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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2009

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

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DIXON BUTLER, TERRY TYBOROWSKI, TAUNJA BERQUAM, ROBERT SHERMAN, and LORI MAES, *Staff Assistants*

PART 9

WITNESSES

Printed for the use of the Committee on Appropriations

PART 9—ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2009

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Statement of Rep. Dennis J. Kucinich
U.S. House of Representatives
Subcommittee on Energy and Water Development, and Related Agencies

Hearing on Fiscal Year 2009 Appropriations and Funding for Flooding Mitigation in Northeast Ohio

March 19, 2008

Thank you Chairman Visclosky, Ranking Member Hobson, and members of this Subcommittee for the opportunity to provide testimony.

I have requested $2 million, the federal share of the Feasibility Cost Share phase of the Section 205 studies done by the Army Corps of Engineers for the City of Independence and the Villages of Valley View, Brooklyn Heights, and Walton Hills in Ohio's 10th Congressional District.

Independence, Valley View, Brooklyn Heights, and Walton Hills in Northeast Ohio have experienced severe flooding in recent years. The 2006 floods caused devastation to homes and businesses. The area was declared an emergency at both the state and federal levels. While some help was provided by the Federal Emergency Management Agency and the Small Business Administration, a long-term strategy is needed.

In 2006, I asked for the Army Corps of Engineers' assistance. Each of these communities requested flood control studies under Section 205 of the Flood Control Act of 1948. Because of the urgency of this problem, the feasibility phase of the study was done even though there was a moratorium on funding at that time. The results of the feasibility phase show that Independence and Valley View are eligible for the Feasibility Cost Share Agreement phase of the study while we are still awaiting results for Brooklyn Heights and Walton Hills. Since that time, the area has experienced flooding again in January 2007 and just last month on February 5 and 6, 2008. Damage is accumulating. With increasing amounts of development upstream from these communities, it is likely that the situation will get worse.

Making matters more pressing, the confluence of West Creek and the Cuyahoga River is just upstream from the low-lying Northeast Ohio Regional Sewer District's Southerly treatment plant which serves the sewage treatment needs for the region. Flooded sewage treatment plants can lead to contamination of receiving waters, groundwater sources, and direct exposure to sewage-borne pathogens. Failure on the part of the Army Corps of Engineers to follow through in a timely manner on the Section 205 studies for these communities could result in a public health and safety catastrophe for the region.

The Corps is uniquely qualified to find a solution that abates the immediate flooding problem while keeping the regional picture in mind so as to avoid creating unintended problems elsewhere in the region. Recognizing the urgent need to find a solution, these communities, in conjunction with county, state, and regional authorities, are prepared to provide the local match required for the Feasibility Cost Share Agreement.

I understand that $2 million in federal funding is authorized for the completion of this study. Approximately $1 million will be needed for each of the 4 communities: Independence, Valley View, Brooklyn Heights, and Walton Hills, for a total of $4 million. With the 50-50 cost share requirement under Section 205, the federal share will be approximately $2 million. Although this amount is authorized, the Army Corps is unlikely to be able to treat this matter with all due priority without the naming of this project in the Energy and Water Appropriations legislation for FY 2009.

These studies are needed to evaluate alternative measures to reduce damages associated with flooding. Continued and timely funding for the Army Corps Section 205 studies in my district is imperative for public health and safety due to the proximity of the flood areas to our regional sewage treatment plant and to prevent further damages to residents and businesses. Therefore, due to the public health and safety risks, the economic risks to businesses in an economically fragile area, and the increasing volume and severity of the flooding experienced by these communities, I urge you prioritize this project.

Thank you for your consideration.

WRITTEN TESTIMONY OF
CONGRESSMAN PAUL E. KANJORSKI
TO THE ENERGY AND WATER SUBCOMMITTEE

As the Energy & Water Subcommittee considers the Fiscal Year 2009 Appropriations requests, I am asking that the Subcommittee include the necessary funding for three critical flood control projects in my Congressional district, the Scranton Flood Control Project, the Wyoming Valley Flood Control Project and the Bloomsburg Flood Control Project. Your continued support will ensure that the progress made on these projects continues.

For the Scranton Flood Control Project, I am requesting $4.8 million in the FY 2009 Energy and Water appropriations bill. This funding will be used to complete the flood protection portion of the project including levee construction, utility work and drainage and hazard mitigation. Once complete, this project will provide a 100 year of flood protection for a large residential section of Scranton, Pennsylvania. This area, which includes the Plot, Lower Green Ridge and Albright Avenue sections of Scranton, has been flooded six times including twice in the last four years. Once complete, the neighborhood reinvestment process will begin as property values increase and businesses once again establish themselves. .

This critical flood control project is important to not only the City of Scranton but also to our region. It shows good government doing good things. When completed, these areas will have the flood protection they require. It will not only protect the physical properties of an older existing neighborhood but, more importantly, it provides the comfort for a community to sleep at night and not fear the warning sirens of an oncoming flood. Again, we would like to thank you and the other members of your Subcommittee for your current support and we are very appreciative of the Subcommittee's past support for this initiative.

The second project I would like to request support for is the Wyoming Valley Flood Control Project. I am requesting $12 million in the FY 2009 Energy and Water appropriations bill. Funding will be used for mitigation, the Toby Creek Spillway, Wyoming Valley Levee Raising Project staff support and initiation of the Solomon Creek Study.

The Wyoming Valley Levee Raising Project is a comprehensive structural and non-structural flood control project the purpose of which is to protect the communities in the Wyoming Valley along the Susquehanna River from serious flooding. The underlying authorization is sufficient to justify this expenditure. The entire project non-structural mitigation includes more than 50 communities in 5 counties along a 60-mile stretch of the river from Forty Fort to Sunbury.

The Wyoming Valley flood control projects include four contiguous existing federal projects located on the Susquehanna River which together function as one large flood control system protecting the Wyoming Valley including the City of Wilkes-Barre

which is one of the larger cities in my congressional district. In total, the levees extend for approximately 15 miles. The existing levees were overtopped by several feet during the flooding of the Susquehanna River caused by Hurricane Agnes in June of 1972. The flooding of the Wyoming Valley caused by Hurricane Agnes caused approximately $1 billion of damage (over $4 billion in present dollars) as more than 25,000 homes and nearly 3,000 businesses were damaged or ruined, hundreds of business and five major bridges were destroyed, and about 60,000 people were temporarily and, for some, permanently left without employment in Northeastern Pennsylvania.

As a result, Congress authorized the Wyoming Valley Levee Raising Project to modify the existing flood control projects to protect against flooding of a magnitude equivalent to Hurricane Agnes. The proposed modifications include raising the existing levees and floodwalls between 3 and 5 feet, modifying closure structures and pump stations, relocating utilities and providing some new floodwalls and levees to maintain the integrity of the flood control system. Present authorization for this project exceeds $300 million. Construction on the flood protection portion of the levee raising project along the Susquehanna River has been completed. In 2006 the system was tested as the Susquehanna River reached an elevation of thirteen feet above flood level. Emergency management officials, fearing the rapidly rising flood waters, ordered the mandatory evacuation of approximately 150,000 people living in the City of Wilkes-Barre and its neighboring communities in the Wyoming Valley. Thankfully, due to the levee project, the water did not top the new levee height and the Wyoming Valley remained dry and protected

The U. S. Army Corps of Engineers has determined that Solomon Creek is linked hydrologically to the Wyoming Valley Levee Raising Project and would benefit citizens of the City of Wilkes-Barre and the entire Wyoming Valley. The Corps and local sponsor have commenced the technical work on the Solomon Creek project. The local sponsor has contracted with a local firm to complete the hydrologic and hydraulic analyses. The Solomon Creek project was included in the Water Resources Development Act of 2007. Including this project as part of the Wyoming Valley Levee Raising Project allows the Solomon Creek project to be constructed under the federal/non-federal cost sharing agreement of the Wyoming Valley Levee Raising Project.

Finally, I am asking that the Subcommittee include the necessary funding for the Bloomsburg flood control project. I am requesting $2.2 million in the FY 2009 Energy and Water appropriations bill for the Bloomsburg Flood Control Project. Funding will be used for design phase, value engineering study and to assess post-Katrina impacts on the Bloomsburg feasibility design. The Bloomsburg flood control project was authorized at a total cost of $44,500,000 in the Water Resources Development Act of 2007.

For over sixty years, the people of Bloomsburg, Pennsylvania, have been seeking assistance from the federal government to protect their homes from flooding. More than 400 homes and seven companies employing 1,200 people are affected by periodic flooding. Not only have recent floods have caused millions of dollars in flood damage but they have also curtailed future economic investment by the Town's two largest employers. Both companies have expressed a desire to leave the area if flood protection

is not provided in the foreseeable future. Non-structural flood protection for Bloomsburg is currently being financed through funds provided under the Wyoming Valley Levee Raising Project Mitigation Program. This project is strongly supported by the Town of Bloomsburg, the local business community and homeowners, the Columbia County Commissioners, the local state representative and senator and the Pennsylvania Department of Environmental Protection.

I would like to thank the Subcommittee for its support for my projects both past and present.

Written Testimony of Rep. Bart Gordon
Chairman, House Committee on Science and Technology
to the
Subcommittee on Energy and Water Development
House Committee on Appropriations
March 19, 2008

I am submitting this statement today in support of funding to establish an Advanced Research Projects Agency for Energy (ARPA-E) at the Department of Energy. I would recommend start-up funding for this program in the amount of $300 million, as authorized in the America COMPETES Act (P.L. 110-69).

I applaud this Subcommittee's work in funding both science and energy technology programs, especially in the areas of energy efficiency and renewable energy. However, given the geopolitical forces that threaten steady global energy supplies and economic stability, the rising costs of energy to consumers, the looming threat of global climate change, and the resulting costs to industry from the likely regulation of carbon dioxide emissions, there continues to be a need for ground-breaking science-based energy solutions that can be deployed in the marketplace. The status quo in energy is simply unsustainable, and I believe that to move away from the status quo, we must rethink the federal government's approach to technology development.

Following inaction on competitiveness proposals in the 109th Congress, I introduced H.R. 364, to establish an Advanced Research Projects Agency for Energy (ARPA-E) in January 2007. The Democratic Innovation agenda, re-released to start the 110th Congress, also made ARPA-E an important component of its recommendations on energy independence, calling to:

> "Create a new DARPA-like initiative to provide the talent and resources for the research and development of high-risk, high-reward energy technologies, and attract investment for the next generation of revolutionary technologies."

The Science and Technology Committee held a hearing on the ARPA-E legislation in April 2007 and approved the bill on a bipartisan vote in May 2007. Ultimately, ARPA-E was included in the America COMPETES Act, which passed the House by a vote of 367-57 and the Senate by unanimous consent.

In August of 2007, the President signed into law the America COMPETES Act. COMPETES was written to codify many of the recommendations of the 2005 National Academies report, *Rising Above the Gathering Storm*, also known as the "Augustine Report" for its chair, retired Lockheed Martin CEO, Norman Augustine. Mr. Augustine was joined in writing this report by several other notable academic, industry, and research leaders including Chuck Vest of MIT, Craig Barrett of Intel, Steve Chu of the Lawrence Berkeley National Lab, and the current U.S. Secretary of Defense, Robert Gates. In addition to the wide range of recommendations for boosting the global competitiveness of the U.S. technology sector, the *Gathering Storm* report called on the federal government to create a new energy research agency within Department of Energy patterned loosely on the successful Defense Advanced Research Projects Agency (DARPA) within the Department of Defense.

The report called for an Advanced Research Projects Agency for Energy (ARPA-E) that should be structured to:

> "sponsor creative, out-of-the-box, transformational, generic energy research in those areas where industry itself cannot or will not undertake such sponsorships, where risks and potential payoffs are high, and where success could provide dramatic benefits for the Nation. ARPA-E would accelerate the process by which research is transformed to address economic, environmental, and security issues. It would be designed as a lean, effective, and agile – but largely independent – organization that can start and stop targeted programs based on performance and ultimate relevance."

It is important to note that, while the Gathering Storm report brought ARPA-E to the forefront of public debate on these issues, the concept of utilizing a DARPA-type program structure for energy research is not new, and a search of various energy policy proposals through the years will show recommendations for this model.

With adequate funding and authority, ARPA-E will have the flexibility to engage in activities across the entire innovation spectrum, from early-stage basic research, into to fundamental concepts with potential technology applications, and to later-stage technology prototyping, large-scale demonstrations and commercial applications. As we know, the mere existence of a scientific discovery does not ensure that it will ultimately find its way to the marketplace, and the technological applications of discoveries in fundamental science are often not apparent. Technology developers have long struggled with the so-called "Valley of Death" that exists between the point where public funding for research drops off, and the point where significant funds are needed to make a technology ready for market introduction. Likewise, few government programs have been able to consistently transform laboratory discoveries to commercial successes. With market savvy technical staff focused on technology transfer, ARPA-E will reverse this trend.

The *Gathering Storm* report also concluded that an ARPA-E would serve a secondary function of contributing to U.S. competitiveness by "advancing research in engineering, the physical sciences, and mathematics; and in developing the next generation of researchers." U.S. energy research capabilities currently reside largely in the DOE National Laboratories and the relatively few energy companies that can afford significant research programs. And, with the exception of universities involved in the management and operations of the national laboratories, there are very few sizeable university-based programs devoted to researching sustainable energy. Integration of these disparate efforts is essential to ensure a free flowing pipeline of both technologies and talented people in this field. While isolated elements in the national labs, industry, and academia have collaborated with varying degrees of success, there is currently no federal program charged with bringing these parties together and seeding a strong and cohesive community of researchers and technology developers focused on pushing transformational energy solutions into the marketplace. ARPA-E is intended to play this critical role.

PROGRAM STRUCTURE

ARPA-E will be unique not only in the research it conducts, but also in how it conducts that research. To pursue truly innovative and transformational research, ARPA-E will utilize an

organizational structure that is fundamentally different from that of the traditional energy research enterprise. ARPA-E will be a flat and nimble organization, similar to the small, flexible, non-hierarchical reporting structure at DARPA that has fostered its successful culture of innovation. Critics of the Department of Energy's management of research programs contend that the "stove-piped" and bureaucratic structure of DOE is not conducive to the quick development of cross-cutting energy solutions, or translating energy research results into commercial technologies. Potentially ground-breaking research may be too risky or multi-disciplinary to fit into a specific program's mission at DOE, and therefore is not likely to find a much needed champion at the Department that will ask for and defend funding priorities in that area. With significant and consistent financial resources ARPA-E can afford to take a "whatever it takes" approach to technology solutions for grand energy and environmental challenges, instead of focusing solely on specific technology areas.

ARPA-E's unique function is best described as that of a "match maker" that can identify people and capabilities within industry, universities, and the national labs, and quickly assemble hybrid research teams to develop novel solutions to pressing energy problems. Key to this function is a dynamic and talented Program Manager. As with DARPA, these individuals should be highly technically skilled, experienced in industry or academia, and passionate in pursuit of their mission. Because of the flexible hiring authority that is written into the bill, talented Program Managers can be recruited from a variety of fields, hired for a term of approximately 3 years, and paid a salary commensurate with what they would make in the private sector. As with DARPA, the Program Managers' relatively short tenure at ARPA-E is critical to creating a sense of urgency so that personnel and projects do not stagnate.

To allow ARPA-E to pursue truly novel technology areas, projects will not be subject to the traditional peer-review process which has been criticized as favoring established investigators pursuing incremental improvements to well-understood concepts. Instead, Program Managers and their superiors are given extraordinary autonomy and resources to pursue unique technology pathways at will, to quickly assemble hybrid teams of researchers and technology developers, and to just as quickly change course or stop research if it does not look fruitful. This is different from the current DOE model which is criticized for requiring inordinate amounts of time to start up research projects, not looking broadly enough for research participants, and then sustaining support for projects and people beyond a timeframe where meaningful results are likely.

ARPA-E should enjoy an independence within DOE similar that of DARPA within DOD. Because the director of ARPA-E reports directly to the Secretary of Energy, and no other programs report to ARPA-E, it is not beholden to any one particular technology area or research program within DOE. This ensures that ARPA-E has a unique independence within DOE, and does not add another "layer" to the DOE bureaucracy. To address concerns about political and Departmental pressures to direct ARPA-E funding, language was added to the program authorization to further ensure that all projects funded by ARPA-E will be evaluated on the basis of merit.

FUNDING

Investment in ARPA-E should be seen in the context of increasing overall energy R&D expenditures enough to truly address the scope and complexity of the energy challenge. R&D investment in energy remains far below the historically high levels of the 1970s. A GAO report that I commissioned along with Congressman Honda in 2006, and testimony by GAO for a Science & Technology Committee, Energy and Environment Subcommittee hearing on March 5, 2008, noted that:

> "DOE's total budget authority for energy R&D dropped by over 85 percent (in real terms) from 1978 to 2005, peaking in the late 1970's but falling sharply when oil prices returned to lower levels in the mid-1980's" (GAO-07-106).

Previously, on April 26, 2007, witnesses at an Energy and Environment Subcommittee hearing all agreed that for ARPA-E to be successful, the program must be funded at levels to match the magnitude of the energy challenge, and the high costs of energy research and technology demonstration. Hearing witness John Denniston of Kleiner, Perkins, Caufield and Byers venture capital group stated,

> "...federal spending on renewable energy research amounts to little more than $1 billion per year. Frankly, this is inadequate relative to the scope of our problems, and the sheer size of the energy and transportation industries which amount to over $1.8 trillion annually. We are way off scale."

It was suggested in the hearing that no other technology-based industry has such a small proportion of revenues invested in research, either through private or government resources. For example, the National Institute of Health receives $28 billion for research annually, and DARPA itself was initially budgeted for the equivalent of $3.5 billion, and remains at roughly the same level today.

Despite its relatively small organization with minimal overhead costs, ARPA-E will be most likely to show measurable successes with a commitment of sizeable financial resources that will enable it to carry out multiple projects at a time. The *Gathering Storm* report calls for ARPA-E to be authorized at $300 million in the first year, and quickly escalate to $1 billion within five years. While the Conference Committee for the America COMPETES Act were not necessarily in disagreement on out-year funding, COMPETES ultimately included authorization only for the initial year to help in reducing the overall authorization levels of the COMPETES bill, which was of concern to some members of the Senate.

OUTSIDE SUPPORT FOR ARPA-E

The list of organizations and individuals that support the establishment of ARPA-E is long and growing rapidly. The groundswell of support for ARPA-E since the law was enacted has been very encouraging. Since enactment, Science and Technology Committee staff have received numerous of calls inquiring about the status of ARPA-E, and how implementation can be accelerated. In addition to the members of the *Gathering Storm* report panel that pushed for including the recommendation in the report, and the various outside parties that were instrumental in crafting the legislation, a number of groups see ARPA-E as a chance to change the government's approach to energy research. These include:

National Association of Manufacturers
Pew Center on Global Climate Change
Edison Electric Institute
American Public Power Association and National Rural Electric Co-op Association
National Commission on Energy Policy
Gas Technology Institute
American Petroleum Institute
American Iron and Steel Institute
Federation of American Scientists
American Society of Mechanical Engineers
Climate Policy Center of Clean Air-Cool Planet
Clean Technology and Sustainable Industries Organization
Wisconsin Alumni Research Foundation

The university community has been particularly interested in ARPA-E, seeing it as an opportunity to engage in the field of sustainable energy research for which scant federal funding currently exists. Some have cited the example of how NIH and DOD funding has served to foster innovation and domestic research infrastructure in those fields, and feel that an outwardly focused federal effort in energy research could have the same effect. While many universities across the country support ARPA-E implementation, the Massachusetts Institute of Technology, the University of Michigan, Northwestern University, and Texas A&M were all particularly involved in the formation of the legislation and explicitly endorsed the concept last summer. Science and Technology Committee staff are currently working to secure additional endorsements for implementing ARPA-E from the many additional supporters who have contacted us.

This groundswell of support for ARPA-E does not exist solely outside of government. There is growing evidence that, unofficially, some elements within the Department of Energy headquarters and the National Lab system are very supportive of the concept, and see it as a way to "shake up" the bureaucratic mold without a major overhaul of the DOE organization, and a new tool for the Department to use to fund previously unexplored research areas. With some assurance that ARPA-E would not be implemented at the expense of existing research programs I have no doubt that crucial backing within the Department will grow.

CONCLUSION

For too long we have depended on a handful of finite energy resources to power our economy. As energy prices rise, we can continue to hand our dollars over to foreign interests or we can invest in our own country's energy independence and competitiveness. While it is clear that more funding is needed across basic and applied R&D programs, establishing a nimble agency like ARPA-E, with minimal administrative layers will be absolutely essential to transforming R&D from lab projects into market-ready technologies. Nothing like it currently exists within the Department of Energy. This is a bold step, but one I believe is necessary. I urge your support for $300 million in FY2009 to launch ARPA-E.

