deep horizons as we develop advanced drilling and fracturing technologies to recover much needed natural gas from previously uneconomic resources. We recommend continued support for the CAST program.

The increased emphasis on coal as an alternative fuel warrants the appropriation of additional funding to support a more robust Fuels Program. Your support for demonstrating coal to liquid technologies under the Fossil Energy Clean Coal Power Initiative is also requested.

Carbon Management Research in the Office of Fossil Energy

We recommend strong support for carbon management research, including developing advanced capture technologies and for geologic storage of CO_2. Given the variety of potential sinks, multiple projects are needed to prove out technologies such as injection into saline aquifers, depleted oil and natural gas reservoirs, and coal seams. States like West Virginia offer possibilities for demonstrating and deploying capture and storage technologies while offering opportunities for our State's coal resources to help meet electricity demands of the East Coast. We recommend congressional support for a diverse portfolio of investments in the National Energy Technology Laboratory as the national center for carbon management research. NETL should also be charged to expand its programs in developing pre-and post-combustion CO_2 capture technology. Continued support for the collaborative research program between NETL and the Zero Emissions Technology Center is also recommended.

Advanced Research in the Office of Fossil Energy

Advanced technology systems based on coal now being developed for increased efficiency and carbon capture require high performance and must be constructed at reduced cost. Advanced computing capability has been enabled by newer, high speed computers and developments in computing science that permit modeling of energy systems in scale ranges from molecular interactions to the integrated operation of complex power plants. Given the high cost of testing and building large scale energy systems, computational modeling offers inexpensive advantages to design energy systems which will / must be deployed in the future. The Administration has requested an increase of $10 million each in the funding lines for Focus Area for Computational Energy Sciences and for Computational System Dynamics for FY 2011. This funding should be implemented through existing structural models already established by NETL for industry – university – government collaborative research. We recommend that funding continue to be provided to the SuperComputing Science Consortium (SC^2) to facilitate high performance computer access and visualization.

Innovations for Existing Plants Program in Office of Fossil Energy (+ $8 million)

The Administration has recommended an increase of $13 million for FY 2011 over the appropriation for FY 2010 for the Existing Plants Program. However, no funds are provided for Air Toxics / Particulate Control or for Water Management. We are concerned that funding is also needed in these areas, especially for research in technologies which minimize the use of water in energy systems. Continued research is needed in these areas in view of recent rulings calling for more stringent studies on mercury emissions. National concerns have arisen about the scarcity of water in many regions where electric power demands are increasing. We recommend an additional $8 million for the Existing Plants Program, with a minimum of $5 million for water-based research applications.

Oil and Natural Gas Programs (+ $40 million)

Natural Gas Technologies

We recommend funding the Natural Gas Technologies program at a level of $35 million for FY 2011, an increase of $35 million over the Administration request. It is essential that we maintain a vibrant natural gas research program in a number of areas to benefit from the opportunities that have emerged to provide a significant increase in natural gas supplies for domestic energy consumption.

Of the $35 million amount recommended for the Natural Gas Program, $15 million should be allocated to continue the Gas Hydrate Technologies program. Work would focus on both off-shore and on-shore development and production of the methane hydrates resource, reduction of the environmental impacts (including methane emissions, subsidence and water issues), and fundamental research on characterization of sediments, alternative storage technologies, and the potential impacts of methane releases from hydrates on global climate change.

An additional $15 million is recommended to address the research needs of small producers in regions such as Appalachia and other areas. These programs would include the geological and environmental aspects of developing the Marcellus shale resource and effective production of coal bed methane with associated opportunities for carbon storage in unminable coal seams. Both of these unconventional resource bases offer the opportunity to dramatically reduce greenhouse gas emissions through the benefits that accrue from switching to natural gas made possible by reliable supplies.

An additional $5 million is recommended for technology transfer programs designed to enable small producers to benefit from federal programs that provided much needed research and technology to this segment of the industry that does not have the financial resources to conduct extensive research on its own.

Oil Technology

We recommend funding the Oil Technology program at a level of $5 million, an increase of $5 million over the Administration request. Work should be focused on developing advanced technologies for promoting enhanced oil recovery with simultaneous sequestration of carbon dioxide. The program should focus on solving small producer problems to reduce environmental impacts and to improve the performance of marginal wells. The program should include a technology transfer component.

Advanced Materials Research in the Office of Science (+ $ 2.5 million)

The development of green energy systems, reducing carbon emissions from coal-based power plants, and the extraction of natural gas from deep reservoirs are

examples of technologies that are strongly dependent on discovering affordable, advanced materials that can operate with improved efficiency, perform at elevated temperatures, or resist harsh environments. We recommend providing funding of $2.5 million to the West Virginia University Advanced Energy Initiative for basic research on the physical and mechanical behavior of advanced energy materials for advanced energy applications. The goal of this project is to improve the performance and reduce the cost of developing materials with acceptable mechanical and physical properties for key energy applications through innovative materials design, synthesis, and processing.

Research will focus on the areas of advanced metals, alloys, and ceramics for conventional power generation and resource recovery, and on the development of organic-inorganic materials for advanced and renewable energy technologies. Applications include high temperature materials for gas turbines and steam powered systems, fuel cell and advanced battery electrolytes, separation membranes, materials for CO2 capture applications, photocatalysts for solar energy applications, and sensors and new materials for deployment in harsh conditions of high temperature, high pressure, and corrosive environments.

Current materials limitations dictate the operational temperature and pressure regimes for devices such as turbines, fuel cells, and drilling heads for deep oil or gas applications. However, small increases in operating temperature or pressure regimes will result in substantial increases in efficiencies. Resulting benefits would include fewer carbon emissions from burning less fuel to meet power demands and reduced costs for recovering natural resources. Developing advanced materials for next-generation technologies offers opportunities for establishing new manufacturing industries in West Virginia.

Thank you for considering our testimony.

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Official Written Testimony for Fiscal Year 2011

Submitted by: Douglas Arnold, Ph.D.
President, Society for Industrial and Applied Mathematics (SIAM)

Submitted to the Subcommittee on Energy and Water Development
Committee on Appropriations
United States House of Representatives
Washington, DC

Testimony on the Fiscal Year 2011 Appropriations for the Department of Energy Office of Science

March 19, 2010

Summary: This written testimony is submitted on behalf of the Society for Industrial and Applied Mathematics (SIAM) to ask you to continue your support of the Department of Energy (DOE) Office of Science by providing $5.121 billion in fiscal year (FY) 2011, continuing with the Congressional and Presidential initiatives to double funding for the Office. In particular, we urge you to provide significant support for the Applied Mathematics Program within the Office of Science. We also emphasize the importance of support for graduate students, post-doctoral fellows, and early career researchers.

Written Testimony

My name is Douglas Arnold and I am the President of the Society for Industrial and Applied Mathematics (SIAM). Today I am submitting this written testimony for the record to the Subcommittee on Energy and Water Development of the Committee on Appropriations of the U.S. House of Representatives.

SIAM has approximately 13,000 members, including applied and computational mathematicians, computer scientists, numerical analysts, engineers, statisticians, and mathematics educators. They work in industrial and service organizations, universities, colleges, and government agencies and laboratories all over the world. In addition, SIAM has over 400 institutional members—colleges, universities, corporations, and research organizations.

First, I would like to emphasize how much SIAM appreciates your Committee's continued leadership on and recognition of the critical role of the Department of Energy (DOE) Office of Science and its support for mathematics, science, and engineering in enabling a strong U.S. economy, workforce, and society. In particular, we thank you and your colleagues for the

significant increases in funding provided for the Office of Science's mathematical and computing programs in the FY 2010 Consolidated Appropriations bill.

Today, I submit this testimony to ask you to continue your support of the DOE Office of Science in FY 2011 and beyond. In particular, ***we request that you provide the Office of Science with $5.121 billion, the level requested by the President for this agency in his FY 2011 budget.*** This represents a 4.4 percent increase over the Office's FY 2010 appropriated level and would continue the effort to double funding for the Office of Science, as endorsed by Congress in the *America COMPETES Act* and by the President in his FY 2011 budget request.

The nation faces critical challenges in energy, including in energy efficiency, renewable energy, improved use of fossil fuels and nuclear energy, future energy sources, and reduced environmental impacts of energy production and use. As DOE and the research community design a long-term strategy to tackle these issues, the tools of mathematics and computational science (theory, modeling, and simulation) have emerged as a central element in designing new materials, predicting the impact of new systems and technologies, and better managing existing resources. Already, mathematical and computing researchers in universities, national laboratories, and industry are providing insights that propel advances in such fields as climate modeling, nanotechnology, biofuels, genomics, and materials fabrication.

One of the challenges in advancing technology to improve our use and sources of energy is the great complexity of the systems already in place today for energy production, transmission, storage, and use. Complex systems like these have high levels of uncertainty, lack master plans, and are susceptible to breakdowns that could have catastrophic consequences. Stronger foundations for the science of complex systems are needed to mitigate these risks and manage these continually evolving systems. A deeper understanding of complex systems will also facilitate the development of controls and strategies to make systems more efficient. Two examples of how research on models improves our handling of complex systems are the study of cascading failures in the power grid and integrated building design for energy efficiency.[1]

The Role of Mathematics in Meeting Energy Challenges

SIAM members come from many different disciplines, but have a common interest in applying mathematics in partnership with computational science towards solving real-world problems. DOE was one of the first federal agencies to champion computational science as one of the three pillars of science, along with theory and experiment, and SIAM deeply appreciates and values DOE activities.

In August 2007, an independent panel of mathematicians reviewed the challenges and strategic plans of all units of DOE in order to better define the goals for the DOE Applied Mathematics Program, which is located within the Office of Advanced Scientific Computing Research

[1] Foundations for Complex Systems Research in the Physical Sciences and Engineering, Report from a National Science Foundation Workshop, September, 2008. Available on line at http://www.siam.org/about/pdf/nsf_complex_systems.pdf.

(ASCR) in the Office of Science.[2] The panel considered a broad and varied array of questions that the DOE must answer in the coming years. A representative subset of such questions includes:

- Can we predict the operating characteristics of a clean coal power plant?
- How stable is the plasma containment in a tokamak?
- How quickly is climate change occurring and what are the uncertainties in the predicted time scales?
- How quickly can an introduced bio-weapon contaminate the agricultural environment in the U.S.?
- How do we modify models of the atmosphere and clouds to incorporate newly collected data of possibly new types?
- How quickly can the U.S. recover if part of the power grid became inoperable?

In these and many other cases, the answer is dependent on improved understanding of complex systems. In light of this broad need, the panel recommended that DOE focus on three strategies for addressing the gaps in our understanding.

1. Predictive modeling and simulation of complex systems.
2. Mathematical analysis of the behavior of complex systems.
3. Using models of complex systems to inform policy makers. (This includes advancing the mathematics that supports risk analysis techniques for policy-making involving complex systems that include natural and engineered components, and economic, security, and policy consequences.)

Department of Energy Office of Science

Activities within ASCR play a key role in supporting research that begins to fulfill the needs described above. Particularly critical programs include: the Applied Mathematics program, the Scientific Discovery through Advanced Computing (SciDAC) program, and programs to maintain the pipeline of the mathematical workforce. ***SIAM supports the $426 million requested for ASCR for FY 2011, while urging that the increase in funding be more balanced among ASCR programs and not entirely directed to investments in computing hardware. Without investments in algorithm research, software development, and partnerships between mathematicians, disciplinary researchers, and computer and computational scientists, we cannot realize the full benefit of new high performance computers or effectively develop the next generation of such computers.***

The applied mathematics and computational science and engineering work supported by the Applied Mathematics Program is a necessary element for many of the flagship efforts of the Office of Science and other units of DOE. Therefore, partnerships within the Department are critical for applying mathematics to key challenges in effective creation and use of a variety of energy sources. SIAM supports ASCR plans to initiate new partnerships with other DOE offices such as the Office of Electricity Delivery and Energy Reliability, the Office of Nuclear Energy,

[2] Applied Mathematics at the U.S. Department of Energy: Past, Present and a View to the Future. A Report by an Independent Panel from the Applied Mathematics Research Community, May 2008. Available on line at http://brownreport.siam.org/Document%20Library/Brown_Report_May_08.pdf.

and the Office of Environmental Management. SIAM also supports the proposed activity on uncertainty and climate change within the Biological and Environmental Research Office, and the proposed activity on Computational Design of Advanced Engines within the Basic Energy Sciences Office.

Supporting the Pipeline of Mathematicians and Scientists

All of us who are closely connected with the education and development of young scientists and engineers are greatly alarmed at the prospects they now face. I remember very well the difficult situation that arose from the 1990-91 recession. Unemployment rates among new math PhDs spiked to above 10 percent from their historical range of 2-3 percent. The gloom was palpable among undergraduate and graduate students, new PhDs, and their advisors, and many young people decided against studying math. The number of U.S. citizens starting full-time graduate study in mathematics fell 27 percent from 1992 to 1997. We have only recently recovered and returned to the earlier levels of production. The shortage of these most highly trained quantitative minds has been sharply felt, and the cost to U.S. innovation and competitiveness was surely very great.

Without bold action, it is likely that such a situation will return, at a much greater level. The financial crisis of the past few years has caused many universities and companies to cancel or severely curtail their hiring. Of course, it is not only the young mathematicians we will not be hiring who will suffer. Academia and industry will suffer from the loss of ideas and energy that these new hires bring to the universities and companies, and the country will suffer from the lost innovation. A similar situation is playing out with respect to students as well, with cuts to graduate admissions and graduate support. The result of this scenario, replayed across the country and in related fields as well, is likely to be many talented young people who could have entered careers in science, technology, engineering, or mathematics, and are instead swelling the ranks of the unemployed and underemployed.

Maintaining the pipeline of the mathematical workforce with programs that fund research and students is especially important because of the foundational and cross-cutting role that mathematics and computational science play in sustaining the nation's economic competitiveness and national security, and in making substantial advances on societal challenges such as energy, the environment, and public health. DOE programs support the educational and professional development of the researchers who will, at universities, companies, and the national laboratories, tackle the research problems (such as the complex system modeling described above) needed to change energy usage in this country. These young mathematicians and computational scientists are the drivers and employees of the clean energy economy.

Within the Office of Advanced Scientific Computing Research, the Computational Science Graduate Fellowship program is a highly successful and model program that enables students to receive robust training in mathematics and also learn to interface with a wide variety of other fields. We request that strong support for this program continue, as well as ongoing support for post-doctoral fellows at DOE national laboratories and universities. In addition, we endorse DOE's proposed continuation in FY 2011 of the Office of Science Early Career

Research Awards and Graduate Fellowships programs begun with funding from the American Recovery and Reinvestment Act.

We are also supportive of the proposed DOE education initiative, RE-ENERGYSE (REgaining our ENERGY Science and Engineering Edge). We too believe in the core goal of raising the number of students studying in areas that contribute to the fundamental understanding of energy science and engineering systems. In particular, we support graduate research fellowships in relevant fields, such as applied mathematics, and programs that encourage universities to establish multidisciplinary research and education programs, such as in computational science, which is a key element in projects studying and creating clean energy capabilities.

Conclusion

The programs in the Office of Science, particularly those discussed above, are important elements of DOE's efforts to fulfill its mission. They contribute to the goals of dramatically transforming our current capabilities to develop new sources for renewable and low-carbon energy supplies and improve energy efficiency, positioning the U.S. to lead on climate change policy, technology, and science, and facilitating DOE's effort to increase U.S. competitiveness by training and attracting the best scientific talent into DOE headquarters and laboratories, the American research enterprise, and the clean energy economy.

SIAM is aware of the significant fiscal constraints facing the Administration and Congress this year, but we note that, in the face of economic peril, federal investments in mathematics, science, and engineering create and preserve good jobs; stimulate economic activity; and help to maintain U.S. pre-eminence in innovation, upon which our economy depends.

I would like to conclude by thanking you again for your ongoing support of the DOE Office of Science and the actions you have already taken this year to enable DOE and the research and education communities it supports, including thousands of SIAM members, to undertake the activities that contribute to the health, security, and economic strength of the U.S. The DOE Office of Science needs sustained annual funding increases to maintain our competitive edge in science and technology, and therefore we respectfully ask that you continue your robust support of these critical programs into the future.

I appreciate the opportunity to provide testimony to the Committee on behalf of SIAM and look forward to providing any additional information or assistance you may ask of us during the FY 2011 appropriations process.

Oregon Water Resources Congress
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ANITA WINKLER, EXECUTIVE DIRECTOR
OREGON WATER RESOURCES CONGRESS
MARCH 19, 2010

I am Anita Winkler, Executive Director, Oregon Water Resources Congress. This testimony is submitted to the United States House of Representatives Appropriations Committee, Energy and Water Development Subcommittee, regarding the Department of the Interior's FY11 Budget for the Bureau of Reclamation.

The Oregon Water Resources Congress (OWRC) was established in 1912 as a trade association to support member needs to protect water rights and encourage conservation and water management statewide. OWRC represents non-potable agriculture water suppliers in Oregon, primarily irrigation districts, as well as other special districts and local governments that deliver irrigation water. The association represents the entities that operate water management systems, including water supply reservoirs, canals, pipelines, and hydropower production.

Bureau of Reclamation

OWRC continues to support an increase in funding for the Bureau of Reclamation's Water and Related Resources program above the Administration's proposed FY11 Budget request for the Bureau of Reclamation's programs west-wide. We are disappointed that the Administration's budget proposal is less than the Enacted FY 10 budget, especially for the Water and Related Resources program at a time when there is broad consensus that the water supply for the West is inadequate to meet current diverse needs, aging infrastructure needs for rehabilitation or replacement, and the need for expanded water supply, (whether as a result of climate change, population increase in the West, or the increasing types of demand on the water supply), is increasing. Reclamation has been and must continue to be the leader for the West in meeting these needs but that requires a budget that reflects these increasing needs, not a budget that reduces the Bureau's ability to provide that level of leadership.

The Administration's current budget proposal is more than $200 million less than what we in the water community feel is necessary to carryout an effective 21st Century water program for the West.

Water SMART Program Challenge Grants
OWRC has been a strong advocate of the Challenge Grant program that is now part of the WaterSMART Program. Oregon's districts have been successful recipients of these Challenge Grants, typically with a non-federal share exceeding the required amount. This program has supported our member districts' efforts to improve water delivery systems, conserve water, and implement innovative projects to meet the water

needs in our state. With a return of over $5 for every $1 of Federal investment, this program far exceeds the results of other partnerships between the Federal government and local project sponsors. As an example, prior years' Federal investment of $3.6 million dollars in Oregon projects resulted in a total investment of over $21 million dollars in water conservation projects and yielded a savings of over 539,000 acre-feet of water annually in Oregon.

The Oregon projects funded through Challenge Grants have led to significant amounts of water returned in-stream without reducing the amount of land to which the districts deliver water. These projects have been key to some of the districts' ability to work cooperatively with other parties in their respective river basins to address the in-stream needs and water quality needs of their basins and avoiding enforcement actions by the Federal or State governments.

We appreciate that the Challenge Grant program has been continued under the WaterSMART program and that the Administration has proposed an increase in the budget for this program of about 50%. We anticipate continued success with this program for our member districts to implement system improvements that benefit their respective water users and their communities.

Water Conservation Field Services Program
OWRC appreciates the proposed increase in Reclamation's FY 2011 budget request for Water Conservation Field Services over FY 2010. We do believe that this program remains underfunded, especially in light of Interior's focus on ensuring stable, secure water supplies for the Nation. The Water Conservation Field Service Program provides a key component to support irrigation districts and similar water delivery systems in their efforts to conserve water.

In the last two years the Water Conservation Field Services Program provided technical assistance to irrigation districts and awarded grants totaling over $1.5 million to irrigation districts in Oregon. Those grants provided partial funding for pipe for used to pipe canals, canal linings, SCADA systems, GIS systems, and water conservation plans – all supporting water conservation program being implemented by these districts.

The planning projects and technical assistance funded under the Field Services program are often the planning work that helps our member districts identify opportunities for water conservation through improved water management and capitol investments. The Federal share in these projects ensures that the districts are able to continue these planning efforts without which the projects discussed in the Challenge Grant Program above may not be implemented and the water not conserved. This program provides seed money for both short and long term planning by districts and water users that results in helping Oregon meet the competing demands for water in basins throughout the state. Without these projects, basin planning efforts become just that – plans sitting on shelves without the ability to implement them.

We request that this program be funded at 17 million dollars -- $1 million for each Reclamation state.

Oregon Needs

Conservation Implementation

The largest need for funding for OWRC's members is to implement water conservation projects Irrigation districts in Oregon continue to line and pipe existing open waterways to enhance both water supply and water quality. But the ability to continue this work depends on some public investment in return for the public benefits. Districts have conserved water and provided some of the saved or conserved water to benefit the fishery in-stream while also building reservoir supplies or reducing the amount of water needed to meet their water users water needs.

Districts are often the largest water supplier in a basin. When they are able to conserve water, that conserved water can be used by other irrigators, to restore in-stream flows to help protect endangered species, or for other uses in the basin.
Oregon districts hope to continue this work through enhanced water conservation and improved water management, but to do that the districts need support to implement effective alternative programs such as pilot water banking projects, energy reduction programs, additional measurement and telemetry monitoring, etc.
While funding for project implementation and construction is primary, our member districts also need funding assistance for the design and engineering of these projects. Many have reached a point at which the lack of funding for the non-construction phase of projects is becoming and will continue to be an impediment to the districts' ability to move forward with water conservation projects.
While some of these districts will continue to benefit from the funding requested in the FY11 budget, others are going through a reauthorization process or new authorizations for projects in their districts that will continue this conservation ethic.

Deschutes Basin

Deschutes Basin Board of Control

Deschutes Basin Board of Control, comprised of seven irrigation districts (Arnold, Central Oregon, North Unit, Swalley, Three Sisters, and Tumalo), is requesting $5,000,000 for cost-share planning, design, and construction of water conservation projects, including piping, as part of the Deschutes Project. These projects will increase water conservation, reduce consumption of electricity, and increase instream flows for threatened and endangered species in the Deschutes Basin.

Tumalo Irrigation District

Tumalo Irrigation District is requesting $4,000,000 to pipe 6 miles of existing open canal to increase water conservation. Piping the canal will also lead to reduced energy demands, improved water quality, and increased instream flows for fish and wildlife in the Deschutes Basin.

Willamette Basin
Clean Water Services/Tualatin Valley Irrigation District
Clean Water Services, with Tualatin Valley Irrigation District as one of its partners, is requesting $1,440,000 to complete a Draft and Final Environmental Impact Statement and planning report examining two alternatives for the Tualatin Basin Water Supply Project. This project is essential to meet the growing municipal, agricultural, industrial, and environmental water supply needs of the region that depend on a long-term reliable water source.

Greenberry Irrigation District
Greenberry Irrigation District is requesting $972,000 to construct and install pipeline and a pumping station as part of district infrastructure development that will improve delivery efficiency and increase water conservation. These improvements will also lead to increased instream flows for fish and wildlife in the Willamette Basin.

Klamath Basin
The Klamath Project districts continue to require support for their efforts to provide certainty for water delivery including the basin-wide recovery plan, the studies to increase water storage capacity, their Water Conservation Implementation work, the Klamath Dam Removal Study and other work related to the recently signed settlement agreements, other ongoing operations planning and other projects within Reclamation's budget for the Mid-Pacific Division. We continue to encourage the Administration and in particular, the various Department of the Interior Agencies, to work closely with the districts in the project area on the overall funding and planning necessary for ongoing solutions and the implementation of those solutions to ensure reliable delivery of water for irrigators while addressing other water needs in the basin.