Statement of the American Society for Microbiology
Submitted to the House Appropriations Subcommittee on Energy and Water Development on Fiscal Year 2009 Funding for the Department of Energy

The American Society for Microbiology (ASM) is pleased to submit the following testimony on the Fiscal Year (FY) 2009 appropriation for the Department of Energy (DOE) science programs. The ASM is the largest single life science organization with more than 42,000 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 Office of Science funds basic research in support of the DOE's mission of energy security, national security, environmental restoration, and science. Research supported by the Office of Science encompasses such diverse fields as materials sciences, chemistry, high energy and nuclear physics, plasma science, biology, advanced computation, and environmental studies. Increased resources are necessary to meet the goals of, and challenges faced by, the DOE Office of Science. The ASM supports the President's request of $4.722 billion for the DOE Office of Science, an increase of $749 million, or 18.9 percent, over the FY 2008 funding level. The requested increase is consistent with the American Competitiveness Initiative (ACI), but is $500 million below the authorization level for the DOE Office of Science in FY 2009, under the Energy Policy Act of 2005 (P.L.110-69).

Research on microbial biology supported by DOE is essential in meeting the energy, environmental, and sustainability challenges facing the nation. Microbial biology research is critical for advances in bioenergy, carbon sequestration, and environmental remediation. The ASM strongly encourages DOE to support a balanced research portfolio as it seeks to increase production of bioenergy sources and develop mitigation strategies that the energy industry can use to reduce emissions of greenhouse gases. The ASM encourages the DOE to maintain support for all science and technology solutions to long-term environmental challenges, such as climate change and environmental remediation.

Biological and Environmental Research
Within the DOE Office of Science, the Biological and Environmental Research (BER) division uses peer-reviewed research at national laboratories, universities, and private institutions to build a science, technology, and knowledge base for understanding and harnessing the capabilities of microbial and plant systems that will lead to cost effective, renewable energy production, greater energy security, clean up of legacy wastes, and reduction of atmospheric carbon dioxide. The ASM supports the President's requested increase for the DOE Office of Science and urges Congress to support an increase for the BER consistent with the requested increase for its overseeing agency, the DOE Office of Science.

BER research programs such as the Genomic: GTL program, Environmental Remediation Sciences Division (ERSD), the Joint Genome Institute (JGI) are instrumental for understanding microbial biology, how microorganisms interact with and respond to their environments, and

how microorganisms can be harnessed to produce clean, efficient energy, remove excess carbon from the atmosphere, answer questions about climate change, and help clean up the environment.

Examples of how microbial research is advancing breakthrough technologies to meet these challenges are:

- Carbon Sequestration: Harnessing naturally occurring, non-photosynthetic microbiological processes capable of converting carbon into useful forms, such as methane and acetate, could represent a technology breakthrough. An important advantage of biological systems is that they do not require pure carbon dioxide (CO_2) and do not incur costs for separation, capture, and compression of CO_2 gas. Currently, the cost of CO_2 capture is approximately $150 per ton of carbon, much too high for carbon emissions reduction applications.
- Environmental Remediation: Subsurface microbes, through their interactions with each other and the geochemical environment, play a role in modifying the geochemistry of these subsurface environments, thereby affecting their chemical form and movement. Microbes can directly, or indirectly through their influence on sediment geochemistry, provide a potential cost-effective bioremediation strategy to immobilize contaminants. *Shewanella* and *Geobacter*, for example, are two types of microbes that can enzymatically transform toxic species such as Uranium(VI), which is soluble and moves in groundwater, to Uranium(IV), which is insoluble and precipitates as UO2 (uraninite), which can then be removed.
- Renewable Energy: Understanding how crude oil biodegrades into methane, or natural gas, opens the door to being able to recover the clean-burning methane directly from deeply buried, or in situ, oil sands deposits. A recent study demonstrated how anaerobic degradation of hydrocarbons produced methane. The findings offer the potential of 'feeding' the microbes and rapidly accelerating the breaking down of the oil into methane. The same team found microbes that produce CO_2 and hydrogen from partly degraded oil, prior to it being turned into methane. This paves the way for using microbes to capture this CO_2 as methane, which could then be recycled as fuel in a closed-loop energy system.

Genomics: GTL

The GTL program, within BER, supports research that conducts explorations of microbes and plants at the molecular, cellular, and community levels. The goal is to gain insights about fundamental biological processes and, ultimately, a predictive understanding of how living systems operate. The resulting knowledge base, linked through DNA sequence and freely available, will catalyze the translation of science into new technologies for energy and environmental applications.

Microbes make up the foundation of the biosphere and sustain all life on earth. DOE has sponsored the genome sequencing of key model plants and some 225 microbes relevant for generating clean energy, cleaning up toxic waste from nuclear weapons development, and cycling carbon from the atmosphere. GTL works with the DOE Joint Genome Institute (JGI), one of the world's largest and most productive public genome sequencing centers, to map genomes of microbes and fungi that degrade biomass or affect plant productivity. Building on

this foundation of knowledge on biological systems, scientists will be enabled to redesign proteins, biochemical pathways, and even entire plants or microbes important to solving bioenergy challenges and meeting other DOE needs.

Additionally, GTL makes its resources, research centers, and knowledgebase available to all scientists and industry, enabling innovative investigations on the systems biology level and fostering participation by the greater community in solving DOE mission problems. These enabling capabilities also will facilitate rapid translation of science into new technologies and catalyze the industrial biotechnology sector of the economy.

Three GTL Bioenergy Research Centers were established in 2007, the Bioenergy Science Center, the Great Lakes Bioenergy Research Center, and the JGI. These centers, which will work toward making the production of biofuels more efficient, less costly, and commercially viable, will change the way we think about biotechnology and transform how we power our nation. The centers will create knowledge underlying three grand challenges faced by biology within the DOE mission: 1) Development of the next-generation bioenergy crops; 2) Discovery and design of enzymes, and microbes with novel biomass degrading capabilities; and 3) Discovery and design on microbes that transform fuel production from biomass. Meeting these challenges will benefit all biological investigation.

The President's budget request includes $162.7 million for the GTL program, an increase of $10 million above FY 2008, but cuts funding to the JGI program by $5 million. ASM supports the increased funding request, but notes that the JGI is essential to understanding the foundation of all biological processes. The ASM urges Congress to provide $167.7 million for the GTL program, which will maintain the requested increases and restore funding for the JGI in FY 2009.

Environmental Remediation Sciences Division

The Environmental Remediation Sciences Division (ERSD), within BER, sponsors and supports fundamental scientific research to understand the complex physical, chemical, and biological properties of contaminated sites for new solutions to environmental remediation. DOE is responsible for the largest, most complex, and diverse collection of environmental remediation challenges in the nation. ERSD supports two major activities: 1) The Environmental Remediation Sciences Program (ERSP), which seeks to provide the fundamental scientific knowledge needed to address challenging environmental problems that impede the remediation of contaminated environmental sites; and 2) The Environmental Molecular Sciences Laboratory (EMSL), which is a national scientific user facility that provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation.

DOE's remediation challenges occur in the field where highly interactive natural processes, over a broad range of scales, control the fate and transport of contaminants. The ERSD goal is to help provide the basis for development of innovative remediation measures to support decision making critical to long term stewardship. Of the 144 sites where DOE has remediation, waste management, or nuclear materials and facility stabilization responsibilities, nearly 100 have soils, sediments, or groundwater contaminated with radionuclides, metals, or organic materials.

The ASM supports the President's FY 2009 request of $98.3 million for ERSD. This is a $4.6 million increase for ERSD over FY 2008, which will help support DOE's goal to "provide sufficient scientific understanding such that DOE sites would be able to incorporate physical, chemical and biological processes into decision making for environmental remediation and long-term stewardship."

Energy Biosciences
The Energy Biosciences (EB) program, within the Basic Energy Sciences (BES) division, supports fundamental research that will provide platform understandings for future energy-related technologies. Research emphasis is on plant and non-medical microbial energy transduction systems. In FY 2009, EB will evolve into two complementary programs: 1) Photosynthetic Systems: The program supports fundamental research on the biological conversion of solar energy into chemically stored forms of energy; and 2) Physical Biosciences: This program combines experimental and computational tools from the physical sciences with biochemistry and molecular biology.

The EB program provides a fundamental understanding of the complex processes that convert and store energy in living systems and impacts numerous DOE interests; particularly included are enhanced biofuel production strategies, next generation energy conversion/storage devices, and efficient and environmentally friendly catalysts. The ASM supports the $74.4 million increase requested in funding for the EB program within the BES Division of Chemical Sciences, Geosciences, and Biosciences; however, the ASM urges Congress to equally distribute the increase between the different programs.

Workforce Development
Cultivating a well-trained workforce of teachers and scientists is vital for maintaining our nation's competitiveness, and meeting the challenges of the future. The ASM supports the President's request of $13.6 million for Workforce Development for Teachers and Scientists within the DOE Office of Science, through undergraduate research internships, graduate and faculty fellowships, pre-college activities, laboratory equipment programs, and teacher programs. These programs build links between the national laboratories and the science education community provides mentor intensive research experiences at national laboratories for undergraduate and graduate students, and encourages middle and high school students in the fields of math and science.

Conclusion
The ASM supports the President's 18.9 percent increase for the DOE Office of Science in FY 2009, and urges Congress to provide adequate funding for the BER, including ERSD, Genomics: GTL, and the JGI, which are essential in meeting DOE's mission. The DOE Office of Science programs enhance US competitiveness through fundamental research for advanced scientific breakthroughs that will revolutionize our approach to the nation's energy and environment challenges.

The ASM appreciates the opportunity to provide written testimony and would be pleased to assist the Subcommittee as it considers the FY 2009 appropriation for the DOE.

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Karl Glasener
Director of Science Policy
American Society of Agronomy
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March 19, 2008 —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
Attention: Lori Maes

RE: FY09Appropriations—Support for DOE Office of Science, Office of Energy Efficiency and Renewable Energy, Office of Environmental Management, and other program areas

Dear Chairman Visclosky, Ranking Member Hobson 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 2009. For the ***Office of Science***, ASA-CSSA-SSSA recommend a funding level of $4.722 billion, an 18% increase over FY 2008 ($3.973 billion). For the ***Office of Energy Efficiency and Renewable Energy***, we recommend a funding level of $1.843 billion, a 7% increase over FY 2008. We recommend a funding level of $6.094 billion, a 7% increase, for the ***Office of Environmental Management***. Specifics for each of these and other budget areas follow below.

With more than 25,000 members and practicing professionals, ASA-CSSA-SSSA are the largest life science professional societies in the United States dedicated to the agronomic, crop and soil sciences. ASA-CSSA-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
The **American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America (ASA-CSSA-SSSA)** understand the challenges the House Energy and Water Appropriations Subcommittee faces with the tight budget for FY 2009. 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 2008 Omnibus Appropriations bill at $3.973 billion. Under the Energy Policy Act of 2005 (P.L. 109-58), the ***Office of Science*** is authorized to receive $5.2 billion in FY 2009. 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. The President's request of $4.722 billion is consistent with the America COMPETES Act, which authorizes the doubling of the Office of Science's budget over a seven-year period. 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 $4.722 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 $4.722 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 of PhD's, postdoctoral associates, and graduate students in FY09; 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-SSSA support the President's FY 2009 request of $1.568 billion, a 23% increase over FY 2008, 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. 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 molecular-level 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 National Energy Plan. ASA-CSSA-SSSA support a 7% increase for **BER** which would bring the funding level to $582,504,790 for FY 2009. ASA-CSSA-SSSA support a variety of programs within **BER** including the Life Sciences subprogram which supports Carbon Sequestration Research (we recommend a 7% increase, bringing the funding level to $7,625,890), and the Genomes to Life (GTL) program (we also recommend a 7% increase to bring funding to $163,422,170). 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. 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-SSSA support the President's budget request for the Climate Change Research subprogram in BER which calls for a 13% increase bringing the funding level to $154,927,000. This subprogram supports many important areas of climate change research including: Climate Forcing which supports the Terrestrial Carbon Processes program and supports the Ameriflux network of research sites (which should receive a 7% increase, bringing funding to $14,379,730), as understanding the role that terrestrial ecosystems play in capturing and storing carbon is essential to developing strategies to mitigate global climate change. An additional program of high importance within the Climate Change Research subprogram is the Climate Change Response and its associated programs—Ecosystem Function and Response, and Education. Finally, also under the Climate Change Research subprogram is the Climate Change Mitigation program, part of BER's support to the Climate Change Technology Program, which will continue to focus only on terrestrial carbon sequestration.

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 (RD&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 $1.843 billion, a 7% increase over FY 2008. The FY 2009 ***EERE*** budget maintains 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-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** plays an important role providing support for Regional Biomass Feedstock Development Partnerships and Infastructure Core R&D programs, both within Feedstock Infastructure. 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-SSSA support the President's request for a 25% increase for the Feedstock Infrastructure program which would bring the funding level to $15,500,000.

Department of Energy Office of Environmental Management
ASA-CSSA-SSSA urge the Subcommittee to provide the ***Office of Environmental Management (EM)*** a 7% increase for FY 2009 which would bring total funding for ***EM*** to $6.094 billion. ***EM*** supports high-priority soil and ground water remediation and excess D&D at Portsmouth, Paducah, Los Alamos, Savannah River, Oak Ridge, Idaho, Hanford, and other sites. Technology Development and Deployment supports tank waste, soil and groundwater, and facility D&D.

Climate Change Research
ASA-CSSA-SSSA urge the Subcommittee to continue to provide strong support for Climate Change Research to the following programs as follows: Climate Change Science Program (CCSP), $145,940,000; Climate Change Research Initiative (CCRI), $23,672,000; and Climate Change Technology Program (CCTP), $833,301,000. These three programs together will increase our understanding of the impacts of global climate change and also develop tools and technologies to mitigate these impacts.

Basic and Applied R&D Coordination

The Office of Science continues to coordinate basic research efforts in many areas with the Department's applied technology offices. Within this area is Carbon Dioxide Capture and Storage R&D (we recommend a 7% increase, bringing total funding to $18,055,000). The **BER** research includes understanding, modeling, and predicting the processes that control the fate of carbon dioxide injected into geologic formations, subsurface carbon storage, and the role of microbes and plants in carbon sequestration in both marine and terrestrial environments.

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. In the 2007 fiscal year, these facilities were used by more than 21,000 researchers from universities, national laboratories, private industry, and other federal science agencies.

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-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 (kglasener@agronomy.org, kglasener@crops.org, or kglasener@soils.org).

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

Willard R. (Will) Green, President
American 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, gas, coal) and energy efficiency and renewable energy program (geothermal). They are an essential investment in this nation's energy security.

AAPG, an international geoscience organization, is the world's largest professional geological society representing over 32,000 members. The purpose of AAPG is to advance the science of geology, foster scientific research, promote technology and advance the well-being of its members. With members in 116 countries, more than two-thirds of whom work and reside in the United States, AAPG serves as a voice for the shared interests of energy geologists and geophysicists in our profession worldwide. Included among its members are numerous CEOs, managers, directors, independent/consulting geoscientists, federal and State regulators, educators, researchers and students.

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

The National Petroleum Council notes in its 2007 study, Hard Truths: Facing the Hard Truths about Energy, that oil and gas demand will not abate anytime soon. Aggregating data from multiple oil and gas demand predictions, they report: U.S. oil demand in 2030 will be 22 to 30 million barrels per day, up from 19 million in 2000, and U.S. natural gas demand in 2030 will be 25 to 30 trillion cubic feet (TCF), up from 21 TCF in 2000.

Similarly, the Energy Information Administration[1] (EIA) projects electricity demand between 2006 and 2030 to grow from 3,814 billion kilowatt hours to 4,974 billion kilowatt hours in 2030.

[1] Statement of Guy Caruso, Administrator, Energy Information Administration before Senate Committee on Energy and Natural Resources, March 4, 2008. (http://www.eia.doe.gov/oiaf/aeo/pdf/caruso030408.pdf)

Meeting the nation's growing energy needs is a challenge that requires the combined efforts of the public and private sector. It means fostering energy development that is economically sustainable, environmentally responsible, and grounded in the reality of continued technological advances and innovation of the science and engineering community, rather than political rhetoric. Fossil fuels will be the foundation for the nation's energy needs for the foreseeable future, bolstered by significant growth in renewable and other energy sources. A broadly diverse supply of energy sources is an important ingredient of energy security.

Oil and natural gas technologies programs
The oil and natural gas technology programs at DOE have received low appropriations levels in recent years. Yet a robust federal petroleum R&D effort is an essential part of dealing with overheated energy markets by boosting domestic production through development and application of new technologies. For example, according to the Texas Railroad Commission, cumulative production of natural gas from the Barnett Shale in Texas through 2006 was 2.6 TCF of gas with more than 93% of that volume produced since 2000. This is a direct result of the innovative application of technology by the independent oil and gas producers. The Department of Energy's programs assisted with the development and deployment of these technologies.

It is important to understand the nature of the domestic petroleum industry. The dominant domestic players are not the major integrated oil companies, but rather independent oil and gas producers. According to a recent article in The American Oil and Gas Reporter, independents "develop 90% of domestic oil and gas wells, produce 68% of oil, and 82% of domestic natural gas."[2]

These independents run the gamut from large corporations to individuals with a few employees. Regardless of size, however, they do not have the capacity to conduct independent research and development. But they can quickly adopt new technologies to increase domestic production.

Federal oil and natural gas research efforts should include all aspects of exploration and production. This includes traditional basin and resource evaluation, technologies to improve recovery efficiencies, as well as nontraditional resource and reservoir types.

We request the Subcommittee on Energy & Water Development and Related Agencies appropriate $60 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 President's FY2009 budget request for coal was 25% over FY2008 appropriations. This increase recognizes the importance of the nation's coal resource, particularly for base-load power generation.

In evaluating this 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

[2] Cole, L. and G. Ames III (2008) Full Slate of Technologies – Vital for New Frontiers, Legacy Production, The American Oil and Gas Reporter, January 2008 (http://www.pttc.org/aogr_columns/AOGR_special_0108.pdf)

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 until 2030, and likely 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. They observe that currently, 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
For the first time in several years the President's budget recommends a robust funding level for geothermal technology development: $30 million in FY2009. AAPG requests that the Subcommittee appropriate this level of funding for geothermal technology development.

The EIA projects a 100% increase in geothermal energy production from 15 to 31 billion kilowatt hours between 2006 and 2030.[3]

Long term the potential looks even greater: Jeff Tester of MIT and a panel of scientific experts suggest that "[w]ith a reasonable investment in R&D, EGS [Enhanced Geothermal Systems] could provide 100 GW_e or more of cost-competitive generating capacity in the next 50 years."[4]

Training the next generation of energy workers
These technology programs not only provide the nation with the ability to harness domestic energy sources, they also play an important role in training the next generation of scientists and engineers.

At the university level much of the federal support for science comes in the form of competitive research funding. This funding provides direct benefit to society by enhancing our understanding of the natural world and developing new technologies. The second, no less direct, benefit is that these funds provide research support for faculty, graduate research opportunities, and the means to develop and maintain laboratories and instruments to conduct this research.

The petroleum industry illustrates the point: According to U.S. Department of Labor estimates, over 50% of the U.S. technical energy workforce will retire in the next fifteen years. The NPC 2007 study concurs, stating that "Nearly half of the personnel in the U.S. energy industries will be eligible for retirement within the next ten years, and fewer people have entered the workforce over the past generation." And it isn't just industry that is facing the challenge. Faculty members fit the same demographic as their industry colleagues, and there are insignificant replacements in the pipeline to teach and train future petroleum industry workers.

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[3] Statement of Guy Caruso, Administrator, Energy Information Administration before Senate Committee on Energy and Natural Resources, March 4, 2008. (http://www.eia.doe.gov/oiaf/aeo/pdf/caruso030408.pdf)
[4] Tester, J.W. *et al.* (2007) The Future of Geothermal: Impact of Enhanced Geothermal Systems (EGS) on the United States in the 21st Century. (http://geothermal.inel.gov/publications/future_of_geothermal_energy.pdf)

The decline of DOE's oil and gas research program has significantly impaired the nation's ability to train this workforce. These funds historically provided support to geoscience and petroleum engineering programs at U.S. universities. The lack of adequate funds weakens these departments just as we're asking them to attract and train talent for the next generation.

To support workforce training, AAPG requests that the Subcommittee appropriate the $12 million authorized in the America Competes Act of 2007 (Public Law 110-69) for "Hydrocarbon systems science talent expansion program for institutions of higher education" (Section 5005).

Thank you for the opportunity to present this testimony to the Subcommittee. As you deliberate appropriate funding levels for these DOE programs, please consider the important public policy implications these choices entail.

If you would like additional information for the record, please contact me at AAPG's Geoscience and Energy Office – Washington, D.C. at 202-684-8225, fax 703-379-7563, or 4214 King Street, Alexandria, VA 22302.