Thank you for the opportunity to provide testimony regarding the FY11 Federal budget. While we support existing proposals, we feel that given recent record-setting droughts in the west and in Oregon in particular and what appears will be a severe drought year in Oregon this year, we need to support an increased budget to stabilize the nation's water supply for the many needs it must meet. Providing a stable water supply feeds the economy locally and at the national level.

Sincerely,

Anita Winkler

Anita Winkler
Executive Director

Malia Hale
Director, National Restoration and Water Resources Campaigns
National Wildlife Federation

Testimony on FY 2010 Appropriations
House Appropriations Subcommittee on Energy and Water Development

March 19, 2010

On behalf of the National Wildlife Federation, the nation's largest conservation advocacy and education organization, and our more than four million members and supporters, we thank you for the opportunity to provide FY 2011 funding recommendations for the Army Corps of Engineers and the Bureau of Reclamation under the purview of this Committee. Our testimony provides the views of the Federation on funding and related concerns regarding a number of projects and programs of the U.S. Army Corps and the Bureau of Reclamation.

National Wildlife Federation's mission is to inspire Americans to protect wildlife for future generations. To achieve this mission the organization is focused on confronting global warming, safeguarding and restoring wildlife, and connecting people with nature.

ARMY CORPS OF ENGINEERS

The Administration has proposed a total of $4.9 billion for FY 2011 for the Army Corps of Engineers - down from the $5.4 billion appropriated for the current year. While the budget represents a $0.5 billion overall decrease from FY 2010, the Corps received nearly three times normal funding levels over the past two years due to $12 billion additional funding for bringing New Orleans and vicinity levees up to 1% percent annual chance flood elevations and $4.6 billion in American Recovery and Reinvestment Act. The ARRA funding also included an extremely troubling and unprecedented waiver of non-federal cost sharing for inland waterway construction and rehabilitation projects. As we discuss below, the Federation believes that inland waterway beneficiaries should bear a substantial portion of the costs of developing and utilizing the nation's public waterways for, generally, private, commercial benefits, and we were most concerned that the ARRA legislation deviated from the basic principle that was set in the landmark WRDA 1986.

The Administration's budget appropriately continues to exclude funding for many of the most wasteful, and environmentally-damaging projects, such as the Grand Prairie Irrigation Demonstration Project, AR; the Delaware River Main Channel Deepening Project; Upper Mississippi River Navigation Lock Expansions; Industrial (Inner Harbor) Lock, LA; Big Sunflower River Major Maintenance Dredging, MS, of the Corps of Engineers; and the Northwest Area Water Supply Project, ND, and Red River Valley Water Supply Project, ND. We urge the Appropriations Committee to follow the Administration's lead and to exclude these projects from FY 2011 funding.

Civil Works

Coastal Louisiana Restoration

The FY 2011 presidential budget request for the U.S. Army Corps of Engineers provides $35.6 million for coastal Louisiana restoration, including a $19 million programmatic new start request for coastal restoration construction projects and $16.6 million for pre-construction studies. In 2007, Congress passed a Water Resources Development Act that specifically authorized a number of Louisiana Coastal Area restoration projects to target flows and sediment to bring back some of the area's lost coastal wetlands. Providing construction funding for these projects is crucial to stemming one of the greatest ecological disasters occurring in the United States. Since the Great Depression, Louisiana has lost 2,300 square miles of land, an area equivalent in size to the state of Delaware. Currently the state loses the equivalent of a football field of land every 48 minutes, according to the U.S. Geological Survey. Not only is coastal Louisiana an ecological treasure and home to approximately 2 million people, it is also vital to our nation's energy security and navigation system. Because of the importance of coastal Louisiana both economically and environmentally, NWF strongly urges support for the Administration's request to provide construction funding of $19 million and $16.6 million for continued feasibility studies.

Everglades Restoration
The Florida Everglades spans more than 18,000 square miles, and is a hemispheric treasure—home to a unique ecosystem that supports thousands of species. This ecosystem is vulnerable to numerous natural stresses including fires, hurricanes, floods, droughts, as well as manmade threats such as land drainage, pollution, development, and the continuing consequences of a multi-decade effort at flood control—all of which are now being further exacerbated by global warming. Given the past damage inflicted on this ecosystem and the number of people who rely on it, this is among the most important restoration efforts ever undertaken by our country.

The FY 2011 presidential budget request for the U.S. Army Corps of Engineers includes funding for four Everglades Restoration projects; National Wildlife Federation supports the Administration's funding levels for each of these projects:

- CERP-Picayune Strand, $5 million FY 2011 ($64 million FY 10)
- CERP-Site 1 Impoundment, $35.8 million FY 2011 ($0.1 million FY 10)
- C-111 South Date Project, $37.1 million ($3.4 million FY 10)
- Kissimmee River restoration, $22.5 million ($44.7 million FY10). This long anticipated project will be completed by 2012, but only if fully funded the next two years.

Continuing Authorities Programs
These small-scale, continuing authority programs invest in ecosystem resiliency, which provides a range of public benefits including improved water quality, healthier ecosystems, and flood protection. These programs are critical tools in helping protect communities. Combined, these programs provide a strong foundation to protect our nation from the coming climatic changes.

Section 206, the Aquatic Ecosystem Restoration
Established in WRDA 1996, Section 206, the Aquatic Ecosystem Restoration program, permits the Corps to construct small-scale projects that restore aquatic habitat. These projects must improve the environment, be in the public interest, and be cost-effective. The program is authorized at $50 million annually, but it has received roughly half of that funding in recent years ($27.1 million in FY 10). The Administration's budget includes only $7.273 million for

this program. Given the hundreds of projects in need of funding, National Wildlife Federation recommends funding this program at its authorized level.

Section 1135, Project Modifications for the Improvement of the Environment
Section 1135, Project Modifications for the Improvement of the Environment, like Section 206, has hundreds of critically important projects in line for funding. The program is currently authorized at $40 million annually, but the Administration's budget includes only $7.046 million. National Wildlife Federation strongly recommends funding this program at its authorized level.

Floodplain Management Services and Planning Assistance to States
These two continuing authority programs, Floodplain Management Services and Planning Assistance to States, have provided valuable assistance in reducing the nation's flood risk through nonstructural flood damage reduction solutions, while at the same time often promoting protection and restoration of the environment. Both of these programs have been underfunded while highly subscribed. The flood management strategies that these programs support—floodplain management and land use planning, development of open space and greenways, bulding elevations and floodproofing—are cost-effective and are less environmentally damaging than traditional structural methods (e.g. dams, levees, stream channelization, jetties, and sea-walls.) National Wildlife Federation supports the Administration's $8 million for Floodplain Management Services and $7 million for Planning Assistance to States program.

Reforms included in WRDA 2007
$500,000 for the revisions to the Water Resources Principles and Guidelines. Section 2031 of WRDA 2007 requires the Army Corps of Engineers to revise the 1983 Principles and Guidelines (renamed the Principles and Standards). This funding will be used to develop the Corps' agency guidelines.

$700,000 for Independent Peer Review Studies. Section 2034 of WRDA 2007 requires independent peer review for studies costing more than $45 million. Congress established this requirement in part because of a 2006 GAO study that reported that recent Corps studies "did not provide a reasonable basis for decision making" because they "were fraught with errors, mistakes, and miscalculations, and used invalid assumptions and outdated data."

Estuary Restoration Program
Estuaries are among the most productive ecosystems on earth, providing essential ecosystem services to humans and essential habitat to fish and wildlife. The Ecosystem Restoration Act authorizes the Corps' Estuary Restoration Program. The Act encourages coordination across Agencies and levels of government and engages the private and non-profit sectors. In FY 2010, the ERA received $1 million. National Wildlife Federation supports the Administration's increase to $5 million for FY 2011.

The Inland Waterways Trust Fund
The National Wildlife Federation strongly urges the Committee to insist that all construction and rehabilitation of federal inland waterways be subject to the statutory cost-sharing that was mandated in WRDA 1986. Currently, even with the legally required 50-50 cost-share for

construction and rehabilitation of non-grandfathered inland waterways, the effective annual rate of federal subsidy to the nation's barge industry for construction, operation and maintenance of the inland waterway system is an entirely unparalleled 90 percent. We understand that the Inland Waterways Users Board is in the process of recommending this subsidy be raised to in the vicinity of 95 percent, primarily by greatly increasing the costs to be further off-loaded onto the U.S. taxpayers by shifting many currently cost-shared construction and rehabilitation costs into the 100% taxpayer-paid operations and maintenance categories. Such subsidies violate basic water policy principles and create diseconomies that in turn result in environmental degradation of the nation's major rivers.

National Wildlife Federation Opposes Funding for the Following Projects

Grand Prairie Irrigation Demonstration Project. This $420 million threatens environmental damage to the natural resources of two crown jewels of the National Wildlife Refuge System, the White River and Cache River NWR's. The project has recently seen major cost increases which call into question the potential financing for the non-federal share of the project, many area farmers are not signing up for water, but instead, are developing their own on-farm water systems to improve efficiency and, fundamentally, the project seeks to draw the Corps into area that has never before been a purpose of the Corps water programs – providing irrigation water in the most water rich areas of the nation – an area which Congress has wisely left to the private sector and foresworn in the Civil Works Program for over 200 years.

Delaware River Main Channel Deepening. The $311 million project's construction is currently under an injunction order from the U.S. District Court and is also the subject of three separate lawsuits by the States of New Jersey, Delaware and environmental organizations. The project threatens numerous and substantial impacts to fish and wildlife resources and regional water supplies, and has failed to obtain necessary federal and state permits. We strongly urge no funding, unless and until the project's justification and numerous deficiencies in the project and its planning are clearly and adequately resolved.

Upper Mississippi River and Illinois River Lock Expansions. We also strongly oppose any further funding for this more than $2 billion project, including any continued Preconstruction Engineering funding. Recent economic reports by the Corps and outside experts show the project's true benefit-cost ratio is less than in all likelihood 40 cents and probably less than 20 cents of national economic benefits for each dollar spent. We urge the Committee to find the appropriate means to move forward on an increased funding basis regarding Upper Mississippi River and Illinois River ecosystem restoration, in a way that is not tied to spending on unjustified new lock projects.

Yazoo Pumps

National Wildlife Federation urges the Committee to support the Administration's proposal to rescind $52 million of past, but unspent, appropriations for the infamous Yazoo Backwater Pumping Plant project in Mississippi. Due to the enormous environmental damage threatened to more than 200,000 acres of wetlands and bottomland hardwood forests in the Mississippi Delta, the US EPA vetoed this project in August, 2008 pursuant to the Clean Water Act.

Regulatory Program

NWF urges Congress to support the FY 2011 presidential budget request of $193 million for the Corps of Engineers' regulatory program. The Corps' Clean Water Act and Rivers and Harbors Act permitting programs play a central role in protecting and restoring the nation's water resources. Effective implementation and enforcement of these permitting programs depends upon adequate funding to support timely and increasingly resource intensive Corps jurisdictional determinations, permit evaluation, compliance monitoring, and enforcement. As the Corps explains, increasing development pressure combined with the increasing complexity of jurisdictional determinations and permit review is resulting in increased litigation that, in turn, "increases the need for more-in-depth review and documentation on complex permits. *The complexity of the Supreme Court Decisions related to CWA jurisdiction also continues to increase the time it takes to provide landowners with decisions.*" FY 2011 Budget Justification at REG-3 (1490/1762). Over 80% of the $193 million budget request is allocated to address these permit evaluation and jurisdictional determination demands.

While NWF strongly supports this $193 million budget request, we note that these funds would be much more effectively spent on timely, comprehensive permit review and enforcement than on CWA jurisdictional determinations that have become unnecessarily complicated since the 2001 and 2006 Supreme Court decisions on CWA jurisdiction. We urge congressional action to overturn these decisions, clarify the scope of the CWA, and thereby improve the efficiency and effectiveness of the Corps' regulatory program.

BUREAU OF RECLAMATION

Red River Valley Water Supply and Northwest Area Water Supply Projects, ND. Neither of these projects makes economic nor environmental sense and they should not receive FY 2011 funding. In both cases, the projects pose substantial and unnecessary risk of transfer of damaging invasive aquatic biota into the Red River of the North and Hudson Bay Drainage watershed, and permanent withdrawal of water from the increasingly stretched Missouri River Basin. Each poses high and unnecessary costs for water supplies that could be developed at much less cost within their respective natural basins. The NAWS project was recently enjoined for further construction by the U.S. District Court for failure to consider cumulative effects and environmental impacts in both the Missouri, Hudson Bay and Canadian waters.

THE
LITTLE RIVER
DRAINAGE DISTRICT

FLOOD CONTROL & DRAINAGE
SINCE — 1907

STATEMENT OF
THE LITTLE RIVER DRAINAGE DISTRICT
HOUSE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
MARCH 23, 2010

Congressman Peter J. Visclosky, Chairman
Subcommittee on Energy and Water Development
2362 Rayburn House Office Building
Washington, D. C. 20515

Dear Congressman Visclosky:

My name is Sam M. Hunter, DVM of Sikeston, Missouri. I am a veterinarian, landowner, farmer and resident of Southeast Missouri.

I am the President of The Little River Drainage District, the largest such entity in the nation. Our District serves as an outlet drainage and flood control District to parts of seven (7) counties in Southeast Missouri. We provide flood control protection to a sizable area of Northeast Arkansas as well. Our District is solely tax supported by more than 3500 private landowners in Southeast Missouri.

My remarks will be directed toward the Mississippi River and Tributaries Project (MR&T) and the St. Francis River Basin portion of the MR&T. Those funds when properly expended are INVESTMENTS yielding a return of substantial benefits to the American taxpayer throughout this nation. They are used to prevent flooding to much of our valuable farmland, to industrial sites, and to upgrade our ever aging locks and dam system on our navigable streams which will prevent unscheduled lock closures, modernize our hydro-electric plants, and restore some of our environmental assets. MR&T authorized by Congress in 1928 AND STILL NOT COMPLETED is returning back to our nation $25 for every dollar expended. What a good investment!!

The $4.6 billion of stimulus funding provided the Corps of Engineers in 2009 was greatly appreciated. Several needed projects were commenced and completed which otherwise would not have occurred. Much more needs to be done to provide the Mississippi Valley the flood protection its citizens need and the extreme need to modernize our inland waterway system.

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THE
LITTLE RIVER
DRAINAGE DISTRICT

FLOOD CONTROL & DRAINAGE
SINCE — 1907

Many jobs would be realized and many products would be purchased throughout the entire Mississippi Valley and the watersheds which discharge into this system if an aggressive modernization of our Inland Waterway was put in motion. We must put people back to work and this will help considerably. The stimulus funds helped, however, there still remains room for more funding. This District supports the request of the Mississippi Valley Flood Control Association for funding levels at $550 million for the MR&T Project. This project as well as all of the subsidiary projects within it are returning back to the U. S. Treasury a minimum of $6 for each $1 invested.

Many of our locks and dams are over seventy (70) years old and we are sitting idly by letting them deteriorate further. The current administration pledged to improve the infrastructure in this nation. We are waiting to see that promise fulfilled. These much needed improvements are investments in this nation's future. When they are fully underway many jobs will be created in the private sector thus serving a two (2) fold purpose. Please hear us and help us improve this vital part of our nation.

We believe Congress needs to intervene and reverse the trend of OMB, this administration and of past administrations. We have not seriously invested in our waterway infrastructure for decades but we MUST. Local economies will be affected positively by these investments. Local labor will be used. Local businesses will provide needed materials. This would be a major boost to our economy. Each year OMB and recent administrations have submitted low budget amounts for this worthwhile project and we have had to rely on Congress to "fix" the problem. You should not be burdened with this task. Someone needs to inform OMB what projects need funding which are assets to our nation and not a liability.

Investing in our waterways is a great way to stimulate the economy, which currently is very much needed, and at the same time be building and making investments into a system for the future which will return back more dollars than expected. We petition you to give this vital industry of our nation a strong endorsement and do all you can to ensure our waterways system and carriers stay competitive with our foreign competitors.

I have the following additional comments for your benefit and consideration:

Infrastructure

The current administration stated often during its campaign and after that a genuine concerted priority would be to invest in this country's future, its infrastructure. When are we going to commence?

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SINCE — 1907

Our federal road systems are crumbling! We must not wait for bridges to fail as recently happened in Minnesota before we act. We need to move forward across our entire nation upgrading our federal highway system in its entirety. This will take long term commitments not just a "stimulus" now and then. We need to put a plan in place, work the plan and fund it properly each year until we have completed the task.

Are we truly interested in fuel independence – a cleaner environment – a better economy? If we are why don't we have someone step forward to be a champion for our "waterways" system? We have locks and dams which are an average of fifty (50) years old. Parts are having to be fabricated since they are no longer manufactured. Tows are having to be broken up to pass because our locks and dams are too short and not modernized. Many undue delays are occurring. This does not permit our carriers to compete fairly with the foreign shipping industry. We must start a concerted effort to improve this part of our nation's infrastructure.

Locks, dams, hydropower, recreation, flood control, water supplies and all other benefits from the construction, operation and maintenance of these features on our rivers benefit our entire nation not just a few. It is a national asset and it must be operated and funded as a national benefit. Private industry can not and will not operate this system fairly and in the best interest of our nation.

Environmentally moving goods and freight throughout our nation via of water is much cleaner, less intrusive, and far more environmentally acceptable than highways or rail. Noise pollution, air pollution, land pollution are substantially less when we move the mass amount of goods possible by water.

Fuel efficiency comparison is a "no brainer"! For instance one (1) gallon of fuel moves 155 tons of freight by truck, 413 tons of freight by rail and 576 tons of freight by water. What part of this do we not understand? Why can't we realize such an endeavor would reduce much of our fuel needs and take much pressure off our highway system?

Economically investing wisely in our waterways effects much of our nation – not just a regional portion. Consider it being possible to board a waterborne vessel at the Port of New Orleans, Louisiana and one (1) can touch thirty-six (36) states of this nation and six (6) provinces in Canada without ever getting onto land. Over seventy-five (75) percent of our population lives along water. Only two (2) of our major cities are not on water, namely, Atlanta, Georgia and Denver, Colorado. With the many ports throughout the Mississippi Valley, which network many more people inland, it is evident many local economies will be benefited when investments are made in our water infrastructure.

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SINCE — 1907

We seem to be ready, willing, and capable of improving the infrastructure of other nations at the expense of our taxpayers but seem reluctant to do the same for our nation. It is far past time to reward the American taxpayer with a return for the money he provides each year and stop using those funds to benefit those nations who are our enemies.

It has been estimated our waterway infrastructure needs $100 to 120 billion to modernize, upgrade and be made functional. Lets start now by setting a ten (10) year goal to modernize that system and then plan to meet that goal and exceed same when possible. Currently we are spending $13 billion each month to fight terrorism in Iraq and Afghanistan which is more spent in one (1) year of what is needed to bring our waterways up to a finished plan. Perhaps we could cut the ten (10) year plan to even five (5) years by eliminating much of that funding. Lets try!

I wish to thank you very much for your time and kind attention and for taking the time to review the above. We would be very appreciative of anything this committee can do to help us improve our environment, improve our livelihood, and improve the area in which we live and work which ultimately is good for America. We are also very appreciative of all this Committee has done in the past. We trust you will hear our pleas once more and act accordingly.

Dr. Sam M. Hunter, President
The Little River Drainage District
Cape Girardeau, Missouri

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THE PORT OF HARLINGEN – HARLINGEN, TEXAS

ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE ON APPROPRIATIONS

US ARMY CORPS OF ENGINEERS

Contact: Pat Younger, Government Relations Liaison for the Port of Harlingen
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We express full support of the inclusion in the FY'11 budget for the full capability of the USACE of..... $805,000 - $O & M

HISTORY AND BACKGROUND

Port Harlingen, also known as the Rio Hondo Port, is on the Arroyo Colorado and Farm Road 106, on the eastern city limits of Harlingen. The channel connecting Arroyo Colorado with the Gulf Intracoastal Waterway was completed and dedicated on February 27, 1952. It is 12 feet deep and 125 feet wide and has a turning basin measuring 400 by 600 feet. By 1962 the port was handling $2.5 million in commerce. In 1983 commodity shipments amounted to 455,430 short tons, and they increased to 801,003 short tons in 1984, when the port housed ten industries with commercial leases. In 1989 Port Harlingen handled 728,954 short tons.

The port is located four miles east of Harlingen, Texas on Highway 106. It is 25 miles west of Mile Marker 646 on the Gulf Intracoastal Waterway, which stretches from the Mexican border at Brownsville, Texas, along the entire coast of the Gulf of Mexico to St. Marks, Florida. The Gulf Intracoastal Waterway provides over 1,300 miles of protected waterway. The Harlingen channel is maintained to a width of 125 feet and a depth of 12 feet and is supplied by the Arroyo Colorado, a fresh water river.

PROJECT DESCRIPTION

The project is located in the vicinity of Rio Hondo and Harlingen in Cameron and Willacy Counties, Texas. The project consists of a channel 25.8 miles long. The channel extends with the main channel of the GIWW through the Arroyo Colorado to the turning basin at Harlingen. It also included a barge-mooring basin near the channel's junction with the GIWW. Authorized channel dimensions are 12' by 125 '. 100% of all the sugar (180,000 tons), 95% of all commercial fertilizer products and 30% of all gasoline products for south Texas is shipped through the Port of Harlingen. The Corps of Engineers has determined a need for levee work in Harlingen Channel that were destroyed during recent storms in Texas.

ECONOMIC IMPACT OF THE PORT OF HARLINGEN

The Port of Harlingen provides efficient and economical transportation to points as close as Corpus Christi and as far as the Great Lakes. Terminal docks and other facilities ease shipments into and out of the Port of Harlingen, and over 150 acres of on-and-off channel sites are available for industrial firms requiring economical transportation and attractive land lease rates. The port is also an important link in the comprehensive transportation network of the Rio Grande Valley of Texas. Southern Pacific Company rail lines at the port, along with switching capabilities with Union Pacific Railways, keep products moving to Texas locations and on throughout the U.S. and Mexico. Additionally, as was stated in the project description above, 100% of all the sugar (180,000 tons), 95% of all commercial fertilizer products and 30% of all gasoline products for south Texas is shipped through the Port of Harlingen.

COMMUNITY AND INDUSTRY SUPPORT

One industry the Port of Harlingen is involved in is sugar. The Port of Harlingen Authority has bid and is building a $3,800,000 sugar transfer building to load barges of sugar for shipment to Louisiana. The sugar mill shipped 171,962 short tons of sugar to Louisiana in 2006-2007 and should ship in excess of 180,000 short tons in 2007-2008. The mill cannot ship raw sugar by rail because the finish mills in Louisiana are not currently capable of receiving raw sugar by rail, and instead are organized to ship finished sugar by rail. To ship the sugar by truck would take over 6,878 truckloads at four times the cost. If this occurs, recent economic studies have determined that it would put the mill out of business.

Additional industries present at the Port are Agro Alliance, Helena Chemical, UAP and Wilber Ellis, which have facilities at the port or down stream that handle 99% of all of the commercial liquid and dry fertilizer for south Texas. CMX also has a terminal at the port that handles much needed concrete sand shipped from Victoria and Cement shipped in from Mexico.

Valero Energy Corporation, which once actively sent gas and diesel fuel to the Port of Harlingen by barge, also has projects underway at the Port. In October of 2005, Valero finished a pipeline to the valley to service all three terminals and stopped all barge traffic. In July 2006 they started barging (about two barges a month) ultra low sulfur diesel to the valley. They are currently shipping the entire ultra low sulfur diesel by barge and the traffic is almost back to levels achieved before their pipeline was built.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FY'11

The Administration's FY'11 did not include funding for the levee work needed in Harlingen Channel. As deliberations on the Energy and Water Subcommittee on Appropriations commence, we would appreciate your help in securing the Corps capability of $805,000 so that this project can move forward and ensure that the Gulf Intracoastal Waterway – Port of Harlingen received the important levee work identified by the USACE.