Testimony by Don Hintz
President, American Nuclear Society
Before the House Appropriations Committee, Energy and Water Subcommittee
On the FY 2009 Energy and Water Development Appropriations Bill

Chairman Visclosky, Ranking Member Hobson, 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 2009 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, let me begin by expressing strong ANS support for the portfolio of federal investments that support the development of new nuclear plants. America clearly needs to invest in large quantities of clean, non carbon-emitting baseload electricity in order to address climate change concerns and increase our energy security. In order to do so, the federal government has a strong role to play in incentivizing the first round of new nuclear plant development. As such, ANS strongly supports the DOE FY 2009 budget request of $241.6 million for the Nuclear Power 2010 program; $42.5 billion in authority for the DOE Innovative Technologies Loan Guarantee Program; and, $19.8 million in appropriations for the administrative costs of the loan guarantee program.

ANS also believes that we must accelerate our R&D efforts on the long-term sustainability of nuclear energy and the nuclear fuel cycle. As such, we support full funding for the DOE Office of Nuclear Energy's FY 2009 R&D request, including the Advanced Fuel Cycle Initiative ($302 million), the Nuclear Hydrogen Initiative ($16.6 million), and the Generation IV reactor programs ($220 million). ANS also supports DOE's efforts to establish a National Scientific User Facility (NSUF) at the Advanced Test Reactor (ATR) and urges the Subcommittee to provide $10 million for ATR operations.

The ANS supports full funding ($494.7 million) for the Office of Civilian Radioactive Waste Management, which will allow DOE to defend its Yucca Mountain license application once it is submitted; and a budget level of $1.037 million for the Nuclear Regulatory Commission which we believe is necessary for the agency to effectively execute its regulatory responsibilities.

Finally, the ANS supports a FY 2009 funding level of $210 million for the Next-Generation Nuclear Plant, funded through the Generation IV Nuclear Energy Systems Initiative account. The NGNP holds great promise to employ nuclear energy to meet U.S. hydrogen production and industrial process heat needs, and ANS believes that its

development should be accelerated beyond the milestones set forth in the Energy Policy Act of 2005.

Nuclear Science and Engineering funding in FY09

The ANS is extremely pleased that, in its FY 2009 budget submission, the DOE has again embraced its role as a steward of the US nuclear engineering education enterprise. We believe this is a significant step toward creating a stable and growing portfolio of federal investments in nuclear education. The federal government continues to be the largest consumer of nuclear science and engineering talent in the US. As such, it has a vested interest in ensuring the continued health and vitality of the nuclear engineering departments of our nation's universities. The funding battles of the last few years have taught us important lessons. For instance, we strongly believe that investments in nuclear science and engineering education should be diversified across federal agencies, including DOE, NRC, NNSA, DOD, DHS, and the national laboratories. Such diversification will help to ensure that unanticipated cuts in one agency's program do not completely hamstring the ability of academic departments to seek funding for people, research, and infrastructure support. As such, our recommendations for university funding in FY 2009 represent the belief that stewardship of the nuclear discipline should be shared by both NRC and DOE. In addition, we believe that stewardship funding for universities must be balanced between scholarships, fellowships and other forms of people support; basic and applied research and development; and, support for instrumentation and infrastructure.

As such, ANS recommendations for FY 2009 are as follows:

1. Retain the nuclear university program at NRC for at least one more year; boost budget to $20 million.

In the FY 2008 Consolidated Appropriations Act, Congress chose to move the University program from the Department of Energy to the Nuclear Regulatory Commission. This move was executed in part because of the administration's refusal to include funding for the DOE program in its budget request. The American Nuclear Society believes that Congress should retain the university funding line in the NRC budget for FY 2009. It is critically important that the University program have some continuity of program management, especially given the fluctuating funding levels academic programs have had to endure during the last three years. NRC has shown a willingness and interest to work collaboratively with universities to provide basic stewardship funding for their nuclear engineering programs. We believe NRC should be given the opportunity to fully implement such a program.

In addition, we recommend that Congress increase FY 2009 funding for this program to $20 million. This funding level will allow NRC to continue providing scholarships, fellowships, and young faculty assistance outlined in the FY 2008 budget. The proposed $5 million increase would allow NRC to make targeted, strategic investments in

developing new undergraduate and graduate-level programs, partnerships and curricula through "Program Development Opportunity Grants." These grants would replace some of the highly successful programs run by DOE in past years.

Finally, we strongly believe that funding for this program should come from the general treasury, not from the user fee paid by the nuclear industry. It is clear that these programs are designed to benefit the nuclear sector broadly, not just those who hold NRC licenses. Indeed, as I pointed out previously, the federal government remains the largest single consumer of nuclear science and engineering talent in the US. Thus, it is entirely appropriate for these programs to be funded from general appropriations.

2. Support DOE commitment to allocate 20% of NE's R&D budget for university-based funding.

In its FY09 budget request, DOE has proposed setting aside 20 percent of its total nuclear R&D budget for University-based projects. According to DOE's budget documents, "*These funds will support investigator-initiated basic research and mission-specific applied R&D activities; human capital development activities such as fellowships and young faculty awards; and, infrastructure and equipment upgrades for University-based research reactors in laboratories. This mutually beneficial arrangement will help University and research institutions bolster their R&D capabilities and help strengthen the US educational infrastructure necessary to support the nuclear Renaissance envisioned by this budget request.*"

We applaud DOE's renewed interest in providing stewardship for the US nuclear science and engineering education enterprise and we recommend that Congress take action to solidify the Department's intent. First, within the "Radiological Facilities Management" program, we recommend increasing the "Research Reactor Infrastructure" account by $6.3 million from the requested level of $3.7 million, for a total FY 2009 appropriated level of $10 million. We believe this increase is necessary to meet the need for new university reactor fuel, replacement shipping casks, transport of expended cores, as well as targeted assistance for reactor instrumentation and equipment upgrades. Second, we recommend that at least $5 million from the Office of Nuclear Energy's R&D budget be specifically allocated to investigator-initiated grants for basic, mission relevant nuclear engineering and reactor physics research. We believe this funding, when combined with DOE's plans to involve US universities in applied R&D for the Advanced Fuel Cycle Initiative and Generation IV programs, would provide an appropriately balanced "20 percent" portfolio of investments for university programs.

3. Provide some level of funding for the nuclear science and engineering program authorized in the America COMPETES Act.

ANS urges the subcommittee to provide 12 million in FY 2009 funding for the Nuclear Science Talent Expansion Program at the Department of Energy, the same level authorized by the recently enacted and overwhelmingly bi-partisan *America COMPETES Act*. As you know, Section 5004 of the *America COMPETES Act* was intended to

bolster academic infrastructure for nuclear education. While we believe that a continued program at the NRC, along with research reactor infrastructure assistance of DOE, will generally provide sufficient funding for the nuclear engineering academic discipline, we also recognize that there are tremendous unmet needs in other scientific fields, such as nuclear chemistry, radiochemistry, health physics, and material sciences, that are critical to the long-term sustainability of nuclear energy. We believe that the DOE Office of Science is a natural home for this program, as it is focused on the development and rejuvenation of academic programs, as opposed to the specific mission needs of the Office of Nuclear Energy.

In closing, we hope the Subcommittee will closely consider our testimony as it assembles its FY 2009 Energy and Water Development Appropriations Bill, and we stand ready and willing to provide additional technical assistance as needed.

Thank you.

COMMENTS TO THE HOUSE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE

On THE DEPARTMENT OF ENERGY'S FY 2009 ENERGY EFFICIENCY BUDGET

Steven Nadel, Executive Director
American Council for an Energy-Efficient Economy (ACEEE)

The American Council for an Energy-Efficient Economy is an independent, non-profit organization dedicated to advancing energy efficiency to increase economic prosperity, enhance national security, and improve environmental quality. Founded in 1980, we are a leading source of unbiased information and policy analysis on energy efficiency.

DOE's FY 2009 budget request reflects a continuing decline in support for important energy efficiency research, development, and deployment programs at a time when expanded support for energy efficiency is needed more than ever to protect national energy security, save American jobs, control rising consumer bills, and stem air pollution and greenhouse gas emissions. Relative to the FY 2008 DOE energy efficiency budget passed by Congress, the Administration proposes to cut $204 million (29%) in its FY 2009 budget request. Most of this cut is a proposal to eliminate the low-income Weatherization Assistance Program, but there are other significant cuts as well. In order to better address many of America's energy needs, we recommend that many of these cuts relative to FY 2008 be restored and also recommend increased funding for several strategic priorities, including several of DOE's most successful programs as well as a few new programs authorized in the Energy Independence and Security Act of 2007 (EISA), a law that passed after the Administration's budget was nearly completed.

Specifically, we recommend that the subcommittee increase funding for 11 especially high-priority programs for a total of $302 million above the Administration's request ($227 million of which is for Weatherization) but only $71 million above the FY 2008 appropriation.

Our analyses of high-priority programs meriting increased support are described below. The program categories are listed in alphabetical order and thus do not represent an ACEEE priority ranking. Within each program category, ACEEE priorities are ranked in descending order.

Buildings Technologies

Commercial Building Initiative. CBI is a major new initiative established in EISA. The goal of the initiative is for all new commercial buildings to use zero energy on net by 2030 (i.e. they produce as much energy as they use) and all existing buildings to meet the same goal by 2050. These are very large savings that can have many positive impacts on the U.S. economy and environment. CBI combines research, development, and deployment, and will be run by DOE with input from an industry consortium. **We recommend that funding of at least $20 million be appropriated for this important new program,** an increase of $7 million relative to the Commercial Buildings Integration budget in DOE's request.

Lighting and Appliance Standards. DOE standards produce the greatest energy savings of any DOE program. DOE's analysis estimates that 12 standards to date have saved consumers about $25 billion, from a federal investment of less than $10 million a year. DOE is under court order to complete many rulemakings that are years behind schedule, and also needs additional funding to address requirements added by EISA. The DOE request does not appear to address the new

EISA requirements which include several new rulemakings, as well as new mandates to review and update existing test procedures and standards every six to eight years. In order to address both old and new requirements, **we recommend funding of $24 million for the standards program, an increase of $4 million relative to the FY 2009 budget request but an increase of only $2 million relative to the FY 2008 appropriation**. DOE should be permitted to spend a portion of this increase on staffing, as more DOE staff are needed to supervise increased contractor budgets made possible by the FY 2008 budget.

Building Codes, Energy Star, and Residential Building Integration. These are three of the most important programs at DOE and **all three received significant funding increases in the FY 2009 request. We support these increases.**

- Many states are interested in revising their *building codes* as part of efforts to save energy and address climate change. The DOE building codes program is an important source of funding for these efforts. DOE is also supporting efforts by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to reduce permitted energy use in its model commercial building code by 30%.
- The *Energy Star* program is probably the Administration's most effective climate change response program. Increased funding will allow DOE to update existing specifications, expand the program to several new products, and actively promote these specifications in regions without significant state or utility programs.
- The *Residential Building Integration* program is the home of the Building America program, an important and successful partnership with private firms that is developing and promoting cost-effective design approaches for reducing energy use of new homes by 40% or more.

Industrial Technologies

The 2009 request would cut the Industrial Technologies Program by $2.3 million, relative to FY 2008, but much larger cuts in several very important programs are hidden in the budget details as is discussed below. The overall program activities are divided into two broad groupings: industry specific and cross cutting. We have identified several priorities in each of these areas.

Industrial Assessment Centers. The IAC is part of the cross-cutting program budget. The IAC program helps small and medium industries identify and implement energy saving measures, while also helping to train the next generation of industrial energy engineers. The program operates 26 Centers at 31 universities nationwide and produces several hundred trained engineers annually while helping to reduce industrial energy use in small- and medium-sized facilties. The IAC program, which has operated continuously since 1976, is one of DOE's most effective programs, and is presently saving more than $1 billion per year (including measures implemented in earlier years). The program should be substantially expanded in order to meet future needs for trained energy engineers – there is presently a shortage of skilled energy efficiency engineers and graduates of the IAC program receive multiple job offers. **We recommend that the program be restored to FY 2006 funding levels of $6.435 million in FY 2009**, with additional increases in funding and in the number of centers in future years.

Industries of the Future (Specific). This program does cost-shared research with industry at major research institutions. The program focuses on key, energy-intensive manufacturing industries such as steel, aluminum, wood products, glass and metal casting. The most recent

National Academy review found this to be among the most successful of federal R&D efforts.[1] In spite of this success, the program has seen its budget drop from $63 million in FY 2002 to $11 million in FY 2008. DOE is proposing $11.4 million in FY 2009, which may appear to be level funding, but in reality represents a further cut since most of the research funding is multi-year, and funding from earlier years is now no longer being replaced and the pipeline is running dry. In addition, the Glass industry effort has now been completely eliminated. In EISA, Congress authorized an expanded Energy-Intensive Industries program (Sec. 452), with an emphasis on industry-specific research in energy-intensive industries. This provision specifically authorized the successful industry-focused program format that has proven effective because it responds to the targeted needs of individual industries rather than to the more general and less focused topics covered under the cross-cutting program. The allocation of funding among industries under the EISA provision is to be done by an advisory committee based on merit and need. **To start implementing this new direction, we recommend FY 2009 funding of at least $24.2 million (which was the appropriation in FY 2006),** an increase of $12.8 million relative to the budget request.

Distributed Energy (DE). Over the past decade these efforts have played a key role in the development of high-efficiency clean technologies like combined heat and power (CHP) and technologies to recycle waste energy. Over the past few years these efforts have been shuffled between EERE and the Office of Electricity, and the program has received no funding for the past year. For FY 2008, Congress provided $14.5 million, but DOE's FY 2009 request is for only $1.5 million. The program is now part of the cross-cutting effort in the Industry program. **We recommend the DE activities be funded at an overall level of no less than $20 million,** an increase of $5.5 million relative to the FY 2008 appropriation. Within DE, it is especially important to restore an important network of eight Regional Application Centers (RACs) that have become a key infrastructure for regional DE activities, providing technical assistance and becoming involved in state and local interconnection and emission issues. Sec. 451 of EISA 2007 expands these RACs (renaming them *Clean Energy Application Centers* [CEAC]). The CEACs are authorized at a level of $10 million per year, a funding level we support for FY 2009 within our recommended DE budget.

Industries of the Future (Cross-cutting). The remainder of the industrial program budget request falls within the category of cross-cutting programs. This includes the Industrial Assessment Centers and the Distributed Generation program discussed above. In addition, this program includes Best Practices and cross-cutting R&D, each of which we discus below.

- **Best Practices.** The OMB request proposes to increase the best practices area from $8.8 to $15.5 million, though this represents only a partial restoration of funding that was $19.8 million in FY2007. This increased funding will allow the expansion of the

[1] In 2005 the National Research Council reviewed DOE's Industrial Technology Program in their report *Decreasing Energy Intensity in Manufacturing.* The study characterized the program (at that point) as being "well-managed and effective." In particular they indicated that the "program's scope and depth of analysis and reporting are impressive. The ITP significantly leverages its resources through a large and growing number of partnerships with industry, industry associations, and academic institutions." Unfortunately, funding has been dramatically reduced since this evaluation, and a subsequent National Research Council report on DOE R&D, *Prospective Evaluation of Applied Energy Research and Development at DOE (Phase Two)* (2007), noted with respect to Chemical Industry research activities "the budget decreased to $9 million in FY05 and $7 million in FY06. There is a clearly apparent contradiction between the ambitious goals of the program and the dwindling resources available to pursue them."

successful *Save Energy Now* program, one of the most successful energy savings programs undertaken at the federal level (e.g. savings underway of approximately $288 million since program inception in 2006). **We recommend that the program be funded at the requested level of $15.5 million.**

- ***Cross Cutting RD&D.*** These activities are primarily for R&D on technologies that benefit many industrial sectors, such as work on sensors and controls. In addition, DOE is now proposing a number of new efforts in energy-intensive process R&D, feed stock flexibility and nanomanufacturing, and expanding the industry focus to include datacenters and food processing. While these are potentially worthy areas of efforts, DOE is essentially proposing to fund these efforts by further cuts to the successful industry-specific IOF efforts. In addition, EPA has already been running a datacenter program for several years, and a new DOE effort is potentially duplicative. **If budgets are tight, funding for these cross-cutting RD&D can be reduced to FY 2008 levels in order to free up funds for our higher priorities discussed above.**

Vehicle Technologies

Despite the nominal increase of $8 million in the Vehicle Technologies Program budget, proposed funding for this work has actually declined because elements of the Hydrogen Technology budget have been moved into Vehicle Technologies. In FY 2008, Vehicle and Hydrogen Technologies together received $424.1 million. The FY 2009 request cuts these combined budgets by $56.7 million. The proposed transferal, elimination or postponement of certain activities in the Hydrogen Technology Program appears reasonable in many cases, and in particular begins to rectify disproportionate allocations in prior years to hydrogen and fuel cells relative to other vehicle and fuel technologies. However, given the great opportunities and needs at present in the area of vehicle efficiency and greenhouse gas reduction, it is imprudent to simply eliminate funds from this program, rather than transferring some of the funds to underfunded areas in Vehicle Technologies. In the FY 2009, DOE proposes to cut a variety of important vehicle programs: Hybrid Electric Systems declines by $5.8 million (6%, net of the Technology Validation activity transferred from the Hydrogen Technology Program), Technology Integration by $2.2 million (13%), Advanced Combustion loses $11 million (25%), Materials Technology loses $2.7 million (7%), and Fuels Technology loses $1.7 million (10%), relative to FY 2008 Appropriations. Also, as in previous years, funding for the 21st Century Truck Partnership declines in the budget proposal. The program loses $4.6 million relative to 2008 levels, having lost $12.2 million the previous year, resulting in a 40% decline over two years. This is particularly shortsighted in light of the directive in the Energy Security and Independence Act of 2007 that federal agencies, including DOE, develop a program to achieve maximum feasible improvement in the fuel efficiency of heavy-duty trucks over the next decade.

We recommend that some of these cuts be restored. Overall, our priority requests add $37 million to the FY 2009 request, which is still a cut of about $20 million relative to the combined FY 2008 Vehicle and Hydrogen budgets. Our recommendations below to restore funding to the Vehicle and Systems Simulation and Testing activity and the Combustion and Emissions Control activity are in large part aimed at reversing reductions in heavy-duty vehicle R&D, as reflected in the decline of the entire 21st Century Truck Partnership budget. Our recommendations for funding changes in subprograms are as follows:

Hybrid Electric Systems. The proposed reduction in the Vehicle and Systems Simulation and Testing activity relates in part to heavy vehicle systems optimization R&D, which warrants greater attention. **We recommend that $7.1 million be restored to Vehicle and Systems Simulation and Testing, bringing funding for this activity back to $28.2 million.** Furthermore, energy storage efforts need to be accelerated. **We recommend that the Energy Storage R&D activity be funded at $59.5 million**, an increase of $10 million above the proposed budget. This activity includes efforts on electric, hybrid, and plug-in hybrid vehicle batteries.

Advanced Combustion Engine R&D. The explanation offered for the proposed cut, namely that resources should go to "R&D that has a higher potential for oil savings" is not persuasive given the considerable remaining opportunities in this area for both light- and heavy-duty engines. **We recommend that Combustion and Emissions Control be funded at $38.8, restoring $10 million to this activity.**

Materials Technology. Reaching DOE's stated goal of a 50% reduction in the weight of body and chassis for a passenger vehicle will require a sustained effort, including continued exploration of "high-risk concepts", as referenced in DOE's budget explanation. **We recommend funding of $30 million for Lightweight Materials Technology, which restores $2.9 million cut in the budget and adds a further $7.7 million.**

Other Priorities

Weatherization Assistance Program. This program has steadily improved, and according to the last nationwide evaluation of the program, is reducing energy use in participating homes by about 20%. It is much better to invest in energy efficiency improvements than helping to pay energy bills, since energy efficiency improvements reduce bills for many years while fuel assistance just helps cover one year of bills. DOE has proposed to eliminate this program, in order to save money. With the economy heading into a recession, this is a particularly bad time to cut our country's safety net. **We recommend funding this program at least at the FY 2008 level of $227 million**.

Energy Information Administration Energy Consumption Surveys: EIA's Energy Consumption surveys are an important resource for energy analysis and energy program planning. The Residential, Commercial and Manufacturing Energy Consumption surveys are widely used and provide important information for accurate forecasting and planning. Unfortunately the program has shrunk in recent years due to limited funding. The Transportation survey has been discontinued, sample sizes are smaller (making regional data less precise) and the remaining surveys are now every four years, instead of the every three years called for in the Energy Policy Act of 1992. These surveys are an important input to the planning of state and regional energy efficiency programs, but increasingly planners are forced to use dated data. Currently available information are the 2001 residential survey (the 2005 survey is still being processed), the 2002 manufacturing survey (the 2006 survey is still in the field), and the 2003 commercial survey (data collection has begun for the 2007 survey). In FY 2008, the consumption surveys have a $3.6 million budget. **We recommend that $2 million be added to the EIA request** in order to return to the every three year schedule, increase sample sizes and speed up processing of surveys so they can be released more quickly.