BRAZOS RIVER HARBOR NAVIGATION DISTRICT-FREEPORT, TEXAS

ENERGY & WATER SUBCOMMITEE ON APPROPRIATIONS

US ARMY CORPS OF ENGINEERS

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We express full support of the inclusion in the FY'11 budget for the full capability of the USACE of..... $500,000 – PED
$10,912,000 – O & M

HISTORY AND BACKGROUND

Port Freeport is an autonomous governmental entity authorized by an act of the Texas Legislature in 1925. It is a deep-draft port, located on Texas' central Gulf Coast, approximately 60 miles southwest of Houston, and is an important Brazos River Navigation District component. The port elevation is 3 to 12 feet above sea level. Port Freeport is governed by a board of six commissioners elected by the voters of the Navigation District of Brazoria County, which currently encompasses 85% of the county. Port Freeport land and operations currently include 186 acres of developed land and 7, 723 acres of undeveloped land, 5 operating berths, a 45'deep Freeport Harbor Channel and a 70' deep sink hole. Future expansion includes building a 1,300-acre multi-modal facility, cruise terminal and container terminal. Port Freeport is conveniently accessible by rail, waterway and highway routes. There is direct access to the Gulf Intracoastal Waterway, Brazos River Diversion Channel, and, State Highways 36 and 288. Located just three miles from deep water, Port Freeport is one of the most accessible ports on the Gulf Coast.

PROJECT DESCRIPTION

The FY'02 Energy and Water Appropriations signed into law included a $100,000 appropriation to allow the United States Army Corps of Engineers (USACE) to conduct a reconnaissance study to determine the federal interest in an improvement project for Freeport Harbor, Texas. The USACE, in cooperation with the Brazos River Harbor Navigation District as the local sponsor, has completed that study. The report indicates that "transportation savings in the form of National Economic Development Benefits (NED) appear to substantially exceed the cost of project implementation", thus confirming "a strong federal interest in conducting the

feasibility study of navigation improvements at Freeport Harbor". Congress has to date appropriated over $ 4 Million for the study phase of the channel improvement project. This last phase of study for PED will move the project to completion of the feasibility report and ready the channel for construction.

Port Freeport has the opportunity to solidify significant new business for Texas with this improvement project. In addition, the improvement to the environment by taking a huge number of trucks off of the road, transporting goods more economically and environmentally sensitive by waterborne commerce is infinitely important to the community, the State, and the Nation. Moreover, the enhanced safety of a wider channel cannot be overstated. The emergence of an LNG facility at Port Freeport – a joint venture of Conoco-Philips and Cheniere Energy further solidifies the importance of keeping this critical waterway at optimum depth and width.

ECONOMIC IMPACT OF PORT FREEPORT

Port Freeport is 13th in foreign tonnage in the United States. It is responsible for augmenting the Nation's economy by over $9 billion annually and generating over nearly 24,000 jobs in Texas, over 11,000 direct. It also augments the economy by providing annual state and local taxes of over $150,000 and an additional of over $300 million in federal tax revenues. Its chief import commodities are bananas, fresh fruit and aggregate while top export commodities are rice and chemicals. The port's growth has been staggering in the past decade, becoming one of the fastest growing ports on the Gulf Coast. Port Freeport's economic impact and its future growth is justification for its budding partnership with the federal government in this critical improvement project.

Examples of existing tenants at the Port include:

Dole Fresh Fruit- Dole has a weekly sailing arriving at Port Freeport with green fruit and other exotic fruits, mainly from Guatemala and Honduras. Dole has been a tenant of Port Freeport for the past 23 years, occupying lease sites comprising of 12 acres and has just renewed its lease for another 5 years. There are approximately 450 jobs associated with this operation.

Chiquita Fresh North America — Chiquita is very similar to the Dole operation. Chiquita also has a weekly sailing and has been a tenant of Port Freeport for the past 12 years. There are about 400 jobs associated with this operation.

Turbana Banana & Isabella Shipping- Turbana and Isabella, divisions of Uniban, based in Colombia import 2000 pallet loads of green fruit and other exotic fruits into Port Freeport weekly. The fruit is processed in a newly built chiller, which the Port undertook and built 2 years ago at a cost of $7M dollars. In addition to their import activities, they also export general cargo back weekly to ports in Costa Rica and Colombia. Since moving to Freeport 2 years ago, Turbana has increased their business 38%. This highly labor-intensive company accounts for 500 + jobs. Turbana and Isabella recently announced a significant expansion of their Freeport operations that will double their cargo throughput within the next 4 months.

American Rice Inc. /Grupo SOS - As a 20-year tenant of the Port, this company has the largest rice milling operation in the United States located on water. They are one of the largest suppliers to Iraq in the effort to help rebuild their economy. American Rice was recently acquired by the Spanish firm Grupo SOS, based in Madrid. Grupo SOS recently announced an expansion project at the Port Freeport site totaling $150M dollars. Once all the new facilities are built, Port Freeport will be the distribution center for all North America, sending product out by ship, truck, and rail to Mexico, Canada, the Tropics, and South America as well as throughout the United States. With the expansion, there will be approximately 2000 jobs associated with this operation.

Freeport LNG/ConocoPhillips — Port Freeport was successful 4 years ago in attracting Freeport LNG to a site on Quintana Island, owned by the Port. This facility, the first new liquefied natural gas plant to be built in the United States in the last 25 years, will begin operations in the first quarter of 2008. The volume of natural gas imported in Phase I will be equal 10 % of the total gas production of the State of Texas and Phase II will equal over 20 % of the entire State's production from this one terminal. The docks at the terminal are designed to handle the largest LNG ships being designed for the future, will require a wider ship channel which will need to be maintained for these larger ships. The investment in the LNG facility is $1B dollars. The importance of this facility cannot be understated. With gas prices spiking at $13/bcf (from $3) recently, local petrochemical plants had to shut down some production units, as an example, Dow Chemical Freeport purchases $1M dollars of LNG daily to fire up their various production facilities.

In addition to the Port tenants listed above there a numerous U.S. and international chemical and crude processing facilities in the immediate area. Some of the larger international corporations utilizing the Freeport ship channel are as follows:

Dow Chemical — A diversified chemical company that offers a broad range of products and services to customers in more than 175 countries, helping them to provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products. Dow has annual sales of $49B dollars and employs 43,000 people worldwide, with 4000 full time employees in the Texas operations and another 3000 contract employees. Texas Operations in Freeport is Dow's largest integrated site where 44% of Dow's products are sold in the United States and more than 21% of Dow's products sold globally are manufactured. Dow's Freeport Marine Terminal and Operations (FMTO) uses the Freeport Harbor channel and handles the movement of 100 different Dow products at 15 billion pounds annually. Marine vessels transport 46% of Dow's volume through Dow docks on the Freeport channel.

ConocoPhillips owns and operates a 247,000 bpd refinery at Old Ocean, Texas, that relies heavily on marine operations for the delivery of crude oil and other feedstock supplies; and, to a lesser extent, for product shipments. In particular, ConocoPhillips utilizes both its own proprietary terminal and the Teppco crude oil terminal at Port Freeport. Maintaining and improving the Port Freeport channel is critical to overall refinery operations.

Seaway Crude Pipeline Company is a partnership between wholly owned subsidiaries of TEPPCO and ConocoPhillips. The pipeline transports crude oil from the Texas Gulf Coast to Cushing, OK, a crude distribution point for the central United States and a delivery point for the New York Mercantile Exchange (NYMEX). The Seaway system is a critical link in the crude oil supply chain for Central and Midwest refining centers. Seaway also provides marine terminaling and storage services for Texas Gulf Coast area refineries. TEPPCO is the operator of Seaway Crude Pipeline. The Freeport, TX, marine terminal is the origin point for the 30-inch diameter crude pipeline. Three large diameter lines carry crude oil from Freeport to the Jones Creek Tank Farm, which has six storage tanks capable of handling approximately 3.3 million barrels of crude. This private terminal also acts as the receiving terminal for crude delivered to the Bryan Mound Strategic Petroleum Reserve operated by the Department of Energy.

Schenectady Chemical, Shintech, Air Liquide, Nalco, Rhodia, Rhone-Poulenc, S F Sulfur Corp and Silica Products are other large international companies in the immediate area. All of these companies depend on, in some form or fashion the delivery or dispatch of product, crude or feedstock by vessel. There is well over $100B dollars in assets in the immediate area, assets that are in the ground, provide for 30,000 direct jobs supplying our country with everything gasoline for our vehicles to baby diapers.

Recent Port improvements include the Velasco Terminal, which was launched last October as our first major container terminal. This facility, presently under construction will boast a berthing line of 2400 linear feet with 90 acres of backland for development. Phase I, building Velasco terminal will cost $35M dollars and should be completed in 18 months. We have three, large international companies submitting proposals to act as terminal operators. Overall build out cost could go as high as $200M dollars and is designed to handle as many as 700,000 containers.

DEFENSE SUPPORT OF OUR NATION

Port Freeport is a strategic port in times of National Defense of our Nation. It houses a critically important petroleum oil reserve – Bryan Mound. Its close proximity to State Highways 36 and 288 make it a convenient deployment port for Fort Hood. In these unusual times, it is important to note the importance of our ports in the defense of our Nation and to address the need to keep our federal waterways open to deep-draft navigation.

COMMUNITY AND INDUSTRY SUPPORT

This proposed improvement project has wide community and industry support. The safer transit and volume increase capability is an appealing and exciting prospect for the users of Freeport Harbor and Stauffer Channel. The anticipated positive benefit to cost ratio that was indicated from the Corps of Engineers reconnaissance study firmly solidified the federal interest.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FY'11

The Administration included no funding for PED for the widening and deepening project for Port Freeport; therefore, we need an add of $500,000 to initiate PED. The Administration did include $3,538,000 in O & M for maintenance of Freeport Harbor; however, that amount falls short of the Corps capability. Maintenance dredging of federal harbors is a federal responsibility; therefore , we respectfully request the additional funding of $7,374,000 to restore the harbor to its authorized depth. The Corps will need to continue to move this important project through the system on an optimum schedule and most cost-efficient time frame for the federal government and the local sponsor. We respectfully request that the full amount of the Corps capability for PED and O & M be included in the House mark-up.

Not only is the widening and deepening project currently under consideration as a feasibility study by the Corps needed to ensure the continued growth of the port and surrounding industries, we need continued support from the Federal Government to insure our channel is maintained at it's Federally authorized depth of 45 ft. to assure our current customers that we will continue to be able to serve them.

Chambers County-Cedar Bayou Navigation District, Texas
Senate Energy & Water Subcommittee on Appropriations
US Army Corps of Engineers

We express full support of the inclusion of the full capability of the USACE for FY'11 for construction of the project to deepen and widen Cedar Bayou, Texas channel

PRESIDENT'S BUDGET INCLUDED.....$0
FUNDS NEEDED IN FY'11: $100,000 (CONSTRUCTION GENERAL)

SUBMITTED BY: PAT YOUNGER, GOVT. RELATIONS LIAISON
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HISTORY AND BACKGROUND

The Rivers and Harbor Act of 1890 originally authorized navigation improvements to Cedar Bayou. The project was reauthorized in 1930 to provide a 10ft. deep and 100ft. wide channel from the Houston Ship Channel to a point on Cedar Bayou 11 miles above the mouth of the bayou. In 1931, a portion of the channel was constructed from the Houston Ship Channel to a point about 0.8 miles above the mouth of Cedar Bayou, approximately 3.5 miles in length. A study of the project in 1971 determined that an extension of the channel to project Mile 3 would have a favorable benefit to cost ratio. This portion of the channel was realigned from mile 0.1 to mile 0.8 and extended from mile 0.8 to Mile 3 in 1975. In October 1985, the portion of the original navigation project from project Mile 3 to 11 was deauthorized due to the lack of a local sponsor.