ACEEE Energy and Water Development Bill Priorities for FY 2009

PROGRAM	FY2008 Approp.	FY2009 Request	ACEEE Recommendation	Increase To Request	Increase To FY 2008
		(Dollars in millions)			
BUILDING TECHNOLOGIES					
Commercial Buildings Integration & CBI	$11.89	$13.00	$20.00	$7.00	$8.11
Lighting & Appliance Standards	$21.98	$20.00	$24.00	$4.00	$2.02
Building Codes training/TA	$3.72	$8.00	$8.00	$0.00	$4.28
Energy Star	$6.71	$8.00	$8.00	$0.00	$1.29
Residential Buildings Integration	$19.27	$26.00	$26.00	$0.00	$6.73
INDUSTRIAL TECHNOLOGIES					
Industries of the Future (Specific)	$11.25	$11.39	$24.00	$12.61	$12.75
Industries of the Future (Crosscutting)					
Industrial Assessment Centers	$4.04	$4.04	$6.44	$2.40	$2.40
Distributed Energy	$14.47	$1.50	$20.00	$18.50	$5.53
Best Practices	$8.75	$15.53	$15.53	$0.00	$6.78
Process R&D, Fuel & Feedstock, and Nanotech	$14.81	$23.60	$14.81	($8.78)	$0.00
VEHICLE TECHNOLOGIES					
Hybrid Electric Systems					
Vehicle/Systems Simulation/Testing	$28.20	$21.13	$28.20	$7.07	$0.00
Energy Storage R&D	$48.24	$49.46	$59.46	$10.00	$11.22
Advanced Combustion Engine					
Combustion and Emissions Control	$38.82	$28.77	$38.82	$10.05	$0.00
Materials Technology					
Lightweight Materials	$22.33	$19.46	$30.00	$10.54	$7.67
OTHER PRIORITIES					
Weatherization	$227.20	0	$227.20	$227.20	$0.00
EIA Consumption Surveys	$3.60	~$3.8	$5.60	$1.80	$2.00
TOTALS	$485.28	$253.68	$556.06	$302.39	$70.78

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 2009 Budget Request

The Honorable Peter J. Visclosky, Chairman

March 17, 2008

Prepared by Aaron Severn
Energy Legislative Manager
American Wind Energy Association

Introduction

The American Wind Energy Association (AWEA) requests a funding level of $89 million for FY 2009 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 at the national, state, and local levels. DOE provides important technical support, guidance, information, and limited cost-shared funding for efforts to explore and develop wind energy resources. AWEA would like to commend the DOE wind program for its success in developing programs that are consistent with the wind industry's priorities. We have been impressed by its responsiveness to comments received from AWEA and our member companies. An $89 million appropriation for FY 2009 would greatly enhance the effectiveness of the DOE wind program for America's growing wind industry.

Overview

For FY 2009, the Bush Administration requested only $53 million for wind energy research and development (R&D) at DOE – a $3 million increase above current spending. AWEA appreciates the increase in funding sought by President Bush, but this funding request does not recognize the strong contribution that wind energy is making – and can make – to produce clean energy, new jobs, and significant reductions in global warming pollution. At a time of heightened concern over rising energy prices, job losses, and global warming, the Administration's budget proposal is clearly not keeping pace with the desires of the American people and the priorities of the House and Senate leadership.

Wind energy development in the United States is coming off a record year, with over 5,200 megawatts (MW) of new wind energy installed across the country. The industry expects to continue or exceed this level of growth in 2008. At the beginning of 2008, over 16,800 MW of wind energy facilities are operating in the United States, producing the equivalent amount of electricity needed to power over 4.5 million average American households. However, growth of wind energy is currently hampered by unstable incentive policies, transmission constraints, lack of market acceptance of wind technology, and a lack of support for improvements in cost and reliability.

In a 2006 speech, President Bush stated that wind could eventually generate 20% of our nation's electric supply, a statement echoed recently by DOE Secretary Samuel Bodman. AWEA believes that with smart investments today, wind can indeed grow to supply 20 percent of America's electric power. 20% of U.S. electric power from wind 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).

Wind energy is on the verge of becoming a major player in energy supply for the nation. However, in order to reach that potential, a number of obstacles must be eliminated in order for wind energy to become fully cost competitive with traditional energy technologies. AWEA is working with DOE on the 20% Wind Technical Report that outlines the steps needed to transform the vision of producing 20% of America's electricity from wind into a reality.

Importance of DOE's Wind Program

The work that takes place at the Department of Energy's wind program is a vital component in helping to meet the 20% wind energy goal and AWEA appreciates the support the Subcommittee has provided to the DOE wind program in recent years. AWEA strongly believes that the funding provided by the Subcommittee should reflect the important work conducted by the wind program and respectfully requests that the funding be significantly increased above the request level to $89 million. This request reflects cooperation between industry officials, academics, consultants, and others to identify a five-year funding plan to reach the 20% goal.

Over the last twenty years, the cost of wind energy has dropped by more than 80 percent, to a level that is close to competitive with traditional energy technologies. The cost of wind energy is currently between 6 and 10 cents per kilowatt hour (kWh), not including the renewable energy production tax credit (PTC). Over the last 3 years, however, the cost of wind energy – and all other sources of electric power production – has actually been going up due to increases in commodity prices and instability resulting from short-term extensions of the PTC.

The wind energy program at DOE has a strong history of success, and the cost-shared industry/government research and development activities at DOE and the National Renewable Energy Laboratory (NREL) have played an important role in keeping the cost of wind energy competitive with other energy sources. In particular, programs such as Wind Powering America have been extremely effective at educating interested parties across the country on the benefits of wind power. We strongly support the continuation of this program.

Specific Wind Industry Priorities
If AWEA's requested funding level of $89 million for FY 2009 were appropriated, industry and DOE could work together to conduct research and develop new technologies by focusing on a number of key areas described below.

Large Turbine Component Development
Further development of utility-scale, land-based turbine technology is the top research and development priority for the wind industry. Greater funding in this area would reduce capital cost, improve capacity and reliability, and provide a foundation for wind energy technologies. Federal investments are needed because there are fundamental technical issues that are not yet understood that impede reliability and increase costs. In addition, dramatic cost reductions will almost certainly require application of unproven, high risk concepts, such as those below:

- **Rotor blades** – There are multiple opportunities for advanced materials and blade configurations to reduce the cost of energy from wind turbines. Promising areas worth additional support include developing turbine blades that can be easily assembled on-site and developing aeroelastically tailored blades – blades that are able to change shape in response to the wind as a means of limiting stress.

- **Controls Sensors** – Advanced sensors could monitor the position of wind turbine blades and other components and be cost-effectively combined with modern control methods.

- **Other Components** – Towers and drive train systems are other major components where innovation is needed to reduce the cost of energy. In particular, developing a tower system that addresses transportation and installation constraints is of crucial importance.

Reliability
Improving reliability is another area of focus for the wind industry. Increased funding related to reliability would be used for three primary purposes:

1. Supporting a public/private partnership to build blade and dynamometer test facilities
   These facilities enable large turbines to undergo endurance tests on major internal components (gearboxes, etc.). The current NREL facilities have proven to be invaluable in finding design defects prior to large scale field deployment. However, the existing facilities are inadequate for the increasing sizes of current and developing turbine components. Higher capacity facilities are needed to allow the industry to maintain and increase the reliability of the equipment being installed in the field.

2. Initiating research that would increase the reliability of wind project energy projections
   Improvements in this area would help lower the cost of delivered wind energy due to an enhanced ability to schedule turbine maintenance and schedule around other impediments to the electrical system during periods of low wind speeds.

3. Expanding research into the causes of premature failure of major wind turbine components such as gearboxes and generators
   Understanding the causes of these failures and developing independently tested and verified techniques for detecting and minimizing their impact would reduce the cost of energy and increase investors' confidence in the technology.

System Integration
Integrating wind energy into the transmission system is the wind industry's most critical constraint. Without proper and adequate infrastructure, the industry cannot deliver energy to market and the full value of all other R&D efforts will go unrealized. Greater funding for system integration efforts would facilitate better integration of wind into the transmission grid and advance the ability of developers to assess wind resources across the country. AWEA priorities for system integration include:

- **Power System Operation Tools**, which would support and expand the current expertise at national laboratories and the Utility Wind Integration Group to identify policy and structural solutions to wind integration barriers;
- **Application and Implementation of Operation Tools**, which would take operations tools and regional wind resource information and apply them through outreach with power system operators and transmission planners, and;
- **Regional Wind Integration Studies**, which would support more wind integration studies, and, importantly, do them on a regional basis as opposed to the single system perspective that electric utilities tend to pursue on their own.

Fundamental Science and Technology
Increasing DOE's budget for fundamental science and wind energy technology would provide the necessary foundation for enabling new technologies. This money would fund research related to topics such as aerodynamics, wind flow, wake characterization, materials, and atmospheric characterization.

Environment and Siting
Increased funding in this area would be targeted toward better understanding the impact of wind turbines on wildlife as well as developing tools and educational materials for policy makers and regulators to assist them in better understanding the environmental impact of wind energy projects. Funds would be used for cost-shared research programs with industry and wildlife organizations to address targeted issues with avian and bat species.

States and permitting officials also seek technical assistance on project siting issues. DOE could serve as a clearinghouse for information and resources in these areas. Outreach to these audiences is also required so permitting authorities feel they are making informed choices. In addition, resources in this area could be used to develop updated resource maps at an elevation of 100 meters above ground level. These maps have identified previously unknown wind resources in several states, spurring interest in the resource on the part of state policy makers and regulators, rural economic development agencies and others.

Small Wind (100kW and below)
AWEA believes a greater emphasis on research and development is needed for this technology (used to power an individual home, farm, or small business). Distributed generation with small customer-sited power plants has great potential for reducing energy costs, promoting competition in the marketplace, and minimizing the burden on the nation's electrical supply network.

This program has provided invaluable support for the development and testing of more reliable small turbines for homes and businesses. The development of computer simulations tools allows designers to understand the furling behavior (when a turbine turns itself out of the wind during periods of very high wind speeds) of the turbines. Additional support is requested for certification testing of small wind generators and in researching manufacturing techniques to produce high-volume, low-cost components, with aerospace materials properties and performance. These are all areas where support is needed to reduce the cost of energy and increase the reliability of the turbines.

Offshore Development
AWEA believes that offshore wind energy facilities can play an important role in meeting the long-term energy needs of the country. However, we also believe that the focus of the DOE program in the near future should be placed on R&D efforts for land-based turbines.

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 R&D are delivering value for taxpayers by developing a domestic energy source that strengthens our national security, provides rural economic development, spurs new high-tech jobs, and helps protect the environment.

While the wind industry continues adding new generation capacity, a number of challenges still exist. Continued support for DOE's wind program is vital to helping wind become a more prominent mainstream energy source that brings a host of economic and environmental benefits. DOE's wind program funding should be commensurate with the President's call for more renewable energy, and AWEA urges the Subcommittee to include $89 million for the wind program in FY 2009. Combined with the continuation and adoption of favorable Federal policies, greater R&D funding through DOE's wind program would help transform the 20% wind vision into reality.

AWEA appreciates this opportunity to provide testimony on the Department of Energy's FY 2009 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.

City of Aurora

AURORA WATER

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February 25, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Peter D. Binney
Director, Aurora Water

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 $2,334,795,000 for the following programs in the Energy and Water Development Appropriations bill for Fiscal Year 2009, 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$25 million for the Project Modification for Improvement of the Environment program in FY 2009.

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 $25 million for the Aquatic Ecosystem Restoration program in FY 2009.

Flood Hazard Mitigation and Riverine Restoration (Challenge 21)- Escalating flood losses are a national concern. Over the past 25 years, the federal government has spent more than $140 billion for traditional structural flood control projects and flood damage recovery. Flooded communities are increasingly seeking and implementing non-structural solutions to reduce flooding. In addition to reducing flood losses, non-structural projects help meet many other goals of riverside communities, including improving water quality, increasing opportunities for recreation, and improving and restoring wildlife habitat. Challenge 21, a flood damage reduction program authorized in 1999, is designed to help support non-structural flood control solutions. Challenge 21 allows the Corps to relocate vulnerable homes and businesses in smaller communities, restore floodplain wetlands, increase opportunities for riverside recreation, and improve quality of life in riverside communities. Challenge 21 also authorizes the Corps to work with other federal agencies to help local governments reduce flood damages and conserve, restore, and manage riverine and floodplain resources with local communities providing 35 percent of project costs. American Rivers urges the Committee to appropriate $50 million for the Flood Hazard Mitigation and Riverine Restoration program in FY 2009.

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 $44.7 million (including $10.4 million for monitoring) for the Navigation and Ecosystem Sustainability Program in FY 2009.

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 2009.

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 $33.5 million for the Upper Mississippi River Environmental Management Program in FY 2009.

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 2009.

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 2009.

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 2009:

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.

Kissimmee River Restoration- Upon completion of the Kissimmee River restoration project in 2011, over 40 square miles of river and floodplain ecosystem will be restored, including returning 43 miles of meandering river to its original course and re-creating 27,000 of the 35,000 acres of wetlands that were lost to past flood control efforts. The estimated $494.8 million restoration project is being jointly implemented and equally cost-shared by the South Florida Water Management District and the Army Corps of Engineers. American Rivers urges the Committee to appropriate $31 million for the Kissimmee River Restoration in FY 2009.

2. Department of Energy Programs

Federal Energy Regulatory Commission in Hydropower Licensing- The Federal Energy Regulatory Commission is responsible for issuing licenses and permits that govern the operation and construction of non-federal hydropower dams. 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 2009.

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 $1.9 billion for the Energy Efficiency & Renewable Energy Resources program in FY 2009.

3. Department of Interior- Bureau of Reclamation:

Savage Rapids Dam Removal and Pump Replacement (Rogue River, OR) - The Savage Rapids Dam, built in 1921, is the single largest killer of salmon on the Rogue River, including coho salmon, which are listed as threatened under the federal Endangered Species Act. Removing Savage Rapids dam will provide an enormous boost to the Rogue River's imperiled salmon and steelhead populations. American Rivers urges the Committee to appropriate $3 million Savage Rapids Dam Removal and Pump Replacement in FY 2009.

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 (Bur. Rec.)

projects in the west. The various Bur. Rec. projects in the basin have depleted and polluted river flows, and water rights conflicts in this basin are legendary. This program aims to restore the river and make better use of the existing water supplies. American Rivers urges the Committee to appropriate $12 million for the Yakima River Enhancement Project in FY 2009.

Deschutes Resources Conservancy- 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 Resources Conservancy in FY 2009.

California-Federal Bay Delta Program- CalFed 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 $41 million for the CalFed Ecosystem Restoration and Watershed Program in FY 2009.

A subsidiary of Pinnacle West Capital Corporation

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February 22, 2008

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

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Sincerely,

/s/David/Saliba

David L Saliba, Plant Manager
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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, 2008

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 44 million people). We appreciate the opportunity to submit this statement outlining our FY 2009 funding priorities within the Energy and Water Development, and Related Agencies Subcommittee's jurisdiction.

Renewable Energy Production Incentive (REPI) and Renewable Energy Programs: 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 constantly sighting budget constraints in the past, the Administration had minimally requested $4-5 million of the $80 million demand cited for this important program annually. However, the FY 2009 Budget request for REPI was *zeroed out* by DOE. As the Untied States seeks to expand its renewable energy production and states adopt renewable portfolio standards and climate change mitigation programs, REPI becomes increasingly more important to not-for-profit utilities. We greatly appreciate the Subcommittee's past interest in this small but important program as evidenced by its support of funding for the program either at or above the Administration's budget requests. We respectfully request that the Subcommittee restore the funding to REPI and Renewable Energy Programs at or above the FY 2008 level of $5 million.

Federal Power Marketing Administrations (PMAs)
Power Marketing Administration Interest Rate Proposal: In the past the Administration's budget has included a recommendation that would raise electricity rates by changing the interest rate charged by the Southeastern Power Administration (SEPA), the Southwestern Power Administration (SWPA), and the Western Area Power Administration (WAPA) on all new

investments in projects whose interest rates are not set by law. Congress has opposed this effort in previous appropriations bills with direct language. While not included in the FY 2009 budget, APPA and its members continue to urge the Subcommittee to oppose any implementation of this proposal should it arise.

Bonneville Power Administration "Net Secondary Revenue" Proposal: Also previously included in FY 2008 budget was a proposed administrative action that would direct the Bonneville Power Administration (BPA) to use any net "secondary market revenues" in excess of $500 million per year towards accelerated federal debt repayment. Because the change would be made through the rulemaking process, congressional approval is not needed for the policy to go into effect. This proposal was strongly opposed by the Appropriations Committees and Congress in FY 2007and FY 2008, and was ultimately blocked in both years. We appreciate all the work the committees has done on this matter and, while not included in the FY 2009 Budget, we urge the Subcommittee to continue to block the implementation of this proposal, should it also arise.

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 agree with the Administration's budget requests for PP&W for FY 2009, which are as follows: $525.96 million for Western Area Power Administration (WAPA); $63.5 million for Southeastern Power Administration (SEPA); and $46 million for Southwestern Power Administration (SWPA).

Western Area Power Administration's (WAPA) budget: Members of APPA strongly urge the Subcommittee to restore adequate funding to Western Area Power Administration's (Western) construction, rehabilitation and operations and maintenance program. Currently in the FY 2009 Budget proposal, Western would receive less than $2 million for its construction program, which the agency estimates will cost $74 million. The Administration has assumed that WAPA will fund the remaining $72 million through customer advances of revenues – in essence pre-payments of expenses. While WAPA customers have been advancing funds for some of the agency's operating expenses and for few capital projects for several years, they were small and limited. Mandating that most of Western's construction budget be financed through advanced customer funding is poor fiscal management. We respectfully request the Subcommittee increase WAPA's construction, rehabilitation and O&M program, limiting WAPA's need to customer advance of revenues.

Storage for High-level Nuclear Waste: We support the Administration's efforts to finalize the location of a permanent storage site at Yucca Mountain, Nevada. The Administration requested $495 million for FY 2009, which is level to its FY 2008 request and $108 million above the Congressionally appropriated level, for the nuclear waste repository at Yucca Mountain. We

encourage the Subcommittee to provide funding for the project at or above the Administration's request.

Advanced Hydropower Turbine Program: APPA is disappointed with the Administration's decision to phase out this important program to develop a hydroelectric turbine that will protect fish and other aquatic habitats while continuing to allow for the production of emissions-free hydroelectric power. We encourage the Subcommittee to consider providing funding for this important initiative.

Energy Conservation: APPA appreciates the Subcommittee's interest in energy conservation and efficiency programs at DOE and we hope that the Subcommittee will once again allocate a funding level over and above the Administration's request for FY 2009.

Weatherization and Intergovernmental Activities: APPA is disappointed with the Administration's elimination of funding for the Weatherization Assistance program, to help increase the efficiency of commercial and residential buildings, specifically for low income residents, and to support state and community energy conservation programs. We would encourage the Subcommittee to provide funding for these essential programs at or above the Administration's previous requests.

Clean Coal Power Initiative and FutureGen: While supporting the Administration's increased request of $628 million for FY 2009 for coal research, development, and deployment, APPA is extremely disappointed at the Administration's abrupt restructuring of the Clean Coal Power Initiative and FutureGen projects. APPA strongly believes as concerns grow over climate change and the effects of man-made emission from combustion of fossil fuels, the FutureGen project was nearing us to the goal of the world's first near-zero-emissions coal fired plant. By restructuring the funding and program we restart our funding toward these projects. This only furthers us from our goal of providing this type of technology in a timely fashion. We urge the Committee and the Congress to work with the Administration on finding an appropriate role and funding for projects that achieve the goal that the FutureGen project laid out.

Distributed Generation Fuel Cells: APPA is disappointed with the Administration's request of $60 million for FY 2009 for distributed generation fuel cell related research and development, and urges the Subcommittee to allocate additional funding for this program.

Hydrogen Fuel Initiative and Vehicle Technologies: APPA supports the Administration's efforts to improve the feasibility of making available low-cost hydrogen fuel cells, and supports its request of $266 million for hydrogen research and development in FY 2008. APPA also supports the Administration's FY 2009 request for $221.1 million for vehicle technologies that would apply hydrogen fuel cell technology to vehicles as well as provide for research for hybrid and electric vehicle technologies to facilitate widespread deployment of these technologies. APPA would also support an increase of funding up to $40 million in the Vehicle and Systems Simulation and Testing technology Validation subprogram. The Administration budget request of $36 million had not reflected the passage of the Energy Independence and Security Act of 2007 (EISA).

Navajo Electrification Demonstration Program: APPA supports full funding for the Navajo Electrification Demonstration Program at its full authorized funding level. 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.