In 1989, the Corps of Engineers, Galveston District completed a Reconnaissance Report dated June 1989, which recommended a study for an improvement to a 12ft. by 125ft. channel from the Houston Ship Channel Mile 3 to Cedar Bayou Mile 11 at the State Highway 146 Bridge. Subsequently, at the completion of the feasibility report, the preferred plan recommendation was to construct a 10' by 100'channel. The feasibility report was approved by both the ASA of Civil Works for the Army Corps of Engineers and the Office of Management and Budget.

The Texas Legislature created the Chambers County-Cedar Bayou Navigation District in 1997 as an entity to improve the navigability of Cedar Bayou. The district was created to accomplish the purpose of Section 59, Article XVI, of the Texas Constitution and has all the rights, powers, privileges and authority applicable to Districts created under Chapters 60, 62, and 63 of the Water Code - Public Entity. The Chambers County-Cedar Bayou Navigation District then became the local sponsor for the Cedar Bayou Channel.

PROJECT DESCRIPTION AND REAUTHORIZATION

Cedar Bayou is a small coastal stream, which originates in Liberty County, Texas, and meanders through the urban area near the eastern portion of the City of Baytown, Texas, before entering Galveston Bay. The bayou forms the boundary between Harris County on the west and Chambers County on the east. The project was authorized in Section 349 of the Water Resources Development Act 2000, which authorized a navigation improvement of 12 feet deep by 125 feet wide from mile 2.5 to mile 11 on Cedar Bayou. Corps studies have indicated that the preferred plan is to widen the channel to 100' and deepen it to 10' which is the current plan of action.

JUSTIFICATION AND INDUSTRY SUPPORT

First and foremost, the channel must be improved for safety. The channel is the home to a busy barge industry. The most cost-efficient and safe method of conveyance is barge transportation. Water transportation offers considerable cost savings compared to other freight modes (rail is nearly twice as costly and truck nearly four times higher). In addition, the movement of cargo by barge is environmentally friendly. Barges have enormous carrying capacity while consuming less energy, due to the fact that a large number of barges can move together in a single tow, controlled by only one power unit. The result takes a significant number of trucks off of Texas highways. The reduction of air emissions by the movement of cargo on barges is a significant factor as communities struggle with compliance with the Clean Air Act. Several navigation-dependent industries and commercial enterprises have been established along the commercially navigable

portions of Cedar Bayou. Several industries have docks on at the mile markers that would be affected by this much-needed improvement. These industries include: Reliant Energy, Bayer Corporation, Koppel Steel, CEMEX, US Filter Recovery Services and Dorsett Brothers Concrete, to name a few.

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PROJECT COSTS AND BENEFITS

Congress appropriated $100,000 in FY '01 for the Corps of Engineers to conduct the feasibility study to determine the federal interest in this improvement project. The study indicated a benefit to cost ratio of the project of 2.8 to 1. The estimated total cost of the project is $16.8 M with a federal share estimated at $11.9 M and the non-federal sponsor share of approximately $4.9 M. Total annual benefits are estimated to be $4.8 M, with a net benefit of $3 M. Congress thus far has appropriated nearly $1.7 Million for this project.

It has also become an important project for the Port of Houston Authority – the Nation's busiest port in foreign tonnage. They hope to institute a container on barge facility as soon as this project is accomplished. We would appreciate the subcommittee's support of the required add of the $100,000 to initiate construction of this important improvement project. The users of the channel deserve to have the benefits of a safer, most cost-effective federal waterway.

CURRENT STATUS

In July 2006, the project feasibility report was accepted and approved by Asst. Secretary of the Army John P. Woodley and OMB as a viable, economically justified and environmentally accepted project. The project is ready for construction. The federal government has already invested nearly one million dollars for the studies to justify this project and the local sponsor has advanced the total local share. We are ready to begin construction.

For more information contact:
Pat Younger
Phone: 713-464-5418
Cell Phone: 713-816-6477
Email: youngerandassoc@aol.com

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

March 19, 2010

The Honorable Peter Visclosky, Chairman
Subcommittee on Energy and Water Development
House Committee on Appropriations
U.S. House of Representatives
2362B Rayburn House Office Building
Washington, D.C. 20515-6020

Dear Representative Visclosky:

Support for fiscal year 2011 Federal Funding of $17.5 Million for the
Department of the Interior - Bureau of Reclamation's Basin-wide Salinity Control Program

The Metropolitan Water District of Southern California (Metropolitan) has adopted a position supporting funding for the Bureau of Reclamation's Colorado River Basin Salinity Control Title II program.

For 70 years Metropolitan has provided imported water to the Southern California region from the Colorado River and the State Water Project originating in Northern California. Our mission is to provide high quality, reliable drinking water supplies primarily for municipal and industrial use. Metropolitan is the nation's largest provider of imported water to an urban area. The population today in our service area is 19 million and it is projected to rise to 25 million within the next 25 years. Metropolitan is comprised of 26 member public agencies that serve an area spanning 5,200 square miles and six southern California counties.

Water imported via the Colorado River Aqueduct (CRA) has the highest level of salinity of all of Metropolitan's sources of supply, averaging around 630 mg/L since 1976 and causing economic damages. For example, damages occur from:

- A reduction in the yield of salt sensitive crops and increased water use for leaching in the agricultural sector;
- A reduction in the useful life of galvanized water pipe systems, water heaters, faucets, garbage disposals, clothes washers, and dishwashers, and increased use of bottled water and water softeners in the household sector;

700 N. Alameda Street, Los Angeles, California 90012 • Mailing Address: Box 54153, Los Angeles, California 90054-0153 • Telephone (213) 217-6000

- An increase in the use of water for cooling, and the cost of water softening, and a decrease in equipment service life in the commercial sector;

- An increase in the use of water and the cost of water treatment, and an increase in sewer fees in the industrial sector;

- A decrease in the life of treatment facilities and pipelines in the utility sector;

- Difficulty in meeting wastewater discharge requirements to comply with National Pollutant Discharge Elimination System permit terms and conditions, and an increase in desalination and brine disposal costs due to accumulation of salts in groundwater basins, and fewer opportunities for recycling due to groundwater quality deterioration; and

- Increased use of imported water for leaching and the cost of desalination and brine disposal for recycled water.

Concern over salinity levels in the Colorado River has existed for many years. To deal with the concern, the International Boundary and Water Commission approved Minute No. 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River in 1973, and the President approved the Colorado River Basin Salinity Control Act in 1974. High TDS in the Colorado River as it entered Mexico and the concerns of the seven Colorado River Basin states regarding the quality of Colorado River water in the United States drove these initial actions. To foster interstate cooperation on this issue and coordinate the Colorado River Basin states' efforts on salinity control, the seven Basin states formed the Colorado River Basin Salinity Control Forum (Forum).

The salts in the Colorado River system are indigenous and pervasive, mostly resulting from saline sediments in the Basin that were deposited in prehistoric marine environments. They are easily eroded, dissolved, and transported into the river system.

The Colorado River Basin Salinity Control Program reduces salinity by preventing salts from dissolving and mixing with the River's flow. Irrigation improvements (sprinklers, gated pipe, lined ditches) and vegetation management reduce the amount of salt transported to the Colorado River. Point sources such as saline springs are also controlled. The federal government, Basin states, and contract participants spend close to $50 million annually on salinity control programs.

The Program, as set forth in the Act, benefits both the Upper Colorado River Basin water users through more efficient water management and the Lower Basin water users, hundreds of miles downstream from salt sources in the Upper Basin, through reduced salinity concentration of Colorado River water. California's Colorado River water users are presently suffering economic damages in the hundreds of millions of dollars per year due to the River's salinity.

By some estimates, concentrations of salts in the Colorado River cause approximately $350 million in quantified damages in the lower Colorado River Basin states each year and significantly more in unquantified damages. Salinity control projects have reduced salinity concentrations of Colorado River water on average by over 100 mg/L with an economic benefit of $264 million per year (2005 dollars) in avoided damages.

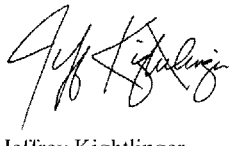
In recent years, the Bureau of Reclamation Basin-wide Salinity Control Program funding has dropped to below $10 million. In the judgment of the Forum, this amount is inappropriately low. Water quality commitments to downstream United States and Mexican water users must be honored while the Upper Basin states continue to develop their Compact apportioned waters from the Colorado River.

Metropolitan urges this Subcommittee to support funding for the Colorado River Basin Salinity Control Program for fiscal year 2011 of $17.5 Million for the Department of the Interior - Bureau of Reclamation's Basin-wide Salinity Control Program for the Colorado River Basin Salinity Control Program.

Over the past years, the Colorado River Basin Salinity Control program has proven to be a very cost effective approach to help mitigate the impacts of increased salinity in the Colorado River. Continued federal funding of this important Basin-wide program is essential.

I would appreciate it if you make this statement a part of the formal hearing record concerning fiscal year 2011 appropriations for the Bureau of Reclamation. I thank you for your Subcommittee's support of this program in years past and hope that you will again support funding to continue this valuable program.

With best regards,



Jeffrey Kightlinger
General Manager

cc: Mr. Jack Barnett
Executive Director
Colorado River Basin Salinity Control Forum
106 West 500 South, Suite 101
Bountiful, UT 84010

Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203

NuScale Power

Paul G. Lorenzini
Chief Executive Officer
NuScale Power, Inc.

March 19, 2010

The Honorable Peter J. Visclosky, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

The Honorable Rodney P. Frelinghuysen, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
Washington, DC 20515

RE: Public Witness Testimony for the Record
Energy and Water Development Appropriations Subcommittee
$38.8 m for DOE Small Modular Reactors

Dear Mr. Chairman and Ranking Member:

On behalf of NuScale Power of Corvallis, Oregon we request that the Subcommittee approve the President's budget request of $38.8 million for small, modular reactors within the Office of Advanced Reactor Research Development and Demonstration. Our request is directed at both the research portion for advanced SMR's and especially the commercialization cost-share portion for up to two light water reactor SMR's designs.

It is also our request that language be included to clarify that government-industry cost-sharing include but not be limited to NRC fees and other related work activities leading to the submission of a Design Certification Document to the NRC. This later clarification is consistent with other previous government-industry cost shared programs. We would be happy to discuss ways to control the taxpayer's long-term financial commitment to such a program for SMR's.

The President has recognized the need for nuclear power as part of a comprehensive energy, environment and employment strategy for this country, including new financial incentives. The specific request for funding of small, modular reactors reflects the opportunity these new, innovative plant designs offer to strengthen our ability to achieve those goals. Small, modular reactor

technologies build on a rich history of American innovation and world class nuclear design and operations. In particular, they will expand the potential market for new nuclear plants by reaching smaller markets, and they would do so while minimizing the magnitude of the financial challenge posed by larger nuclear plant designs.

The NuScale design was originally developed by Oregon State University, working with Idaho National Laboratory and Nexant-Bechtel, as part of a Department of Energy funded research program and validates the effectiveness of such programs in bringing new technologies to the market. In addition to developing the design, this program funded the development of a one-third scale "test facility" at Oregon State University, uniquely positioning the NuScale technology for licensing. NuScale Power is a privately funded company which was formed in 2007 for the sole purpose of commercializing this design under a Technology Transfer Agreement with Oregon State University.

Much has been accomplished already in this ambitious undertaking:

- Some 30 highly-skilled engineers and contractors now work for NuScale and as many more work for the company under contract with U.S. companies. We expect to triple that number in the next 12-18 months.
- Two separate panels of independent experts have evaluated the safety of the NuScale plant and their conclusions have been confirmed by a Level 1 Probabilistic Risk Assessment. These results were presented to the NRC in September 2009 and showed NuScale has achieved a safety margin that is exponentially greater than the already large margins of existing nuclear power plants.
- In 2008, NuScale organized a Customer Advisory Board with senior executives representing five major utilities in the United States. In February of 2009, one of those companies, Energy Northwest, entered a Memorandum of Understanding with NuScale to explore the siting of a NuScale plant in their system.
- In a report prepared by the Electric Power Research Institute, NuScale was identified as the first small, modular reactor vendor to fully vet a Customer Requirements Document with its potential customers. In NRC parlance this means NuScale is already working with customers to make its plant "market ready."