National Climate Change Technology Initiative (NCCTI): APPA supports the Administration's efforts to promote greenhouse gas reductions through voluntary programs and investments in new technologies. We encourage the Subcommittee to consider allocating additional funds for the policy office of the NCCTI.

Federal Energy Regulatory Commission (FERC): DOE has requested $273.4 million for the overall operations of the Federal Energy Regulatory Commission (FERC) for FY 2009. APPA supports this request, which is an appropriate increase of $13.4 million over the FY 2008 request given FERC's additional responsibilities under EPAct05.

Testimony of Kateri Callahan, President
Alliance to Save Energy

House Appropriations Subcommittee on Energy and Water Development
March 19, 2008

Fiscal Year 2009 Appropriations for Energy-Efficiency Programs
United States Department of Energy

The Alliance to Save Energy ("the Alliance") is a bipartisan, nonprofit coalition of business, government, environmental, and consumer leaders committed to promoting energy efficiency worldwide to achieve a healthier economy, a cleaner environment, and greater energy security. The Alliance, founded in 1977 by Senators Charles Percy and Hubert Humphrey, currently enjoys the leadership of Senator Mark Pryor as Honorary Chairman; Duke Energy President and CEO James E. Rogers is the Co-Chairman; Representatives Ralph Hall, Zach Wamp, Steve Israel, and Ed Markey, and Senators Jeff Bingaman, Susan Collins, Larry Craig and Byron Dorgan serve as Honorary Vice-Chairs. More than 140 companies and organizations support the Alliance as Associates.

Background

Energy Efficiency—Our Greatest Resource:

Energy efficiency is the quickest, cheapest, and cleanest way to address the linked issues of energy prices, energy security, air pollution, and global warming. Energy efficiency already is the nation's greatest energy resource—we now save more energy each year due to actions since 1973 to increase energy efficiency than we get from any single energy source, including oil. And, with strong public policies and adequate federal funding, this resource can be more widely and quickly deployed to help address the critical energy and environmental imperatives the U.S. faces today.

Gasoline, oil, natural gas, coal and electricity all have reached record price levels in the last several months. And, with the growth in energy demand expected to increase by 57% worldwide in little more than twenty years, it is doubtful that prices will soon stabilize and/or recede. Energy prices are a large and growing financial hardship for the majority of Americans, who are looking to the government for some relief. In addition to the economic and security issues surrounding energy use, the environmental consequences of our current and projected future use of energy are dire. We urgently need a much stronger national commitment to insure affordable and adequate supplies of energy while concomitantly finding ways to mitigate greenhouse gas emissions. The passage of an energy bill last December was an important step in the right

direction, however many of the new initiatives in P.L. 110-140 are unfunded, and the promise of new law will remain illusory without adequate appropriations.

The Administration's FY 2009 budget fails to provide the funding necessary to match the national imperative to create a sustainable energy future. Once again, we must rely upon the Congress to provide adequate funding for energy research and development, effective energy efficiency programs, and needed initiatives like low-income weatherization which are either under-funded, or not funded at all in the FY 2009 Administration budget request.

The Alliance urges Congress to provide a level of funding that will enable the United States to develop and deploy the technologies and practices needed to maximize the savings from our lowest cost energy supply: energy efficiency. A national investment in energy efficiency returns money to the economy, creates jobs and furthers national environmental and security goals.

A 2001 National Research Council report found that every dollar invested in 17 DOE energy-efficiency R&D programs returned nearly $20 to the U.S. economy in the form of new products, new jobs, and energy cost savings to American homes and businesses. Environmental benefits were estimated to be of a similar magnitude. More recently, the McKinsey Global Institute issued a report in July, 2007, finding that the United States has the potential to cap its energy demand, as well as its greenhouse gas emissions, at today's levels by investing in existing technologies that have and internal rate of return of 10% or more. What's more, an intensive focus on improving energy productivity would spur new markets for demand-side innovation and thus represents an important business opportunity for manufacturers, utilities, and other companies."

Summary of the President's Energy Efficiency FY 2009 Budget Request: The President's overall FY 2009 budget request for energy-efficiency programs within DOE's Office of Energy Efficiency and Renewable Energy is $479 million, down $248 million (34%) from the FY 2008 appropriated level. Despite the large funding increases Congress has provided for the Energy Efficiency and Renewable Energy office for the last two years, by our analysis, the *energy efficiency* portion of that funding was up only 4% in FY 2008 compared to 2006 in real terms and was still down 12% compared to 2002 funding for those programs. So this year's request represents a dramatic cut from a small base. This large recommended cut is mostly due to eliminating funding for the low-income weatherization program. While the budget does include modest increases for some important programs, especially in Building Technologies, a number of other important energy efficiency programs, such as Equipment Standards and Analysis, the newly revived distributed energy program, and several other industrial and vehicles programs, also have been cut.

If we are serious about addressing energy security problems, the Congress must amend the Administration's proposed budget to provide the programmatic funding levels commensurate with the need and potential for reducing both energy demand and energy usage, as set forth in our recommendations below.

Alliance Budget Recommendations (Office of Energy Efficiency and Renewable Energy)

Under Existing Deployment Programs, the top priorities of the Alliance are as follows:

1. Building Energy Codes *(Building Technologies)*:

State code adoption and enforcement offers one of the greatest opportunities for electricity, natural gas, and heating oil savings across our nation. Since 1991, building energy codes have provided more than $7.4B in net benefits to residential and commercial building owners and enough energy to meet the energy requirements of 4.7 million homes for one year. Yet several studies have found poor rates of compliance with building codes, causing unnecessary energy waste. The effects of implementing the most current energy codes in each state would lower consumer bills by $7B annually and reduce carbon emissions by 50 million metric tons.

While residential and commercial building codes are implemented at the state level, states rely on DOE for technical specifications, training, and implementation assistance. EPAct 2005 (Sec. 128) authorized $25 million per year for building codes, including $10 million for a new program to help states implement plans to achieve 90 percent compliance with their codes through better training, enforcement, or other measures.

Much greater savings from codes are now possible. Last year DOE signed an agreement to support ASHRAE in improving the next edition of their model commercial building standard to achieve 30% savings. DOE is now supporting efforts to get the ICC to achieve 30% savings in the model residential code as well. More states are demanding such savings. But these savings will not be achieved without greater technical and financial assistance from DOE. Thus added funding could multiply the impact of what is already the most cost-effective state assistance program.

The Alliance recommends a $17 million increase above the FY 2009 requested level of $8M, for a total of $25 million.

2. Equipment Standards and Analysis *(Building Technologies)*: Appliance energy efficiency standards (e.g. for refrigerators) have already reduced U.S. electricity use by an estimated 2.5 percent and reduced peak power demand by the output of 70 power plants, at minimal cost to the federal government, and saving consumers billions of dollars in their energy bills. Despite the demonstrated energy savings resulting from energy efficiency standards, the Department of Energy remains years behind on issuing standards for more than 20 products; more rulemakings were added by EPAct 2005 and EISA. After years of inadequate funding, the Congress increased funding in FY '08 to $22M. The FY '09 request represents a 9% cut below the '08 appropriated level, and will impair the Department's announced plans to allocate the necessary resources to catch up on standards waiting to be issued. GAO has identified severe deficiencies in funding and workforce needed to keep up with the standards process.

The Alliance recommends a modest $4 million increase over the FY 2009 requested level of $20M for total funding of $24 million, and that up to $2 million of that be made available to hire additional program staff.

3. Federal Energy Management Program: This program helped cut federal building energy use by 24 percent from 1985-2001 – a reduction that now saves federal taxpayers roughly $1 billion each year in reduced energy costs. But funding has steadily decreased for this program, even though large savings remain untapped. EPAct 2005, Executive Order 13423, and EISA in addition to setting aggressive new federal energy saving targets, require DOE to implement rules, guidelines, and reports on the targets, federal building standards, improvements to existing buildings, federal procurement, and metering. Yet the budget request slashes funding for this core work. A needed funding increase for this program will actually save taxpayers money in lower federal energy bills.

The Alliance recommends an $8 million increase above the FY 2009 requested level of $22M, for a total funding level of $30 million.

Under New Deployment Programs (see also Building Energy Codes above), the top priorities of the Alliance are as follows:

1. Zero Energy Commercial Buildings Initiative *(Building Technologies)*: Buildings are a major part of the problem and solution of high natural gas and electricity use and climate change. The buildings sector in the U.S. accounts for about 40% of total energy consumption and 40% of carbon dioxide emissions, and about half of that is from commercial buildings. There is a growing consensus on the need and opportunity for aggressive action to dramatically improve building energy efficiency. A large concerted multi-year initiative is critical to achieve deep savings throughout the commercial sector.

The Alliance, along with the American Institute of Architects, American Society of Heating, Refrigerating, and Air-conditioning Engineers, Lawrence Berkeley National Laboratory, U.S. Green Building Council, and World Business Council for Sustainable Development, is a founding sponsor of an initiative for zero-energy commercial buildings by 2030 ("CBI"). This public-private collaboration will combine better tracking of real energy performance, demonstrations of replicable solution packages for different building types, strategic research, and a market transformation plan. The Alliance requests $20 million for this new program in FY 2009, in addition to the existing funding request for commercial buildings R&D, broken down as follows: $2M for the public-private partnership to undertake technical planning to develop a national action strategy, market assessment, performance metrics and benchmarking; and $18M for pre-commercial research projects to be competitively awarded through the Department's commercial buildings R&D program. This amount is less than half of the $50M annual appropriations level authorized in P.L. 100-140.

The Alliance recommends that the Department implement CBI on a cost-shared basis through a broadly based industry-government consortium with representation from the design professions; the development, construction, and real estate industries; financial institutions; building owners and operators from the public and private sectors; research institutions; state and utility energy efficiency programs; and non-governmental organizations.

The Alliance recommends a total of $20 Million in FY 2009 **for the new zero-energy commercial buildings initiative.**

2. Energy Efficiency Public Information Initiative *(Program Support):* While there is little the federal government can do to offer immediate help to Americans being whipsawed by spiraling energy costs, the one important and effective thing the government can do immediately is to educate consumers about ways that they can reduce their energy use and thereby lower their monthly energy bills. Empowering consumers to use less energy will not only help them to manage their current energy bills, but also can contribute to lowering overall energy demand which will help to hold down future prices. The Congress recognized the importance of such consumer education programs in EPAct 2005. (Sec. 134) of the bill authorizes $90 million per year for a public education program to provide consumers the information and encouragement necessary to reduce energy use. DOE has contributed small amounts of funding to education campaigns over the years which have been quite successful, but very limited in their reach. There has never been a more important time to fund a major and sustained campaign. The opportunities for such a program to have a significant impact are enormous as Americans are motivated to take action by high prices and growing concern about the environment.

The Alliance recommends a funding level of at least $30M in FY 2009 for this important outreach program, representing one-third of the annual authorized level contained in EPAct 2005.

Additional Alliance Priorities:

1. State Energy Program

The State Energy Program (SEP) improves the energy efficiency of schools, hospitals, small businesses, farms, homes and industries. SEP provides significant energy savings – according to Oak Ridge National Laboratories, for every dollar invested in the program $7.22 is saved in energy costs (based on data from 2002, when energy prices were lower). SEP leverages $10.71 in non-federal funding for every federal dollar spent and provides hundreds of millions of dollars in direct energy cost savings annually.

The Alliance urges funding for SEP at no less than $75 million for the base program in FY 2009, representing an increase of 50% over the Administration- requested level of $50M in funding.

2. Low-Income Weatherization Assistance Program

The Weatherization Assistance Program (WAP) helps low-income families, the elderly, and the disabled by improving the energy efficiency of low-income housing. Each year the program has exceeded its target and weatherized approximately 100,000 homes, reducing energy usage by approximately 25 percent in the average home. This represents savings that families can use to pay for other necessities, while reducing the nation's energy demand by the equivalent of 18 million barrels of oil every year. Increased funding would allow WAP to expand quickly, creating needed building sector jobs and economic stimulus while helping low-income families pay their escalating energy bills. The Administration request to eliminate new funding for the program was an egregious error, and should be rejected by your Subcommittee.

3. The Alliance urges funding for the Weatherization Assistance Program at no less than $300M.

Programs Where We Request that the Committee support at least the Administration-requested level of funding:

1. Industrial Best Practices *(Industrial Technologies—Crosscutting):* One of the most effective DOE industrial programs, Industrial Best Practices conducts plant-wide energy assessments, develops diagnostic software, conducts training, develops technical references, and demonstrates success stories. The Alliance recommends supporting the Administration-requested funding level of $15.5M, representing a 76% increase from the FY '08 request.

2. DOE Energy Star *(Building Technologies):* Energy Star is the most successful voluntary, public-private deployment program at EPA and DOE, making it easy for consumers to find and buy numerous energy-efficient products. And it functions on a very small budget. Every federal dollar spent on the Energy Star program results in an average savings of more than $75 in consumer energy bills and a reduction of about 3.7 tons of carbon dioxide emissions. The Alliance recommends supporting the Administration-requested funding level of $8M in FY 2009, representing a modest increase of 18% over the FY 2008 level.

3. Energy Information Administration (EIA) Energy Consumption Surveys**:** EIA's Energy Consumption Surveys provide unique and invaluable data to policy makers, industry, and researchers. The Alliance recommends total funding of $5.5 million, and to conduct the Residential, Manufacturing, and Commercial Buildings Energy Consumption Surveys (RECS, MECS, and CBECS) every three years, as required by the Energy Policy Act of 1992, instead of the current four-year schedule.

WRITTEN STATEMENT FOR THE RECORD
GORDON ROBERTSON
VICE PRESIDENT
AMERICAN SPORTFISHING ASSOCIATION

HEARING ON
Fiscal Year 2009 Appropriations for the Great Lakes Fishery and Ecosystem Restoration Program

FOR THE
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
U.S. HOUSE OF REPRESENTATIVES

MARCH 19, 2008

The American Sportfishing Association (ASA), the nation's recreational fishing industry trade association, encourages Fiscal Year 2009 Appropriations for the Great Lakes Fishery and Ecosystem Restoration program in the amount of at least $10 million.

The Great Lakes Fishery and Ecosystem Restoration Program (GLFER) is a program with enormous potential to advance Great Lakes restoration. To date, ten high-quality GLFER projects are under way in the Great Lakes basin. GLFER is an instrumental tool and, when used in conjunction with other Great Lakes programs, will help restore the habitat and fisheries of the Great Lakes. To that end, ASA supports an appropriation of at least $10 million in fiscal year 2009 for the program.

GLFER was authorized in Section 506 of the Water Resources Development Act (WRDA) of 2000 and directs the U.S. Army Corps of Engineers to work with local sponsors to plan, design, and construct projects to restore the Great Lakes fishery and ecosystem. GLFER was designed to support a wide range of environmental projects that benefit the Great Lakes and it helps meet the goals of the Great Lakes Regional Collaboration Strategy. For example, GLFER projects could restore riparian habitat and wetlands, remove dams to facilitate fish passage, construct fish passage devices over existing structures, improve fish spawning habitat, prevent erosion and sedimentation, and construct facilities for native fish restoration. GLFER projects require a local cost-sharing partner and a match, so on-the-ground initiatives are implemented with the support of local communities.

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Appropriations are critical to the success of GLFER. To date, Congress has provided approximately $3 million over several fiscal years to begin GLFER projects. The GLFER program is now at a stage where additional funds are needed to start new projects and continue or complete GLFER projects that are under way.

ASA, on behalf of the recreational fishing industry, is dedicated to conserving aquatic resources and supporting conservation programs that benefit fisheries and enhance recreational angling opportunities. ASA strongly encourages support for Great Lakes restoration with an appropriation of at least $10 million in fiscal year 2009 to continue the highly successful and beneficial Great Lakes Fishery and Ecosystem Restoration Program.

Thank you for the opportunity to submit comments for the record. ASA looks forward to working with the House Committee on Appropriations on this and other measures to protect the health of our nation's fisheries.

Written Statement
Alliance for Materials Manufacturing Excellence (AMMEX)
Washington, DC

Submitted for the Record to the
U.S. House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water Development
March 19, 2008

Fiscal Year 2009 Appropriations for Department of Energy
Office of Energy Efficiency and Renewable Energy
Industrial Technology Program

The Alliance for Materials Manufacturing Excellence (AMMEX) welcomes this opportunity to provide its input to the Subcommittee on the proposed budget for Fiscal Year 2009 for the Industrial Technologies Program (ITP) at the Department of Energy. AMMEX organizations include the basic materials manufacturing sector (aluminum, chemicals, forest products, glass, metal casting, steel) in the US economy along with several stakeholders in materials manufacturing, such as the Northeast-Midwest Institute, the National Association of State Energy Officials and the American Council for an Energy-Efficient Economy. **We are writing to urge Congress to restore funding to the ITP to the level of $125 million dollars and to restore the structure of the program to one that emphasizes new process development in all six materials industries as opposed to cross-cutting research.**

This request would align the program with the authorized funding levels and intent of both Section 452 (Energy Intensive Industries Program) of the Energy Independence and Security Act of 2007, which was signed into law on December 19, 2007, as well as the Energy Efficiency and Renewable Energy Act of 2007, which passed the House unanimously on October 22, 2007.

U.S. materials manufacturing continues to face challenges resulting from increased cost and decreased availability of traditional energy supply resources. These challenges have stimulated innovation in the materials manufacturing sector in order to create significant energy improvements and to diversify the energy supplies. While the innovations of the past have brought the materials manufacturing sector a long way, the sector cannot go further without new innovations. In order to do this, the materials manufacturing processes must be transformed, i.e. new processes and new innovations must be developed which will use much less energy and which will be able to utilize diverse forms of energy.

The member organizations of AMMEX have been partners with the Department of Energy's Industrial Technology Program since its inception. ITP is a true public-private partnership. DOE and materials manufacturers jointly fund cutting-edge research that addresses the needs of the

nation and materials manufacturers. All projects have the shared goals of reducing energy consumption, reducing environmental impact, increasing competitive advantage of US materials manufacturers, and enhancing our national security. The program is unique because we select only projects with "dual benefits"—a public benefit such as reduced emissions or petroleum use, justifying the federal funding; and an industry benefit such as a more efficient process, justifying the industrial funding. Substantial energy reductions have occurred as shown below.

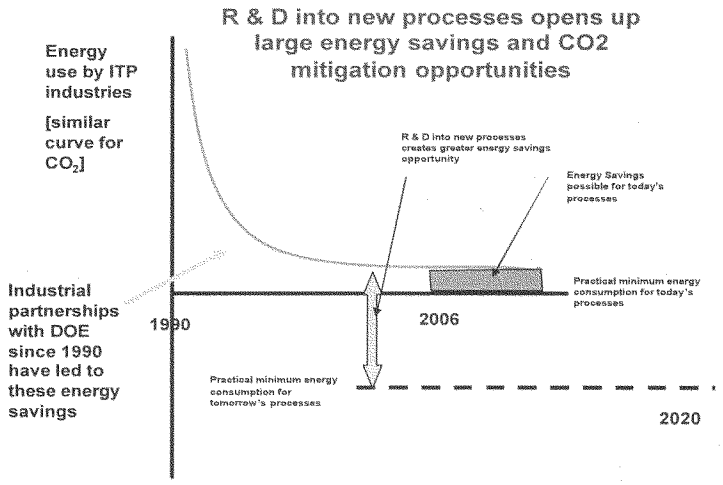

Figure 1: Materials Manufacturers have greatly reduced energy use since 1990 because of their co-investment with DOE

To accomplish these goals, the Federal government and industry will need to embark upon a co-funded effort to broaden and accelerate inherently high-risk research, development, and deployment of new materials manufacturing processes that utilize diverse energy sources. This effort will also allow the materials manufacturing sector to lessen dependence on natural gas and oil resources and conventional electricity sources – thus benefiting consumers through contribution to a stable energy market.

Furthermore, it is critical to recognize the important contributions of ITP to efforts to combat climate change. The development of new technology is an extremely important facet to dealing with climate change. Most, if not all AMMEX industries have voluntarily reduced energy intensity by 25% since 1990 in partnerships with DoE and only very small gains in energy use are still possible for today's processes [red area in above chart].

Most of the legislative options being considered to reduce CO_2 and other greenhouse gases employ a target of at least a 50% reduction in CO2 emissions by 2050 over a 2000 baseline. It is important to acknowledge that achieving such a goal with today's manufacturing processes will be very challenging. Thus, we are confronted with the ideal opportunity for ITP and AMMEX industries—collaboration to accelerate the development and deployment of new, transformational technologies to help our country reach its CO2 mitigation goals. We would argue there is not a more appropriate public-private partnership than one focused on our environment. It is the method of choice employed by our competitors in Europe and Asia.

The infrastructure already exists to create such a program—only a slight re-focusing of the ITP program and a return to historical budget levels is all that is needed for the Federal government and materials industries to embark upon a co-funded effort to broaden and accelerate inherently high-risk research, development, and deployment of new materials manufacturing processes that utilize diverse energy sources.

Consequently, our request for funding in FY09 for ITP entails two parts:

- A return to a total program level of $125 million, bringing the funding amount closer to the level authorized in the Energy Independence and Security Act of 2007.
- A re-structuring of the program so as to return to the structure that was so successful from 1990-2003 — a balanced portfolio of industry-specific research from the point of view of research impact, i.e., that 50% or more of the funding go to industry specific new process development [where the energy savings potential in industry is highest].

AMMEX members have identified their top new process development concepts [not in priority order] which would be pursued at the funding levels and structure defined above:

Aluminum

1. Improved, energy-efficient burners and furnaces for aluminum melting
2. Improved energy efficiency and recovery rates for recycling technologies

Chemicals

1. Development of alternative feedstocks for the chemical industry to reduce dependence on petroleum and natural gas derived feedstocks
2. Nano-manufacturing scale-up methodologies for key unit operations: synthesis, separation, purification, stabilization, and assembly.
3. Development of low-energy, low-capital membrane or hybrid separations technology

Glass

1. Submerged Combustion Melter
2. Waste Heat Recovery and Use as Electrical or Chemical Energy
3. Low Residence Time Glass Refining Technologies

Forest Products

1. Advanced water removal and high efficiency pulping
2. Gasification of Spent Pulping Liquors and Biomass Residuals

Metal Casting

1. Simulation of Dimensional Changes and Hot Tears
2. Engineered Coatings for Aluminum Pressure Dies
3. Developing a lightweight production cast aluminum metal matrix composite alloy

Steel

1. Ironmaking by Molten Oxide Electrolysis
2. Ironmaking by Flash Smelting using Hydrogen
3. Demonstration of the Paired Straight Hearth Furnace Process

The U.S also faces serious shortages in the science and engineering manpower that is needed to keep America's competitive edge in world markets through technology innovation and timely application. From the President's recent State of the Union Addresses to recent legislation passed by Congress, the nation is awakening to the need for a re-energizing of our commitment to technology education. Our proposal to the committee is an effort to both rebuild America's materials manufacturing industries and meet shared national energy and environmental goals.

On behalf of the AMMEX coalition, we thank you for the opportunity to submit this statement. We look forward to continuing to work with the Subcommittee as you move forward on the FY09 Appropriations legislation for the Department of Energy.

Alliance for Materials Manufacturing Excellence (AMMEX)

Aluminum Association

American Council for an Energy Efficient Economy

American Forest & Paper Association's Agenda 2020 Technology Alliance

American Iron and Steel Association

Cast Metals Coalition

Gas Technology Institute

Glass Manufacturing Industrial Council

Vision2020 Technology Partnership

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Statement of the Energy Committee of ASME's Technical Communities
on the Department of Energy Fiscal Year 2009 Budget Request

March 19, 2008

Mr. Chairman and Members of the Subcommittee:

The ASME Energy Committee is pleased to provide this testimony on the Fiscal Year 2009 (FY 2009) budget request for research and development 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. The Energy Committee of ASME's Technical Communities comprises 30 members from 17 Divisions of ASME, representing approximately 40,000 of ASME's members.

ASME has long advocated a balanced energy supply mix to meet the nation's energy needs, including advanced coal, petroleum, nuclear, natural gas, biomass, solar, wind and hydroelectric power, and energy efficient building and transportation technologies. Only such a portfolio will allow the U.S. to maintain its quality of life while addressing future environmental and security challenges. Sustained growth will also require stability in licensing and permitting processes not only for power stations but also for transmission and transportation systems.

Over the past few years, concerns have been growing among policymakers and the general public about adverse security and environmental impacts resulting from America's dependence on foreign sources of oil and gas. As a result, the Bush Administration and Members of Congress have made calls to diversify our energy supply and increase R&D on advanced energy technologies. The Energy Committee fully supports the Administration efforts to ensure a secure, sustainable, and environmentally friendly supply of energy for America.

A forward-looking energy policy will require enhanced, 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 FY 2009 budget request, especially the increases in funds for fundamental scientific research, we wish to emphasize that increased funding in all areas is essential to meeting our national energy needs.

Critical Issues

The Energy Committee would like to point out some critical energy issues:

- There is a critical shortage of trained persons in the work force at all levels. This includes persons in the various building trades that will be involved in the construction of our energy systems, persons in the manufacturing industry that will manufacture the components that make up our energy systems, persons who will be available to operate and maintain the energy systems when they are built, and persons trained as engineers and scientists at all levels who will perform the R&D and design functions for all energy systems.

- International programs in energy are growing and will continue to do so in order to make use of shared resources. The International Thermonuclear Experimental Reactor (ITER) and the Global Nuclear Energy Partnership (GNEP) programs are examples of this. The ITER program includes seven international partners and the GNEP program now includes 21 countries. Consistent and sustained funding is required to demonstrate that the US is a reliable partner in these efforts.

- The annual appropriations process has the ability to displace personnel of national laboratories and DOE contractors and can intensify the lure of private sector employment.

- Investment guarantees for construction of new renewable and nuclear facilities were enacted in previous energy legislation. These guarantees will enable lower financing costs for a variety of energy technologies leading to lower energy costs 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.

Fossil Energy

The FY 2009 budget request of $754 million for fossil energy represents an increase of $11 million over the FY 2008 appropriation. The R&D budget for oil and natural gas related research has been eliminated. The Energy Committee supports the increase in coal research programs to $624 million. The effective use of coal in today's environment demands an increase in efficiency and a decrease in release of environmentally harmful waste streams. The restructuring of the FutureGen program by DOE will allow demonstrations of developing carbon capture and storage (CCS) technologies at several commercial-scale Integrated Gasification Combined Cycle (IGCC) clean coal power plants. The Energy Committee agrees that under this strategy, the DOE will join industry in its efforts to build IGCC plants by providing funding for the addition of CCS technology to multiple plants that will be operational by 2015. This approach builds on technological R&D advancements in IGCC and CCS technology achieved over the past five years and is expected to at least double the amount of carbon dioxide sequestered compared to the concept announced in 2003.

The use of advanced integrated gasification combined cycle technology and 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 Fuels Research

The Energy Committee agrees that the advanced fuels research should be aimed at fuels used in the transportation system. We believe that the development of transportation fuel systems that are

not petroleum based is a critical part of our future national energy policy. The FY 2009 budget for biomass and bio-refinery systems R&D is increased by $27 million to $225 million. The Energy Committee encourages Congress to ensure that these research programs continue to receive adequate funding.

We are also pleased to see the increase to $221 million in the effort related to vehicle technologies with a program emphasis on plug-in hybrid electric vehicles.

Nuclear Energy

The Energy Committee is encouraged to see the increase in the DOE Nuclear Energy budget to $1.4 billion in FY 2009. With the addition of the MOX fuel fabrication facility from the Nuclear National Security Administration (NNSA) the nuclear R&D portion of the budget request is reduced by $108 million to $853 million. Nuclear power, as a 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 low cost, low emissions electricity.

Proposed increases in the Nuclear Energy Budget are most evident in the Nuclear Power 2010 program with an increase of $108 million and the Advanced Fuel Cycle Initiative with an increase of $122 million over the FY 2008 Appropriation. The primary decrease is in the Generation IV Nuclear Systems Initiative which is $45 million. The Energy Committee believes that nuclear generated electricity is important to the nation, especially in a more carbon conscious environment. Therefore continued R&D looking at advanced nuclear systems is critical.

The GNEP program is vital to the international future of nuclear energy. The goal of GNEP is the establishment of international centers for nuclear fuel cycle services that are available to nations large and small. Agreements already in place establish cooperative efforts. The U.S. based R&D elements of this program are now part of the Advanced Fuel Cycle Initiative. The Energy Committee concurs with the DOE goal to establish a full scale demonstration of the required facilities, including a burner reactor and fuel recycle plant that will not produce a pure plutonium product stream. The successful implementation of the GNEP initiative will lead to a minimization of high level nuclear waste, enhance the safeguarding of nuclear materials by keeping them in the reactor fuel cycle, lead to an effective and efficient use of all the potential energy contained in uranium and allow cost effective generation of electricity while minimizing the generation of greenhouse gases.

The university reactor assistance and education assistance program has been successfully integrated into other programs within the Nuclear Energy budget. The Energy Committee supports the continuation of this change in order to give DOE more flexibility in funding nuclear R&D at the universities with reactor facilities.

Energy Efficiency and Renewable Energy

The Office of Energy Efficiency and Renewable Energy (EERE) manages America's investment in research, development and deployment of the Department of Energy's (DOE) diverse energy efficiency and renewable energy applied science portfolio. The FY 2009 request of $1.25 billion, despite being $467 million lower than the FY 2008 appropriation, provides a balanced and diverse portfolio of solutions to address the urgent energy and environmental challenges currently

facing our nation. The lion's share of the funding reduction is due to the conclusion of the Weatherization Assistance Program and the Renewable Energy Production Incentive. Most of the key EERE programs, including Biomass, Building Technologies, Geothermal Energy, Vehicle Technologies, and Wind Energy, have received increases in funding to support the growth of renewable energy that the U.S. needs. The potential to reduce the production of greenhouse gases and to meet the growing need for domestically produced energy justifies sustained and increased support for these programs.

Several EERE programs received funding cuts in the FY 2009 request. The Hydrogen Program has been reduced $65 million from the FY 2008 appropriation. While $32 million of that cut is reflected in a transfer of activities and funding to the Vehicle Technologies Program, there has been a net cut in funding to the Hydrogen Program of roughly $33 million. The funding for the Hydrogen Production and Delivery R&D activity, previously funded at $40 million in FY2008, has been deferred completely for FY 2009 to refocus on other areas of hydrogen infrastructure. Assuming that this is only a temporary deferment, the Energy Committee encourages fully funding the Hydrogen Program as requested and recommends restoring a minimum level of $2 million in funding to the Hydrogen Production and Delivery R&D activity to maintain the technical and administrative structure of this activity and to coordinate efforts with other Hydrogen Production R&D activities in other DOE offices while funding is temporarily deferred in this area at EERE.

Also, while the funding to the Water Power Program reflects increasing interest in ocean energy resource characterizations, it neglects the need for sustained support for conventional hydropower R&D. Hydropower is our nation's largest renewable energy source. Pumped storage hydro provides critical support needed for growing the nuclear base load. Repowering existing hydropower facilities with advanced, environmentally benign equipment capable of extracting more power from the available resource is critical to maintaining and increasing the contribution hydropower makes to U.S. domestic energy production. The Energy Committee recommends increasing the FY 2009 funding level of the Water Power Program to $10 million to continue supporting development and deployment of advanced conventional hydropower technologies as well as providing traction to the growing demand for ocean energy development.

The integration of renewable electric generating systems into the operation of the electricity distribution system is critical to economic operation of these systems. DOE's support of R&D into distributed systems integration began in FY 2007. The Energy Committee believes that R&D related to the integration of the electric grid and its control as a national system is imperative to the growth of renewable energy generating 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 attempts to restore the funding trajectory mandated in the America Competes Act of 2007. The FY 2009 budget proposal of $4.72 billion is an increase of $748 million over the FY08 appropriation. OS programs in high energy physics, nuclear physics, biological and environmental research, basic energy sciences, and advanced scientific computing, serves, in some small way, every student in the country. These funds support not only research at the DOE Laboratories but also 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, advanced battery systems, and fusion.

Of the FY 2009 requested increase, $214 million is for the ITER fusion energy international agreement taking place in Cadarache, France. This program did not receive funding in FY 2008. The Energy Committee is encouraged by this cooperative agreement and the enormous potential it holds.

The Energy Committee would like to impress upon the members of this Subcommittee and their colleagues that high energy physics and nuclear physics programs are very important to all branches of engineering. These machines are used to examine materials at the atomic level. The information gathered allows the development of data related to material formation and failure which guides the selection of materials for many day to day applications.

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 program. The Energy Committee questions the advisability of all of the budget decreases in this program. 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 budget to ensure that this work is accomplished in an expeditious manner.

Conclusion

Members of the 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 portfolio 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 additional 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 and is not necessarily a position of ASME as a whole.

TESTIMONY OF DAVID TERRY, EXECUTIVE DIRECTOR OF THE ASSOCIATION OF STATE ENERGY RESEARCH AND TECHNOLOGY TRANSFER INSTITUTIONS (ASERTTI) BEFORE THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT IN SUPPORT OF FISCAL YEAR 2009 APPROPRIATIONS FOR THE U.S. DEPARTMENT OF ENERGY'S ENERGY EFFICIENCY AND RENEWABLE ENERGY PROGRAMS
March 19, 2008

Mr. Chairman and members of the Subcommittee, I am David Terry Executive Director of the Association of State Energy Research and Technology Transfer Institutions (ASERTTI). ASERTTI is submitting this testimony in support of funding for a variety of U.S. Department of Energy programs. State and local governments host a wide range of public interest energy organizations, including state research and technology transfer institutions, municipal energy organizations, land grant colleges, universities, and others. The members of ASERTTI focus on state- and local-level public interest applied clean energy research and technology transfer. Our work aims to develop and improve clean energy technologies, rapidly transfer those technologies to the private sector, and aid in the transformation of markets. ASERTTI promotes and facilitates communication and collaboration in the above-mentioned areas among its state and local members as well as with other organizations such as National Laboratories. Each year, our members invest hundreds of millions of dollars in state and local energy funds. We believe improved collaboration with our federal partners would significantly leverage our efforts and state funds – improving our nation's energy future. In this regard, ASERTTI wishes to highlight a number of funding priorities, as follow, within the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) programs for Industrial, Building, Vehicle, and Biomass technologies, as well as the Weatherization Assistance Program.

INDUSTRIAL TECHNOLOGIES

The Administration's FY 2009 Budget Request would cut the Industrial Technologies Program by $2.3 million, as compared to FY 2008, and contains cuts in several very important programs. Following are ASERTTI's priorities within the Industrial Technologies Program.

Industrial Assessment Centers (IAC): The IACs are part of the industrial program's crosscutting budget. The IAC program is unique in that it trains university engineering students in conducting energy audits of small- and medium-sized facilities and, in so doing, helps the facilities identify and implement energy saving measures. **We recommend that the program be restored to FY 2006 funding levels of $6.4 million in FY 2009**, with additional increases in funding and in the number of centers in future years.

Distributed Generation (DG/Distributed Energy): Over the past decade, this program area has played a key role in the development of high-efficiency clean technologies like combined heat and power (CHP). These activities were moved around within DOE between EERE and the Office of Electricity. For FY 2008, Congress appropriated $14.5 million for these activities. However, the Administration's FY 2009 Request is only $1.5 million. The program is now part

of the crosscutting piece of the Industrial Technologies Program. **ASERTTI recommends a robust funding increase over the FY 2008 appropriated level for Industrial DG.**

Within this DG (or DE) program, it is especially important to restore critical Centers that have become the cornerstone for regional DG activities, providing technical assistance and becoming involved in state and local interconnection and emissions issues – greatly leveraging federal, state, and private resources. Section 451 of the recently enacted *Energy Independence and Security Act of 2007* expands these **Clean Energy Application Centers** (formerly Regional Application Centers) and authorizes **$10 million for FY 2009. ASERTTI strongly supports this authorization level.** These Centers also would support market transformation activities to facilitate deployment and help reduce regulatory and institutional barriers. The Centers also would encourage public private partnerships to achieve these goals. Efficiency can be as high as 85% in CHP applications when compared to central station power generation efficiencies of 30-55%. These activities are estimated to contribute as much as 11 trillion BTUs of displaced energy and 0.2 MMTCE in carbon savings in 2020.

Industrial Best Practices: This is one of DOE's most effective industrial energy programs. ASERTTI urges strong support for this program and **recommends funding it at the Administration's FY 2009 Request level of $15.5 million.**

Industries of the Future (specific): This valued program enables cost-shared research with industry at major state and local research institutions. The program focuses on energy-intensive industries such as steel, aluminum, glass and metal casting. This program has been reduced from $63 million in FY 2002 to $11 million in FY 2008. The Administration proposes $11.4 million in FY 2009, which represents a cut over the previous year since most research funding is multi-year, and funding from earlier years is not being replaced. Moreover the glass portion of the program has been eliminated. Congress authorized an expanded Energy-Intensive Industries program under the *Energy Independence and Security Act* focused on industry-specific research. This program authorized a focused approach that responds to the needs of individual industries and requires their long-term commitment. **To begin implementing this approach, ASERTTI recommends FY 2009 funding of $24.2 million, an increase of $12.8 million relative to the Administration's request.**

BUILDING TECHNOLOGIES

Zero Energy Commercial Buildings Initiative: The buildings sector in the U.S. accounts for about 40% of total energy consumption and 40% of carbon dioxide emissions, and nearly half of those emissions and of that consumption comes from commercial buildings. A large multi-year initiative is critical to achieve deep savings throughout the commercial buildings sector. The newly-authorized Zero-Energy Commercial Buildings Initiative (CBI) is a priority program for ASERTTI. This public-private collaboration will combine RDD&D, as well as better tracking of real energy performance, strategic research, and a market transformation plan. This program will be run by DOE with input from an industry consortium. **ASERTTI recommends $20 million** in FY 2009 for this new program.

***Building Application Centers*:** It is critical to ensure that technologies developed under various building research programs make it into the marketplace. This important initiative within Building Technologies consists of a regional approach to transferring technologies to the marketplace by providing hands-on, cost-shared technical assistance to builders, communities, and others. This approach has substantial state, local, and private support and is delivering results. To date, only two regions have been provided funding to move emerging technologies from the laboratory into the marketplace. **We urge the Subcommittee to encourage DOE to expand and support these Centers in each region of the nation.**

VEHICLE TECHNOLOGIES

In the FY 2009 Budget Request, the Administration has proposed a variety of cuts, relative to FY 2008 levels of the combined Vehicle and Hydrogen budgets, to important vehicle programs that would help save energy at a time of record-high gasoline prices and would help reduce greenhouse gas emissions. ASERTTI's priorities are as follows:

Hybrid Electric Systems: The Vehicle and Systems Simulation and Testing activity relates in part to heavy vehicle systems optimization R&D, which warrants greater attention. The Administration's proposed reduction in funding for this activity is a concern. **ASERTTI recommends that $7.1 million be restored to Vehicle and Systems Simulation and Testing,** which would restore funding for this effort to **$28.2 million.** Furthermore, energy storage efforts need to be accelerated. **We recommend that the Energy Storage R&D activity be funded at $59.5 million**, an increase of **$10 million above the Administration's Request** for R&D efforts focused on electric, hybrid, and plug-in hybrid vehicle battery storage capabilities.

Following on from these activities, state and local energy institutions together with DOE created the nation's first demonstration fleet of plug-in hybrid electric school buses. More than one dozen of these buses are now transporting students to and from schools around the nation. **ASERTTI urges the Subcommittee to provide plug-in hybrid deployment funds** for heavy duty vehicles to both expand the early adoption of these breakthrough vehicles and to support ongoing incremental improvements that will create a self-sustaining market for these "lead by example" buses. The market for plug-in hybrid school buses offers a means to reduce harmful air and greenhouse gas emissions, and the opportunity to create niche markets in the public sector that can grow into commercial opportunities that transform the market. These heavy duty plug-in hybrid applications are critical to meeting the nation's energy and climate goals.

BIOMASS PROGRAM

ASERTTI supports the Administration's FY 2009 request of $225 million. To this end, ASERTTI urges the Subcommittee to support funding that targets regional coordination of biomass research, demonstration, and technology transfer programs that emphasize the alignment of state and federal resources. Currently, little attention or funding is provided to achieve joint state-federal coordination in this critical research area. We believe the nation could reach the goal of cost-competitive cellulosic derived biofuels more rapidly if state and federal research and demonstration resources were better aligned. ASERTTI also encourages Congress to fund analysis and communication activities that better inform the public about the value of biofuels.

WEATHERIZATION ASSISTANCE PROGRAM

ASERTTI supports the Weatherization Assistance Program (WAP), as it helps low-income households, the elderly, and the disabled by improving the energy efficiency of low-income housing. Each year the program has exceeded its target and has weatherized approximately 100,000 homes. The program also is reducing energy consumption in participating homes by about 20 percent. Increased funding would allow WAP to expand quickly to reduce energy usage by approximately 25 percent in each assisted home. This represents savings that families can use to pay for other critical needs, while reducing the nation's energy demand by the equivalent of 18 million barrels of oil every year. **The Administration's request to eliminate funding for the program should be rejected, and ASERTTI urges the Subcommittee to fund WAP at no less than $300 million.**

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Written Testimony Submitted by
Linda Rowan, Director of Government Affairs
American Geological Institute
to the U.S. House of Representatives
Subcommittee on Energy and Water Development Appropriations
March 19, 2008

To the Chairman and Members of the Subcommittee:

Thank you for this opportunity to provide the American Geological Institute's perspective on fiscal year (FY) 2009 appropriations for geoscience programs within the Subcommittee's jurisdiction. The President's budget request for Department of Energy (DOE) research programs provides no funding for oil and gas research and development (R&D), eliminates mandated direct spending of $50 million for unconventional onshore and ultra deep water offshore natural gas R&D, includes a decimating cut to hydropower R&D and does not fulfill some of the geothermal and carbon sequestration R&D funding authorized in the Energy Independence and Security Act of 2007.