All these efforts to date have been funded by private investments. Notwithstanding these encouraging developments, significant financial barriers remain before this technology can reach the market. The costs to prepare and submit an application for design certification and the subsequent costs for NRC

review can be daunting and pose financial challenges that are increasingly difficult in the current economic climate. Customers too are concerned about the incremental costs of first of a kind investment. We are encouraged that the independent Nuclear Regulatory Commission staff – with the support of all three newly appointed Commissioners – is preparing for the submission of new SMR designs in the coming years in order to conduct the proper public safety evaluation, design and operating licensing certification. But if America is to maintain its place in the global market, and if the full potential of this new technology is to impact the domestic market in support of the President's energy goals, the cost-sharing proposal in the current budget request would make a vital difference.

Yes, much has been accomplished. And yes, there is much work yet to be done. We ask for your support in these efforts.

Sincerely,

Paul G. Lorenzini
Chief Executive Officer

State Engineer's Office

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PATRICK T. TYRRELL
STATE ENGINEER

March 19, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney P. Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Attention: Outside Witness Testimony: Support For $17,500,000 of Fiscal Year 2011 Funding for the Bureau of Reclamation's Colorado River Basin Salinity Control Project – Title II Program

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

This letter is sent in support of fiscal year 2011 funding for the Bureau of Reclamation's Colorado River Basin Salinity Control Project – Title II Program. A total of $17,500,000 is requested for Reclamation's fiscal year 2011 activities to implement authorized Colorado River Basin salinity control program programs. Failure to appropriate these funds will directly result in significant economic damages being accrued by United States and Mexican water users.

The State of Wyoming also supports funding for Salinity Control Program general investigations as requested within the Colorado River Water Quality Improvement Program budget line-item. It is important that Reclamation have properly funded planning staff in place, so that the program's progress can be monitored, necessary coordination among federal and state agencies can be accomplished, and future projects and opportunities to control salinity can be properly planned. Maintaining the water quality standards for salinity in the Colorado River is essential so as to allow the seven Colorado River Basin stated to continue to develop their Compact-apportioned waters of the Colorado River.

In addition to the funding identified above for the implementation of the most recently authorized program, the State of Wyoming urges the Congress to appropriate funds, as requested by the Administration, to maintain and operate completed salinity control facilities, including the Paradox Valley Unit. At facilities located within the Paradox Valley of Colorado subsurface saline brines are collected below the Delores River and are injected into a deep aquifer through an injection well. The continued operation of this project, and the Grand Valley Unit, are funded primarily through the Facility Operations activity.

The Colorado River provides municipal and industrial water for over 30 million people and irrigation water to nearly four million acres of land in the United States. The River is also the water source for some 2.5 million people and 500,000 acres in Mexico. Limitations on water users' abilities to make the greatest use of this critically important water supply on account of the River's high concentration of total dissolved solids (hereafter referred to as the salinity of the water) are a major concern in both the United States and Mexico. Salinity in water supplies affects agricultural, municipal, and industrial water users.

While economic detriments and damages in Mexico are unquantified, the Bureau of Reclamation presently estimates direct and computable salinity-related damages in the United States amount to $376 million per year. The River's high salt content is in almost equal part due to naturally occurring geologic features that include subsurface salt formations and discharging saline springs; and the resultant concentrating effects of our users man's storage, use and reuse of the waters of the River system. Over-application of irrigation water by agriculture is a large contributor of salt to the Colorado River as irrigation water moves below the crop root zone, seeps through saline soils and then returns to the river system.

The Environmental Protection Agency's interpretation of the 1972 amendments to the Clean Water Act required the seven Basin states to adopt water quality standards for salinity levels in the Colorado River. In light of the EPA's regulation to require water quality standards for salinity in the Basin, the Governors of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming created the Colorado River Basin Salinity Control Forum as an interstate coordination mechanism in 1973. To address these international and regionally important salinity problems, the Congress enacted the Colorado River Basin Salinity Control Act of 1974. Title I addressed the United States' obligations to Mexico to control the River's salinity to ensure the U.S.A.'s water deliveries to Mexico are within the specified salinity concentration range. Title II of the Act authorized control measures upstream of Imperial Dam and directed the Secretary of the Interior to construct several salinity control projects, most of which are located in Colorado, Utah, and Wyoming.

Title II of the Act was again amended in 1995 and 2000 to direct the Bureau of Reclamation to conduct a basin-wide salinity control program. This program awards grants to non-federal entities, on a competitive-bid basis, which initiate and carry out salinity control projects. The basin-wide program has demonstrated significantly improved cost-effectiveness, as computed on a dollar per ton of salt basis, as compared to the prior Reclamation-initiated projects. The Forum was heavily involved in the development of the 1974 Act and its subsequent amendments, and continues to actively oversee the federal agencies' salinity control program efforts.

During the past 37 years, the seven-state Colorado River Basin Salinity Control Forum has actively assisted the federal agencies, including the Bureau of Reclamation, in implementing this unique and important program. At its October 2009 meeting, the Forum recommended that the Bureau of Reclamation seek to have appropriated and should expend $17,500,000 for Colorado River Basin salinity control in fiscal year 2011. We strongly believe the combined

efforts of the salinity control efforts of the Bureau of Reclamation, Department of Agriculture and the Bureau of Land Management constitute one of the most successful Federal/State cooperative non-point source pollution control programs in the United States.

The State of Wyoming greatly appreciates the Subcommittee's support of the Colorado River Salinity Control Program in past years. We strongly believe this important basin-wide water quality improvement program merits continued funding and support by your Subcommittee. Thank you in advance for inclusion of this letter in the formal hearing record concerning fiscal year 2011 appropriations.

Respectfully submitted,

/s/

Patrick T. Tyrrell
Wyoming State Engineer
Chairman, Colorado River Basin
Salinity Control Forum

/s/

Dan S. Budd
Interstate Stream Commissioner
Member, Colorado River Basin
Salinity Control Forum

PTT:DSB:jws

Representative Cynthia Lummis
John Wagner, Wyoming Member, Colorado River Basin Salinity Control Forum
Jack A. Barnett, Executive Director, Colorado River Basin Salinity Control Forum

Public Witness Testimony
Re: Richton Salt Dome Project
22 March 2010
Statement of Harriet Perry, Fisheries Biologist, Gulf Coast Research Laboratory, Ocean Springs, MS

I am writing to you as a marine biologist with over 40 years of experience in fisheries science. I would like to share my concerns with you about the proposed plans to construct an expansion site for the Strategic Petroleum Reserve (SPR) at Richton in Perry County, Mississippi.

The Richton Site differs from DOE's four existing Strategic Petroleum Reserve (SPR) sites located in other states and these differences were not adequately addressed in the original Environmental Impact statement. The Richton project is the first SPR to place the brine diffuser in a marine environment near a barrier island pass and the use of diffusion models designed for other locations to explain circulation processes in Mississippi waters is totally inappropriate and not based on "sound science". The physiography of the Mississippi Bight and circulation patterns within this region are unique. There are serious concerns that the Pascagoula River Basin will suffer as a result of the project's withdrawal of 50 million gallons of water per day for a period of five to six years concurrent with the daily diffusion of 42 million gallons of toxic salt brine (236 ppt) waste at a discharge site south of Horn Island Pass. This site is directly in line with the Pascagoula Ship Channel and may serve as a conduit for movement of brine northward. Based on the best available oceanographic models for the area, there is the probability that the brine will not diffuse as it does in other areas, but will actually enter the Mississippi Sound with a component of the discharge moving westward along the south side of the barrier islands toward the Chandeleur Islands in Louisiana. This would create a "brine pool" within the Sound and would establish a "brine barrier" across the island passes. Mississippi's barrier island passes are key corridors for the transport of larvae and postlarvae of economically important fish and shellfish to and from the Mississippi Sound and the effect of a "brine barrier" on these fragile life stages may be catastrophic.

The Pascagoula River is the largest unaltered, undammed river system in the U.S. and is considered a "Natural Treasure". There is concern that salt water intrusion resulting from the vast discharge of brine south of Horn Island Pass coupled with decreased freshwater flow may alter coastal ecosystems and impact rare, threatened, and endangered species (14 listed by the Mississippi Department of Marine Resources).
Mississippi is dependent on its water resources and wetlands to maintain commercial and recreational fisheries and protection of these natural resources is a priority for the people of Mississippi.

Respectfully submitted,
[sent electronically]
Harriet M. Perry
Director of the Center for Fisheries Research and Development
Gulf Coast Research Laboratory
Ocean Springs, MS 39564

PORT OF STOCKTON

Phone: (209) 946-0246

Fax: (209) 465-7244

Richard Aschieris
Port Director
Stockton Port District, CA

Subject: House Committee on Appropriations Subcommittee on Energy and Water Development - Public Witness Testimony for the Record for Fiscal Year 2011

The Port of Stockton ("Port") appreciates the opportunity to submit this testimony for the record in support of the fiscal year 2011 appropriations for the U.S. Army Corps of Engineers Civil Works Operations & Maintenance and Construction General Programs. The funding amounts are detailed in the paragraphs below.

Stockton has an unemployment rate of 21.9% (Source: CA Economic Development Dept., Jan. 2010). San Joaquin County has an unemployment rate of 18.4%. With the highest home foreclosure rate in the nation, this region continues to suffer the hardest impacts of the national and global economic recession.

The Port of Stockton is widely viewed as one of the primary economic engines for the recovery of this distressed region. The positive economic outlook for the Port includes introduction of new container facilities at the Port in year 2011, thanks to the DOT TIGER grant for marine highways. Significant developments are also expected for Rough and Ready Island. The Port has been, and will continue, to focus on jobs creation at a family wage level for this region.

The Port of Stockton's recovery, and the regional recovery, is dependent on adequate funding of the four projects shown below in the Army Corps of Engineers civil works budget.

1. The San Joaquin River – Stockton Channel is our highest priority appropriations request in the Corps O&M budget. Federal responsibilities include annual maintenance dredging of the Federal channel and maintaining existing riverbank protection. This project is consistently under funded so that the authorized 35-foot ship channel has been blocked at depths of 32 – 33 foot feet. These blockages, often last 6 months or more, have denied a stable 35-foot ship channel for much of the past 5 years. Past O&M appropriations have been primarily in the $2.6 million to $3.1 million range, insufficient for the State's largest inland port and fourth busiest California port.

$9.8 million is requested for the San Joaquin River – Stockton Channel project in FY 2011 to adequately maintain the ship channel at a safe year round Federal depth and satisfy additional

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Administration Office: 2201 West Washington Street • Stockton, CA • 95203 • Web Page: www.portofstockton.com

State water quality requirements for environmental sampling, testing, and disposal of maintenance dredged material.

2. *The San Francisco Bay to Stockton (John F. Baldwin and Stockton Channels)* is our second highest priority request in the Corps Construction General budget. This $141 million project would deepen the Stockton ship channel to 40-foot. The State Transportation Commission has designated this project for a $17.5 million construction grant; construction must begin in year 2012. Last year, our appropriations request for $2 million was zeroed out of the FY 2010 budget for reasons unknown to us. With a zero appropriation for the project, the Port must recapture the schedule, including possible reprogramming of funds.

$2 million in Construction General funding is requested for the San Francisco Bay to Stockton project in FY 2011. We have recently added strong cost sharing partners with the Western States Petroleum Association, along with our long time partner, Contra Costa County.