Given the interest of the Administration and Congress to reduce the nation's foreign oil dependence, reduce prices on fossil fuels and mitigate carbon emissions from fossil fuels, it seems like an inopportune time to eliminate or under fund programs that could help with these objectives. We hope that Congress will support wise investments for all energy resource programs and carbon sequestration R&D. AGI applauds the requested 18 percent increase for the largest supporter of physical science research in the U.S., DOE's Office of Science, and encourages the Subcommittee's full support for this increase. We applaud the request of $30 million for geothermal R&D and an increase of about $35 million for carbon sequestration R&D, both of which partially fulfill the Energy Act of 2007. We ask for the Subcommittee's continued support for oil and gas, unconventional natural gas, geothermal, hydropower and carbon sequestration R&D so the nation can develop a diverse portfolio of energy resources while enhancing carbon mitigation strategies to secure clean, affordable and secure energy supplies for now and the future.

AGI is a nonprofit federation of 44 geoscientific and professional associations that represent more than 100,000 geologists, geophysicists, and other earth scientists. The institute serves as a voice for shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role that the geosciences play in society's use of resources and interaction with the environment.

DOE Office of Science

The DOE Office of Science is the single largest supporter of basic research in the physical sciences in the United States, providing more than 40 percent of total funding for this vital area of national importance. The Office of Science manages fundamental research programs in basic energy sciences, biological and environmental sciences, and computational science and, under the President's budget request, would grow by about 15

percent from about $3.9 billion last year to $4.7 billion. AGI asks that you support this much needed increase.

Within the Office of Science, the Basic Energy Sciences (BES) program supports fundamental research in focused areas of the natural sciences in order to expand the scientific foundations for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use. BES also discovers knowledge and develops tools to strengthen national security.

The Basic Energy Sciences (BES) would remain the largest program in the office with an increase of 24 percent from $1.27 billion in FY 2008 to $1.57 billion in FY 2009 in the President's request. Within the BES, Chemical Sciences, Geosciences and Biosciences would receive a $75 million increase over their FY 2008 budget for a total of $297 million. The Geoscience program provides peer-reviewed grants to universities and DOE national laboratories for fundamental Earth science research in geochemistry, hydrology, rock mechanics, and geophysical imaging. The $7.5 million increase specifically for the Geoscience research program is focused on solid earth geophysics and geochemistry to understand the stability and transformation of deep carbon sequestration, nanoscale geochemistry, chemical imaging, experimental and theoretical studies of complex subsurface fluids and mid-scale instrumentation.

The President's request for the Office of Science only partially fulfills the carbon sequestration R&D and large-scale demonstration project, which was authorized to receive $240 million in FY 2009 and the carbon sequestration university-based R&D which was authorized to receive $10 million in FY 2009. An additional $30 million is requested for carbon sequestration R&D and demonstration within the Office of Fossil Energy to partially satisfy the wise investments called for in the Energy Act of 2007. AGI requests that funding for carbon sequestration R&D in the Office of Science and the Office of Fossil Energy be increased to fulfill the intent of the Energy Act of 2007.

DOE Energy Efficiency and Renewable Energy

Within DOE Energy Efficiency and Renewable Energy, the President's FY 2009 budget request would cut funding by 27 percent or $467 million. We are concerned about the cuts to alternative energy R&D programs, in particular the reduction of more than 70 percent (a cut of almost $7 million) for hydropower R&D which would decimate the program. A balanced portfolio of R&D across many promising energy resources should be maintained with steady funding to help ensure energy supplies in a changing world.

AGI applauds the $30 million requested for geothermal R&D and greatly appreciates previous support from Congress for this key alternative energy resource. The geothermal research program within the Renewable Energy account, which funds Earth science research in materials, geofluids, geochemistry, geophysics, rock properties, reservoir modeling, and seismic mapping, would receive an increase of 51 percent from FY 2008 enacted levels only one year after the Administration slated the program for termination.

The new funds for geothermal satisfy in part an authorization in the Energy Independence and Security Act of 2007, which calls for $90 million for geothermal R&D in FY 2009.

DOE Fossil Energy Research and Development

AGI urges you to take a critical look at the Department of Energy's Fossil Energy Research and Development (R&D) portfolio as you prepare to craft the FY 2009 Energy and Water Development Appropriations bill. Over the past eight years, Members of Congress have strongly emphasized the need for a responsible, diversified and comprehensive energy policy for the nation. The growing global competition for fossil fuels has led to a repeated and concerted request by Congress to ensure the nation's energy security. On February 28, 2007 this Subcommittee held a hearing on the "10-Year Energy Research and Development Outlook" in which the Energy Information Administrator Guy Caruso noted the nation's need for fossil fuels over the next 30 years and the other expert witnesses noted the critical need to continue R&D on fossil fuels and all other energy resources. The President's proposal, which provides no funding for oil and gas R&D, is short sighted and inconsistent with congressional concerns and expert testimony presented to your Subcommittee. No funding for oil and gas R&D will hinder our ability to achieve energy stability and security.

The research dollars spent by Fossil Energy R&D go primarily to universities, state geological surveys and research consortia to address critical issues like enhanced recovery from known fields and unconventional sources that are the future of our natural gas supply. This money does not go into corporate coffers, but it helps American businesses remain competitive by giving them a technological edge over foreign companies. All major advances in oil and gas production can be tied to research and technology. AGI strongly encourages the subcommittee to ensure a balanced and diversified energy research portfolio that does not ignore the nation's primary sources of energy, fossil fuels, for at least the next 30 years.

Today's domestic industry has independent producers at its core. With fewer and fewer major producing companies and their concentration on adding more expensive reserves from outside of the contiguous U.S., it is the smaller independent producers developing new technologies concentrated on our domestic resources. However, without federal contributions to basic research that drives innovation, small producers cannot develop new technologies as fast, or as well, as they do today. The program has produced many key successes among the typical short-term (one to five years) projects usually chosen by the DOE. And even failed projects have proven beneficial, because they've often resulted in redirection of effort toward more practical exploration and production solutions. Ideally, DOE and private sector participants share the programs R&D funding on a 50-50 basis, with the government contributing actual dollars and the company contributing dollars or "in kind" products and services. To justify the use of public funds, new technology developed from such projects is made available to industry.

In 2003, at the request of the Interior Appropriations Subcommittee, the National Academies released a report entitled *Energy Research at DOE: Was It Worth It? Energy*

Efficiency and Fossil Energy Research 1978 to 2000. This report found that Fossil Energy R&D was beneficial because the industry snapped up the new technologies created by the R&D program, developed other technologies that were waiting for market forces to bring about conditions favorable to commercializing them and otherwise made new discoveries. In real dollars from 1986 – 2000 the government invested $4.5 billion into Fossil Energy R&D. During that time, realized economic benefits totaled $7.4 billion. This program is not only paying for itself, it has brought in $2.9 billion in revenue.

Unfortunately, despite this success, the President's FY 2009 budget request continues the alarming reduction of energy R&D funding by eliminating all funding for our primary energy resources, oil and gas. Federal funding for renewable, fossil and nuclear R&D has decreased dramatically from $5.5 billion in 1978 to $793 million in 2005 according to a Government Accountability Office (GAO) report entitled *Key Challenges Remain for Developing and Deploying Advanced Energy Technologies to Meet Future Needs.* Such significant under-investment in energy R&D over many decades hinders progress on cost-effective and environmentally-sound exploration and extraction of raw energy resources and clean and efficient development, production and use of energy products.

The federal investment in energy R&D is particularly important when it comes to longer-range research with diversified benefits. In today's competitive markets, the private sector focuses dwindling research dollars on shorter-term results in highly applied areas such as technical services. In this context, DOE's support of fossil energy research, where the focus is truly on research, is very significant in magnitude and impact compared to that done in the private sector, where the focus is mainly on development. Without more emphasis on research, we risk losing our technological edge in the highly competitive global market place.

As we pursue the goal of reducing America's dependence on unstable and expensive foreign sources of oil, we must continue to increase recovery efficiency in the development of existing domestic oilfields, conserving the remaining in-place resources. Since the 1980's, 80 percent of new oil reserves in this country have come from additional discoveries in old fields, largely based on re-examination of previously collected geoscience data. These data will become even more important in the future with development of new recovery technologies.

Perhaps one of the most promising areas of R&D for domestic oil supplies are in the ultra deep waters where drilling is allowed in the Gulf of Mexico. The Energy Policy Act of 2005, set aside $50 million annually from collected offshore royalties for ultra deep water and other unconventional oil and gas R&D to support clean and efficient exploration and extraction in the Gulf. The President's budget request would repeal this program and provide no funding for ultra deep water and other unconventional oil and gas R&D. AGI asks that you consider R&D spending or other incentives to encourage the private sector to invest in clean and efficient technological advances to enhance our unconventional fossil fuel supply in offshore regions where drilling is allowed and significant infrastructure already exists.

The research funded by DOE leads to new technologies that improve the efficiency and productivity of the domestic energy industry. Continued research on fossil energy is critical to America's future and should be a key component of any national energy strategy. The societal benefits of fossil energy R&D extend to such areas as economic and national security, job creation, capital investment, and reduction of the trade deficit. The nation will remain dependent on petroleum as its principal transportation fuel for the foreseeable future and natural gas is growing in importance. It is critical that domestic production not be allowed to prematurely decline at a time when tremendous advances are being made in improving the technology with which these resources are extracted. The recent spike in oil and natural gas prices is a reminder of the need to retain a vibrant domestic industry in the face of uncertain sources overseas. Technological advances are necessary to maintaining our resource base and ensuring this country's future energy security.

Thank you for the opportunity to present this testimony to the subcommittee. If you would like any additional information for the record, please contact me at 703-379-2480, ext. 228 voice, 703-379-7563 fax, rowan@agiweb.org, or 4220 King Street, Alexandria VA 22302-1502.

AMERICAN FOREST & PAPER ASSOCIATION

GROWING WITH AMERICA SINCE 1861

Written Statement
American Forest & Paper Association
Agenda 2020 Technology Alliance

Submitted for the Record to the
U.S. House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water Development
March 19, 2008

Fiscal Year 2009 Appropriations for Department of Energy
Office of Energy Efficiency and Renewable Energy

The Agenda 2020 Technology Alliance, a Special Project of the American Forest & Paper Association (AF&PA) welcomes this opportunity to provide the Subcommittee with our views on the industry's key public-private partnerships within the Office of Energy Efficiency and Renewable Energy (EERE) and to urge increased funding to adequately address industry's challenges in FY2009. The EERE Industrial Technologies Program (ITP) and Office of Biomass Programs (OBP) provide vital funding for research, development, and demonstration (RD&D) of technologies that dramatically reduce the forest products industry's energy intensity and transforms our industry into producers of carbon-neutral biofuels – thus addressing strategic national needs associated with energy efficiency, energy security, diversified energy supply, and environmental performance. ***We recommend increasing the industry specific funding for the forest products industry in ITP to $6 million. We support the President's request for $225 million for Biomass and Biorefinery Systems R&D in OBP and ask that the Committee work to maintain eligibility of forest biorefineries in these programs and keep the appropriations unencumbered to allow for full funding of competitive biomass systems and biorefinery RD&D grants.***

The Agenda 2020 Technology Alliance is an industry-led partnership with government and academia that holds the promise of reinventing the forest products industry through innovation in processes, materials and markets. The collaborative, pre-competitive research, development, and deployment supported through Agenda 2020 provide the foundation for new technology-driven business models that will enable our industry to address market demands for materials from renewable sources, while also contributing solutions to strategic national needs including energy reduction and sustainability. The technology approaches developed through Agenda 2020 are aligned to provide solutions to the competitive challenges faced by the U.S. forest products industry, which accounts for approximately 6 percent of the total U.S. manufacturing output, employs more than a million people, and ranks among the top 10 manufacturing employers in 42 states with an estimated payroll exceeding $50 billion.

As is the case with many U.S. manufacturing industries, we face serious domestic and international challenges. Since early 1997, more than 145 pulp and paper mills have closed in the U.S., contributing to a loss of 86,000 jobs, or 40 percent of our workforce. An additional

80,000 jobs have been lost in the wood products industry since 1997. New capacity growth is now taking place in other countries, where forestry, labor, and environmental practices may not be as responsible as those in the U.S. Several drivers have heightened the need to develop new energy efficiency technologies: the recent volatility of energy markets, especially for natural gas; renewed national focus on climate change and environmental performance; and aging process infrastructure. Global competition, coupled with massive industry restructuring due to financial performance pressures from Wall Street, continue to hinder the ability of U.S. companies to make new investments. Each year without new investments, new technologies and new revenue streams, we lose ground to our overseas competitors.

Currently, energy is the third largest manufacturing cost for the forest and paper industry at 18 percent for pulp and paper mills – up from 12 percent just several years ago. For some of our mills, the cost of energy is about to eclipse employee compensation.

Since 1994, the forest products industry has been one of DOE's "Industries of the Future," partnering with ITP through the Agenda 2020 Technology Alliance in RD&D that has yielded successful advances towards our national energy and environmental goals. Agenda 2020 stands as an example of successful industry-government collaboration to develop technologies that hold the promise of reinventing industry, while providing real solutions for strategic national energy needs. Every federal $1 spent on ITP saves $7.06 in annual energy costs and 1.3 million in annual source BTUs (2004 estimates). As recently as 2003, the ITP/Agenda 2020 portfolio included a total shared DOE and industry investment of almost $48 million, with nearly 55% coming from direct project cost shares by industry.

Today, after several years of continuous and substantial cuts, the ITP/Agenda 2020 budget has been reduced by over 80% since FY2002. This undermines our progress in achieving crucial energy efficiencies at a time when energy and response to climate change are major factors in the survival of the US forest products industry. Projects rescoped or cut in recent years due to budget shortfalls resulted in a lost energy savings potential of 5 trillion BTUs/yr. Recent reductions make us unable to pursue projects in key priority areas such as advanced water removal and high efficiency pulping, which represents a lost savings potential of 100-200 trillion BTUs/yr. In FY2009, a further funding reduction is proposed and emphasis shifted from industry specific funding. Unfortunately, the types of technologies that cross all industries are not those from which we can achieve the maximum savings for energy and environmental emissions. Furthermore, the proposed funding of $1.448 million is barely sufficient to fund ongoing projects, let alone address the high priority R&D needs specific to the forest products industry that have been jointly identified by industry with the DOE.

This comes at a crucial time when the forest products industry, like many energy-intensive industries, is facing unprecedented pressures due to the rising costs of energy and potential climate change mandates. Although we are nearly 60 percent self-sufficient (using biomass), it is imperative that we seek solutions as diverse as fuel switching, finding new energy sources, and options for reducing energy consumption. Thus we are in greater need than ever for the technology-based energy efficiency solutions that could be provided through our Agenda 2020 partnership with ITP. ***AF&PA's recommended ITP funding for forest products research ($6 million) would help our industry partially recover its capacity to develop and deploy vital***

energy efficiency technologies. Restoring Agenda 2020 funding to pre-FY2005 levels will not only help the competitive position of American industry, but will also serve national strategic goals for reduced dependence on foreign oil.

Secondly, the *Integrated Forest Products Biorefinery (IFPB)* is a key Agenda 2020 technology platform and a top technical and economic priority for our industry. The objective is to develop and deploy core technologies that can be integrated into existing processing infrastructure, which would be transformed into geographically distributed production centers of renewable "green" bioenergy and bioproducts. This can be done while co-producing existing product lines, creating higher skilled and better paying jobs, strengthening rural communities, and opening new domestic and international markets for US forest products companies.

The IFPB technology has the potential to integrate agricultural wastes, agricultural producers, forest landowners, agricultural landowners, forest product producers, and the petrochemical industry to produce clean renewable bio-fuels to support our local economies and the nation. Widespread application of this technology would not only reduce environmental impact of burning fossil fuels, it would also increase the viability of agricultural, forest products, and other industries that use waste heat. It will create new high paying jobs, both direct and indirect, increasing tax revenue. From an energy perspective, the IFPB has the benefit of making the forest products industry even more energy self-sufficient, serving the DOE strategic goal of reduced energy intensity in industry by reducing fossil energy consumption. In addition, the IFPB would permit the industry to become a producer of renewable, carbon-positive bioenergy and biofuels, contributing to DOE strategic goals to dramatically reduce dependence on foreign oil and to create new domestic bioindustry.

In light of these realities, AF&PA and Agenda 2020 also support the Administration's announced $225 million budget initiative in FY2009 for biorefinery research and demonstration in OBP. This initiative provides much needed funding to advance core enabling IFPB technologies, as well as providing major capital cost-share for commercial scale biorefinery demonstration. The forest products industry is an ideal partner to develop and commercialize integrated biorefineries. We have much of the infrastructure and expertise – wood harvesting, transportation and storage, manufacturing and conversion infrastructure, waste handling and recovery – needed to achieve the goals of integrated biorefineries. By and large, they are located in rural communities where they can help realize important synergies between agricultural and forest-based feedstocks.

Recent estimates from Princeton University show significant potential for net environmental benefits of IFPBs, inclusive of offsetting other fossil fuel consumption in the mill. The industry-wide potential is to reduce nearly 100 million tons of carbon emissions annually from IFPBs. The study also estimates the cumulative value of savings due to reduced CO_2, SO_2, and NO_x emissions is $6 million to $40 billion. A core enabling technology for part of the IFPB is black liquor gasification (BLG), which converts the by-product of the chemical pulping process into a synthetic gas. The synthetic gas can subsequently be burned to directly produce clean, efficient energy, or converted to other fuels such as hydrogen, renewable transportation fuels, and/or other high value chemicals. If fully developed and commercialized, a biorefinery based on BLG can

produce up to 10 billion gallons of other renewable transportation fuels, and as much as 20,000 MW of biomass power.

However, private/public investments in RD&D are critical to bring IFPB technologies into full commercial use. Co-investment for RD&D can help mitigate the technical risks (especially integration with capital-intensive, legacy infrastructure) of early adopters of emerging IFPB technologies. Risk mitigation is an important factor in achieving the benefits of IFPBs, especially for integrating biorefinery technologies with existing manufacturing infrastructure. Federal support through research funding and other investments, such as loan guarantees and tax credits, is critical.

In order to achieve the promise of IFPB technologies for the industry and for the nation, we need greater stability and availability of funds provided through the OBP budget. ***We urge the Committee to preserve the proposed $225 million funding of the Biomass and Biorefinery Systems R&D program, so that there will be sufficient appropriations to fund biorefinery demonstration and commercialization projects. We also urge the Committee to ensure that forest-based materials are eligible for this and future biorefinery research and demonstration funding***. Forest-based materials can sustainably produce enough biofuels to displace up to 10% of the country's petroleum production. They are a vital feedstock for achieving reduced dependence on foreign oil and facilitating bioindustries domestically and should be included in programs for biomass and biorefinery RD&D.

The Agenda 2020 Technology Alliance appreciate the Committee's interest in ensuring sustained and adequate funding for RD&D partnerships and look forward to working with you to advance industry and national interests.

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COMMENTS TO THE HOUSE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE

On THE DEPARTMENT OF ENERGY'S FY 2009 ENERGY EFFICIENCY BUDGET

Steven Nadel, Executive Director
American Council for an Energy-Efficient Economy (ACEEE)

The American Council for an Energy-Efficient Economy is an independent, non-profit organization dedicated to advancing energy efficiency to increase economic prosperity, enhance national security, and improve environmental quality. Founded in 1980, we are a leading source of unbiased information and policy analysis on energy efficiency.

DOE's FY 2009 budget request reflects a continuing decline in support for important energy efficiency research, development, and deployment programs at a time when expanded support for energy efficiency is needed more than ever to protect national energy security, save American jobs, control rising consumer bills, and stem air pollution and greenhouse gas emissions. Relative to the FY 2008 DOE energy efficiency budget passed by Congress, the Administration proposes to cut $204 million (29%) in its FY 2009 budget request. Most of this cut is a proposal to eliminate the low-income Weatherization Assistance Program, but there are other significant cuts as well. In order to better address many of America's energy needs, we recommend that many of these cuts relative to FY 2008 be restored and also recommend increased funding for several strategic priorities, including several of DOE's most successful programs as well as a few new programs authorized in the Energy Independence and Security Act of 2007 (EISA), a law that passed after the Administration's budget was nearly completed.

Specifically, we recommend that the subcommittee increase funding for 11 especially high-priority programs for a total of $302 million above the Administration's request ($227 million of which is for Weatherization) but only $71 million above the FY 2008 appropriation.

Our analyses of high-priority programs meriting increased support are described below. The program categories are listed in alphabetical order and thus do not represent an ACEEE priority ranking. Within each program category, ACEEE priorities are ranked in descending order.