3. *The Rough and Ready Island Storm Water Drainage Project* is our third priority request in the Corps Construction General budget. The current storm water system on Rough and Ready Island is obsolete and must be replaced. The EPA is demanding a replacement. Based on WRDA 2007, P.L. 110-114, Section 5158, $3 million is authorized for this storm water system, which includes drainage detention and lift facility. The project will also minimize environmental problems, increase flood protection and create more usable land for economic growth.

$925,000 is requested in the Corps FY 2011 Construction General budget for the Rough and Ready Island, Storm Water Drainage Project. This project is authorized in accordance with P.L. 102-580, 1992, Section 219 Environmental Infrastructure and subsequent Water Resources Development Acts.

4. *The Pinole Shoal, CA Management Study (Delta Long Term Management Strategy)* is an ongoing study that we support with Contra Costa County and many regulatory resources agencies. Authorized in P.L. 108-447, page 905 of Conference Report (Consolidated Appropriations Act,) this study has been funded since FY 2005. Funding would be used to develop and approve a joint agency permit and general regional water quality control board order for dredging and beneficial reuse of dredged material; implement a Delta Dredging and Reuse Management Team with a MOU, charter, and operating principles; develop regional disposal and reuse of dredged sediment alternatives; initiate a programmatic biological assessment, and conduct a pilot project. FY 2011 Federal funds would be used as follows: salaries $300,000, A&E and professional service contracts $2,200,000.

$2.5 million is requested in the Corps FY 2011 O&M budget for the Pinole Shoal, CA Management Study.

TESTIMONY FOR THE RECORD
NATIONAL MINING ASSOCIATION (NMA)
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
MARCH 19, 2010
FISCAL YEAR (FY) 2011 BUDGET
U.S. DEPARTMENT OF ENERGY
U.S. ARMY CORPS OF ENGINEERS

NMA RECOMMENDATIONS

DEPARTMENT OF ENERGY –

Loan Guarantee Program: NMA was pleased to see the U.S. Department of Energy move forward in its request for additional authorizations for the Title XVII loan guarantee program. We firmly believe that this program, in conjunction with other federal financial incentives, can be used to encourage the development of clean energy sources. We are however concerned that the additional authorizations did not include all clean energy sources such as coal with advanced technologies and carbon capture and sequestration. This particular suite of technologies will play a vital role in mitigating greenhouse gas emissions. Given the substantial role coal plays in our energy mix, we encourage the Department of Energy to include them as they continue to advance funding mechanisms for other clean energy sources.

Office of Fossil Energy

Background: NMA is disappointed that the U.S. Department of Energy (DOE) FY 2011 request severely reduced the overall fossil energy budget, with steep declines in funding for coal programs. While we recognize that the economic stimulus package enacted last year included demonstration project and Clean Coal Power Initiative funding, we do not believe that such funding justifies the 20 percent cuts to all fossil energy programs, in the FY 2011 budget request. Reductions of this magnitude will compromise advances in clean coal and carbon capture and sequestration efforts. Such cuts also jeopardize future funding of the projects by forcing them to continually rely on supplemental spending bills. We would encourage the administration to submit line item requests for these programs through the regular budget process. In providing greater budgeting stability these programs will be better equipped to achieve their intended goals within a timely manner.

Office of Fossil Energy:

- NMA fully supports and urges maximum funding for carbon capture and storage (CCS) projects that avoid, reduce or store air pollutants and greenhouse gases while contributing long-term economic growth and international competitiveness. Substantial federal funding for continued research, development and demonstration of CCS technologies will be required before CCS can be applied to large-scale commercial power plants. The

construction and operation of near-zero emission and low carbon projects, such as the proposed FutureGen project in Mattoon, Ill., are indispensable to demonstrate that the technology necessary to meet domestic energy demands of the 21st century are available on a commercial scale. NMA strongly supports the recent agreement between the DOE and the FutureGen Alliance to proceed with a reconfigured carbon capture and storage energy facility at Mattoon, Ill. We support the $1 billion from the American Recovery and Reinvestment Act for use in this endeavor along with the $800 million for the Clean Coal Power Initiative (CCPI). Although CCPI received the necessary funding to complete solicitations for the third round of the program, we believe additional funding is necessary to meet the administration's programmatic goal of wide scale CCS deployment by 2016. The number of large scale commercial demonstration projects that are currently underway is insufficient to meet this deadline. We remain concerned that DOE continues to not request any funding for large scale applications of CCS technology as has been the case in FY 2010 and FY 2011. NMA encourages DOE to provide support for a strong domestic CCS program and to initiate a CCPI Round 4 program.

- Funding for basic research and development of new, innovative clean coal technologies is necessary to continue the progress made over the last 35 years. Regulated emissions from coal-based electricity generation have decreased by nearly 40 percent since the 1970s, while the use of coal has tripled. Well-funded basic coal research by DOE and clean coal technology demonstrations undertaken by DOE-private sector partnerships will continue this significant progress in energy production and environmental improvement. Technological advancements achieved in the base coal research and demonstration programs such as gasification, advanced turbines and carbon sequestration provide the component technologies that will ultimately be integrated into the FutureGen project as recently reconfigured. NMA supports funding several of these programs at levels higher than the president's request, specifically $80 million for IGCC/gasification (DOE's requested amount: $55 million), $45 million for advanced combustion (DOE's request does not include direct funding) and $31 million for advanced turbines (DOE's request: $31 million). We are, however, pleased that DOE provides nearly $143 million for the Carbon Sequestration Research & Development program and Carbon Sequestration Injection Tests combined. We hope that DOE will work with industry to identify specific programmatic activities and funding for these programs. The increase in funding for these and other programs will ensure that the FutureGen project meets the intended goals outlined in DOE's 2004 report to Congress, "*FutureGen, Integrated Sequestration and Hydrogen Research Intiative – Energy Independence through Carbon Sequestration and Hydrogen from Coal.*"

- In addition, NMA recommends $3 million of funding for the Center for Advanced Separation Technologies (CAST), which is a consortium of seven universities lead by Virginia Tech. CAST has developed many advanced technologies that are used in industry to produce cleaner fuels in an environmentally acceptable manner, with some having cross-cutting applications in the minerals industry. Further development of advanced separation technologies will help encourage developing countries, such as China and India, to deploy affordable clean coal technologies and reduce CO_2 emissions.

Research in Advanced Separations is mandated by the 2005 Energy Policy Act, Section 962.

Coal Tax Provisions:

- NMA objects to the FY2011 budget singling out coal mining for $2.3 billion worth of tax increases. U.S. coal producers play an integral role in fostering the nation's continued economic prosperity by meeting much of America's growing energy needs. To maintain affordable energy prices and preserve jobs, Congress should reject these unwarranted proposals to eliminate longstanding tax rules affecting coal mining.

- NMA does not support the administration's proposal to eliminate the capital gains treatment of coal and lignite royalties. Under current law, royalties received on the disposition of coal or lignite generally qualify for treatment as long-term capital gain, and the royalty owner does not qualify for percentage depletion with respect to the coal or lignite. The FY2011 budget proposes to repeal the capital gain treatment of coal and lignite royalties and to tax those royalties as ordinary income. Capital gains treatment for the royalties reflects the fact that the owners are selling a capital asset and qualifies individual royalty recipients to pay a tax on those royalties at lower capital gains rates, rather than higher ordinary income tax rates. There is no tax policy reason to single out coal royalties for changes to the capital gains rules.

- NMA does not support the administration's proposal to eliminate the domestic manufacturing deduction. Under current law, a deduction is allowed with respect to income attributable to domestic production activities (the manufacturing deduction). The FY2011 budget proposes to repeal the manufacturing deduction for gross receipts derived from the sale, exchange or other disposition of coal, other hard mineral fossil fuels, or a primary product thereof. Present law should be retained as Congress enacted an across-the-board domestic manufacturing deduction in order to reduce the effective corporate income tax rate on domestic manufacturing activities and preserve U.S. manufacturing jobs.

- NMA does not support the administration's proposal to eliminate the present law tax-expensing of coal exploration costs. Under current law, taxpayers may elect to expense (i.e., deduct in the year the costs are incurred) mining exploration and development costs with respect to domestic ore and mineral deposits. The FY2011 budget proposes to repeal expensing and 60-month amortization of exploration and development costs relating to coal and other hard mineral fossil fuels. The expensing of coal mining exploration costs is part of the current calculation for appropriately measuring taxable income from coal and other mining operations. That appropriate measurement of taxable income under present law should not be changed as a way of increasing taxes on the coal industry.

- NMA does not support the administration's proposal to eliminate the percentage depletion tax-deduction for mining activities. Under current law, the capital costs of mines are recovered through the depletion tax deduction. Under the percentage depletion method, the amount of the deduction is a statutory percentage of the gross income from

the mining property. The FY2011 budget proposes to repeal percentage depletion with respect to coal and other hard mineral fossil fuels. The percentage depletion deduction is part of the current calculation for appropriately measuring taxable income from coal and other mining operations. Coal mining requires significant financial commitments to long-term projects to deliver a reasonably priced product. Enormous amounts of capital must be expended at the front end of coal mining projects to realize future returns. With such sizable capital costs, cost recovery through percentage depletion has a significant effect on the margins and prices at which coal can be profitably sold.

U.S. ARMY CORPS OF ENGINEERS – Regulatory and Civil Works Programs:

Background: The U.S. Army Corps of Engineers' (Corps) Regulatory Branch plays a key role in the U.S. economy through the Corps annual authorizations of approximately $200 billion of economic activity through its regulatory program. NMA supports the inclusion of language directing the Corps to dedicate sufficient personnel and financial resources needed to support an efficient permit review process. We remain concerned about the backlog of surface coal mining permits and encourage the Corps to utilize this increased funding expeditiously to address this issue as outlined in their statutory authority.

Regulatory Program:

- NMA supports increased funding for administering the Corps' Clean Water Act (CWA) Section 404 permit program. We encourage the Corps to utilize this funding to address the backlog of surface coal mining permits and to devise a more efficient permitting program.

Civil Works Programs:

- NMA opposes the Corps' proposed concept of a new inland waterways "lockage fee/tax," which would replace the current diesel fuel tax to fund improvements to the nation's inland waterways system. A lockage tax would more than double the taxes paid by the towing industry. The coal industry ships approximately 185 million short tons of coal annually on the inland waterways systems, therefore the cost of a new tax will ultimately be borne by the consumers of coal-fueled electricity. NMA opposes such a tax increase and urges Congress to reject this proposal.

The National Mining Association (NMA) is the voice of the American mining industry in Washington, D.C. Membership includes more than 325 corporations involved in all aspects of coal and solid minerals production including coal, metal and industrial mineral producers, mineral processors, equipment manufacturers, state mining associations, bulk transporters, engineering firms, consultants, financial institutions and other companies that supply goods and services to the mining industry.

APS A subsidiary of Pinnacle West Capital Corporation

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Name: John M Franchini
Title: Site Manager
Organization: APS Four Corners Power Plant

March 30, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362-B Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Representative Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2011 of $8,354,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $7,154,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $800,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2011 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
/s/John M. Franchini, Site Manager

Name: Michael Preston
Title: General Manager
Institution: Dolores Water Conservancy District
Contact: (970) 565-7562, Fax: (970) 565-0870, mpreston@frontier.net

April 7, 2010

The Honorable Peter J. Visclosky, Chairman
The Honorable Rodney P. Frelinghuysen, Ranking Member
Energy and Water Development Subcommittee
Committee on Appropriations
United States House of Representatives
2362 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Visclosky and Ranking Member Frelinghuysen:

We are requesting your support for an appropriation in the President's recommended budget for FY 2010 of $3,569,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation we seek is as follows: $1,219,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $1,950,000 for construction activities for the San Juan River Basin Recovery Implementation Program; and $400,000 for Fish and Wildlife Management and Development activities to avoid jeopardy. This funding is authorized by P.L. 106-392, as amended.

These highly successful, cooperative programs are ongoing partnerships among the States of New Mexico, Colorado, Utah and Wyoming, Indian tribes, federal agencies and water, power and environmental interests. The programs' objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2010 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Michael Preston, General Manager
Dolores Water Conservancy District

WITNESSES

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