Buildings Technologies

Commercial Building Initiative. CBI is a major new initiative established in EISA. The goal of the initiative is for all new commercial buildings to use zero energy on net by 2030 (i.e. they produce as much energy as they use) and all existing buildings to meet the same goal by 2050. These are very large savings that can have many positive impacts on the U.S. economy and environment. CBI combines research, development, and deployment, and will be run by DOE with input from an industry consortium. **We recommend that funding of at least $20 million be appropriated for this important new program,** an increase of $7 million relative to the Commercial Buildings Integration budget in DOE's request.

Lighting and Appliance Standards. DOE standards produce the greatest energy savings of any DOE program. DOE's analysis estimates that 12 standards to date have saved consumers about $25 billion, from a federal investment of less than $10 million a year. DOE is under court order to complete many rulemakings that are years behind schedule, and also needs additional funding to address requirements added by EISA. The DOE request does not appear to address the new

EISA requirements which include several new rulemakings, as well as new mandates to review and update existing test procedures and standards every six to eight years. In order to address both old and new requirements, **we recommend funding of $24 million for the standards program, an increase of $4 million relative to the FY 2009 budget request but an increase of only $2 million relative to the FY 2008 appropriation.** DOE should be permitted to spend a portion of this increase on staffing, as more DOE staff are needed to supervise increased contractor budgets made possible by the FY 2008 budget.

Building Codes, Energy Star, and Residential Building Integration. These are three of the most important programs at DOE and **all three received significant funding increases in the FY 2009 request. We support these increases.**

- Many states are interested in revising their *building codes* as part of efforts to save energy and address climate change. The DOE building codes program is an important source of funding for these efforts. DOE is also supporting efforts by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to reduce permitted energy use in its model commercial building code by 30%.
- The *Energy Star* program is probably the Administration's most effective climate change response program. Increased funding will allow DOE to update existing specifications, expand the program to several new products, and actively promote these specifications in regions without significant state or utility programs.
- The *Residential Building Integration* program is the home of the Building America program, an important and successful partnership with private firms that is developing and promoting cost-effective design approaches for reducing energy use of new homes by 40% or more.

Industrial Technologies

The 2009 request would cut the Industrial Technologies Program by $2.3 million, relative to FY 2008, but much larger cuts in several very important programs are hidden in the budget details as is discussed below. The overall program activities are divided into two broad groupings: industry specific and cross cutting. We have identified several priorities in each of these areas.

Industrial Assessment Centers. The IAC is part of the cross-cutting program budget. The IAC program helps small and medium industries identify and implement energy saving measures, while also helping to train the next generation of industrial energy engineers. The program operates 26 Centers at 31 universities nationwide and produces several hundred trained engineers annually while helping to reduce industrial energy use in small- and medium-sized facilties. The IAC program, which has operated continuously since 1976, is one of DOE's most effective programs, and is presently saving more than $1 billion per year (including measures implemented in earlier years). The program should be substantially expanded in order to meet future needs for trained energy engineers – there is presently a shortage of skilled energy efficiency engineers and graduates of the IAC program receive multiple job offers. **We recommend that the program be restored to FY 2006 funding levels of $6.435 million in FY 2009**, with additional increases in funding and in the number of centers in future years.

Industries of the Future (Specific). This program does cost-shared research with industry at major research institutions. The program focuses on key, energy-intensive manufacturing industries such as steel, aluminum, wood products, glass and metal casting. The most recent

National Academy review found this to be among the most successful of federal R&D efforts.[1] In spite of this success, the program has seen its budget drop from $63 million in FY 2002 to $11 million in FY 2008. DOE is proposing $11.4 million in FY 2009, which may appear to be level funding, but in reality represents a further cut since most of the research funding is multi-year, and funding from earlier years is now no longer being replaced and the pipeline is running dry. In addition, the Glass industry effort has now been completely eliminated. In EISA, Congress authorized an expanded Energy-Intensive Industries program (Sec. 452), with an emphasis on industry-specific research in energy-intensive industries. This provision specifically authorized the successful industry-focused program format that has proven effective because it responds to the targeted needs of individual industries rather than to the more general and less focused topics covered under the cross-cutting program. The allocation of funding among industries under the EISA provision is to be done by an advisory committee based on merit and need. **To start implementing this new direction, we recommend FY 2009 funding of at least $24.2 million (which was the appropriation in FY 2006),** an increase of $12.8 million relative to the budget request.

Distributed Energy (DE). Over the past decade these efforts have played a key role in the development of high-efficiency clean technologies like combined heat and power (CHP) and technologies to recycle waste energy. Over the past few years these efforts have been shuffled between EERE and the Office of Electricity, and the program has received no funding for the past year. For FY 2008, Congress provided $14.5 million, but DOE's FY 2009 request is for only $1.5 million. The program is now part of the cross-cutting effort in the Industry program. **We recommend the DE activities be funded at an overall level of no less than $20 million,** an increase of $5.5 million relative to the FY 2008 appropriation. Within DE, it is especially important to restore an important network of eight Regional Application Centers (RACs) that have become a key infrastructure for regional DE activities, providing technical assistance and becoming involved in state and local interconnection and emission issues. Sec. 451 of EISA 2007 expands these RACs (renaming them *Clean Energy Application Centers* [CEAC]). The CEACs are authorized at a level of $10 million per year, a funding level we support for FY 2009 within our recommended DE budget.

Industries of the Future (Cross-cutting). The remainder of the industrial program budget request falls within the category of cross-cutting programs. This includes the Industrial Assessment Centers and the Distributed Generation program discussed above. In addition, this program includes Best Practices and cross-cutting R&D, each of which we discus below.

- **Best Practices.** The OMB request proposes to increase the best practices area from $8.8 to $15.5 million, though this represents only a partial restoration of funding that was $19.8 million in FY2007. This increased funding will allow the expansion of the

[1] In 2005 the National Research Council reviewed DOE's Industrial Technology Program in their report *Decreasing Energy Intensity in Manufacturing.* The study characterized the program (at that point) as being "well-managed and effective." In particular they indicated that the "program's scope and depth of analysis and reporting are impressive. The ITP significantly leverages its resources through a large and growing number of partnerships with industry, industry associations, and academic institutions." Unfortunately, funding has been dramatically reduced since this evaluation, and a subsequent National Research Council report on DOE R&D, *Prospective Evaluation of Applied Energy Research and Development at DOE (Phase Two)* (2007), noted with respect to Chemical Industry research activities "the budget decreased to $9 million in FY05 and $7 million in FY06. There is a clearly apparent contradiction between the ambitious goals of the program and the dwindling resources available to pursue them."

successful *Save Energy Now* program, one of the most successful energy savings programs undertaken at the federal level (e.g. savings underway of approximately $288 million since program inception in 2006). **We recommend that the program be funded at the requested level of $15.5 million.**

- ***Cross Cutting RD&D.*** These activities are primarily for R&D on technologies that benefit many industrial sectors, such as work on sensors and controls. In addition, DOE is now proposing a number of new efforts in energy-intensive process R&D, feed stock flexibility and nanomanufacturing, and expanding the industry focus to include datacenters and food processing. While these are potentially worthy areas of efforts, DOE is essentially proposing to fund these efforts by further cuts to the successful industry-specific IOF efforts. In addition, EPA has already been running a datacenter program for several years, and a new DOE effort is potentially duplicative. **If budgets are tight, funding for these cross-cutting RD&D can be reduced to FY 2008 levels in order to free up funds for our higher priorities discussed above.**

Vehicle Technologies

Despite the nominal increase of $8 million in the Vehicle Technologies Program budget, proposed funding for this work has actually declined because elements of the Hydrogen Technology budget have been moved into Vehicle Technologies. In FY 2008, Vehicle and Hydrogen Technologies together received $424.1 million. The FY 2009 request cuts these combined budgets by $56.7 million. The proposed transferal, elimination or postponement of certain activities in the Hydrogen Technology Program appears reasonable in many cases, and in particular begins to rectify disproportionate allocations in prior years to hydrogen and fuel cells relative to other vehicle and fuel technologies. However, given the great opportunities and needs at present in the area of vehicle efficiency and greenhouse gas reduction, it is imprudent to simply eliminate funds from this program, rather than transferring some of the funds to underfunded areas in Vehicle Technologies. In the FY 2009, DOE proposes to cut a variety of important vehicle programs: Hybrid Electric Systems declines by $5.8 million (6%, net of the Technology Validation activity transferred from the Hydrogen Technology Program), Technology Integration by $2.2 million (13%), Advanced Combustion loses $11 million (25%), Materials Technology loses $2.7 million (7%), and Fuels Technology loses $1.7 million (10%), relative to FY 2008 Appropriations. Also, as in previous years, funding for the 21st Century Truck Partnership declines in the budget proposal. The program loses $4.6 million relative to 2008 levels, having lost $12.2 million the previous year, resulting in a 40% decline over two years. This is particularly shortsighted in light of the directive in the Energy Security and Independence Act of 2007 that federal agencies, including DOE, develop a program to achieve maximum feasible improvement in the fuel efficiency of heavy-duty trucks over the next decade.

We recommend that some of these cuts be restored. Overall, our priority requests add $37 million to the FY 2009 request, which is still a cut of about $20 million relative to the combined FY 2008 Vehicle and Hydrogen budgets. Our recommendations below to restore funding to the Vehicle and Systems Simulation and Testing activity and the Combustion and Emissions Control activity are in large part aimed at reversing reductions in heavy-duty vehicle R&D, as reflected in the decline of the entire 21st Century Truck Partnership budget. Our recommendations for funding changes in subprograms are as follows:

Hybrid Electric Systems. The proposed reduction in the Vehicle and Systems Simulation and Testing activity relates in part to heavy vehicle systems optimization R&D, which warrants greater attention. **We recommend that $7.1 million be restored to Vehicle and Systems Simulation and Testing, bringing funding for this activity back to $28.2 million.** Furthermore, energy storage efforts need to be accelerated. **We recommend that the Energy Storage R&D activity be funded at $59.5 million**, an increase of $10 million above the proposed budget. This activity includes efforts on electric, hybrid, and plug-in hybrid vehicle batteries.

Advanced Combustion Engine R&D. The explanation offered for the proposed cut, namely that resources should go to "R&D that has a higher potential for oil savings" is not persuasive given the considerable remaining opportunities in this area for both light- and heavy-duty engines. **We recommend that Combustion and Emissions Control be funded at $38.8, restoring $10 million to this activity.**

Materials Technology. Reaching DOE's stated goal of a 50% reduction in the weight of body and chassis for a passenger vehicle will require a sustained effort, including continued exploration of "high-risk concepts", as referenced in DOE's budget explanation. **We recommend funding of $30 million for Lightweight Materials Technology, which restores $2.9 million cut in the budget and adds a further $7.7 million.**

Other Priorities

Weatherization Assistance Program. This program has steadily improved, and according to the last nationwide evaluation of the program, is reducing energy use in participating homes by about 20%. It is much better to invest in energy efficiency improvements than helping to pay energy bills, since energy efficiency improvements reduce bills for many years while fuel assistance just helps cover one year of bills. DOE has proposed to eliminate this program, in order to save money. With the economy heading into a recession, this is a particularly bad time to cut our country's safety net. **We recommend funding this program at least at the FY 2008 level of $227 million**.

Energy Information Administration Energy Consumption Surveys: EIA's Energy Consumption surveys are an important resource for energy analysis and energy program planning. The Residential, Commercial and Manufacturing Energy Consumption surveys are widely used and provide important information for accurate forecasting and planning. Unfortunately the program has shrunk in recent years due to limited funding. The Transportation survey has been discontinued, sample sizes are smaller (making regional data less precise) and the remaining surveys are now every four years, instead of the every three years called for in the Energy Policy Act of 1992. These surveys are an important input to the planning of state and regional energy efficiency programs, but increasingly planners are forced to use dated data. Currently available information are the 2001 residential survey (the 2005 survey is still being processed), the 2002 manufacturing survey (the 2006 survey is still in the field), and the 2003 commercial survey (data collection has begun for the 2007 survey). In FY 2008, the consumption surveys have a $3.6 million budget. **We recommend that $2 million be added to the EIA request** in order to return to the every three year schedule, increase sample sizes and speed up processing of surveys so they can be released more quickly.

ACEEE Energy and Water Development Bill Priorities for FY 2009

PROGRAM	FY2008 Approp.	FY2009 Request	ACEEE Recommendation	Increase To Request	Increase To FY 2008
		(Dollars in millions)			
BUILDING TECHNOLOGIES					
Commercial Buildings Integration & CBI	$11.89	$13.00	$20.00	$7.00	$8.11
Lighting & Appliance Standards	$21.98	$20.00	$24.00	$4.00	$2.02
Building Codes training/TA	$3.72	$8.00	$8.00	$0.00	$4.28
Energy Star	$6.71	$8.00	$8.00	$0.00	$1.29
Residential Buildings Integration	$19.27	$26.00	$26.00	$0.00	$6.73
INDUSTRIAL TECHNOLOGIES					
Industries of the Future (Specific)	$11.25	$11.39	$24.00	$12.61	$12.75
Industries of the Future (Crosscutting)					
Industrial Assessment Centers	$4.04	$4.04	$6.44	$2.40	$2.40
Distributed Energy	$14.47	$1.50	$20.00	$18.50	$5.53
Best Practices	$8.75	$15.53	$15.53	$0.00	$6.78
Process R&D, Fuel & Feedstock, and Nanotech	$14.81	$23.60	$14.81	($8.78)	$0.00
VEHICLE TECHNOLOGIES					
Hybrid Electric Systems					
Vehicle/Systems Simulation/Testing	$28.20	$21.13	$28.20	$7.07	$0.00
Energy Storage R&D	$48.24	$49.46	$59.46	$10.00	$11.22
Advanced Combustion Engine					
Combustion and Emissions Control	$38.82	$28.77	$38.82	$10.05	$0.00
Materials Technology					
Lightweight Materials	$22.33	$19.46	$30.00	$10.54	$7.67
OTHER PRIORITIES					
Weatherization	$227.20	0	$227.20	$227.20	$0.00
EIA Consumption Surveys	$3.60	~$3.8	$5.60	$1.80	$2.00
TOTALS	$485.28	$253.68	$556.06	$302.39	$70.78

Board of Water Works
of Pueblo, Colorado

319 W. 4th Street - P.O. Box 400 - Pueblo, Colorado 81002-0400 - 719/584-0221

Name: Alan C. Hamel
Title: Executive Director
Institution: Pueblo Board of Water Works
Contact: phone: 719-584-0221, fax: 719-584-0222, email: ahamel@pueblowater.org, address : PO Box 400, Pueblo, CO 81002-0400

February 26, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/

Alan C. Hamel
Executive Director

Testimony by Dr. Harel Weinstein
President of the Biophysical Society
&
Chairman, Department of Physiology and Biophysics
Chair, Graduate Program in Physiology, Biophysics and Systems Biology
Weill Medical College of CORNELL University (WCMC)

Submitted for the written record
on behalf of the Biophysical Society

to the House Committee on Appropriations
Subcommittee on Energy and Water Development
United States House of Representatives

Concerning FY 2009 Appropriations for the Department of Energy Office of Science

March 19, 2008

The Biophysical Society appreciates the opportunity to present this testimony in support of the President's budget request of $4.7 billion for the Department of Energy's (DOE) Office of Science.

The Biophysical Society is a professional scientific society representing nearly 8000 scientists throughout the United States and the world. Members teach and conduct research in colleges, universities, laboratories, government agencies, and industry. The testimony I am submitting on behalf of the Society focuses on the critical importance of funding for the Department of Energy Office of Science. The Biophysical Society strongly urges this subcommittee to support the President's requested appropriation of $4.7 billion, an increase of $748.8 million, or 18.8 percent, above the FY08 enacted level. This increase is needed to sustain the United States' world leadership in basic science research and innovation and to continue to improve the lives of our citizens.

The requested amount will allow the Department of Energy to fulfill the goal set out in its strategic plan to "*strengthen U.S. scientific discovery, economic competitiveness, and improve quality of life through innovations in science and technology.*" The United States is currently a scientific leader, but as the strategic plan suggests, increased investment in our infrastructure and

innovation-enabling research is required to ensure U.S. dominance in key fields such as biotechnology and nanotechnology in the 21st Century. The Plan rightly concludes that "*The Nation's incremental changes in technology are not sufficient to maintain the world leadership in industry and academia.*"

The DOE's Office of Science was created in 1977 to oversee research and development (R&D), while extending basic activities to include a broad spectrum of research areas. The result has been unfaltering scientific and technical leadership. The Office of Science manages 10 world-class laboratories and supports diverse research in climate change, geophysics, genomics, life sciences, and science education. The budget request includes support, at $75 million, for three bioenergy research centers in Tennessee, Wisconsin and California, in order to accelerate the development and commercialization of cellulosic ethanol and other biofuels.

As the single largest contributor to basic research in the physical sciences, the Office of Science funds 40% of U.S. research programs in high-energy physics, nuclear physics, and fusion energy sciences. The budget request provides support to these research areas and the national laboratories involved, with $805 million allocated for high energy physics, $ 493 million for fusion energy sciences, and $1.6 billion for basic energy science.

R&D facilities located at national laboratories and universities provide researchers with advanced equipment such as particle and nuclear physics accelerators, synchrotron light sources, neutron scattering facilities, supercomputers and high-speed computer networks. The Office of Science oversees the construction and operation of these facilities. The FY 2009 request would enable more than 21,000 individual researchers from universities, national laboratories, and industry across the country to use these DOE scientific facilities in FY09, an increase of 1,000 users over FY08.

The budget's $368 million suggested for supercomputers, which allow for unprecedented computational and networking capabilities will help the Office of Science ensure that scientists and engineers have access to state-of-the-art equipment needed for complex research projects, and to maintain the creativity required to produce unique and innovative discoveries and applications.

The Office of Science also sponsors a range of science education initiatives, grants, and other forms of financial assistance through its Workforce Development for Teachers and Scientists program. A principal supporter of early career graduate students and postdoctoral researchers, the Office of Science provides a third of its research funding to support research at more than 300 colleges and universities across the nation. Supporting young researchers is essential to providing a solid foundation for the next generation of scientists. They FY 2009 budget request would provide support for 23,700 PhDs, postdoctoral researchers, and graduate students, an increase of 2,600 over the number the Office has been able to support in FY08.

The importance of scientific research cannot be underestimated. Rapid scientific progress and technological innovation will enhance our nation's economic and natural environment. Failure to provide funding, opportunity, and security to researchers will result in a diminished economy and climate. Lacking the ability see into the future, preparation for it must be enduring, through

basic and diverse research. As the demands and complexities of current society expand, our best bet to securing the safety and high quality of life in the U.S. is federal support for science and technology.

Again, I thank you for the opportunity to provide this testimony.

BRAZOS RIVER HARBOR NAVIGATION DISTRICT-FREEPORT, TEXAS

HOUSE ENERGY AND WATER SUBCOMMITTEE ON APPROPRIATIONS

US ARMY CORPS OF ENGINEERS

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We express full support of the inclusion in the FY'09budget for the full capability of the USACE of..... $400,000 – General Investigation
$7,202,000 Million – O & M

President's budget included..... $400,000 – General Investigation
$7,202,200– 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 $ 3.3 Million for the study phase of the channel improvement project.

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 it's 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.

5

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 3 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'09

The Administration's budget included the full Corps capability for the continuation of the feasibility study ($400,000) , which will be conducted at a 50/50 federal government/local sponsor share. This will keep this project on an optimal and most cost-efficient time frame for the federal government and the local sponsor. We respectfully request that the full amount in the Administration's budget remain in the House mark-up. In addition, the Corps capability for maintenance dredging for FY'09 ($7,202,200) is also at full funding in the administration budget . We respectfully request that the full amount remain in tact in the 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.

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 2009 APPROPRIATION FOR COLORADO RIVER BASIN SALINITY
CONTROL PROGRAM TITLE II, BUREAU OF RECLAMATION

MARCH 19, 2008

SUMMARY

This Statement is submitted in support of Fiscal Year 2009 appropriations for the Colorado River Basin salinity control program of the Department of the Interior's Bureau of Reclamation. Congress designated the Bureau of Reclamation to be the lead agency for salinity control in the Colorado River Basin by the Colorado River Basin Salinity Control Act of 1974, and reconfirmed the Bureau of Reclamation's role by passage of Public Law 104-20. A total of $17.5 million is requested for fiscal year 2009 to implement the authorized Colorado River salinity control program of the Bureau of Reclamation. The President's appropriation request of $5.85 million, falling again below previous appropriations for the program, is inadequate because studies have shown that the implementation of the salinity control program has fallen behind the pace needed to control damages from salinity. An appropriation of $17.5 million for Reclamation's salinity control program is necessary to restore the salinity control program to the level needed to protect water quality standards for salinity and to prevent unnecessary levels of economic damage from increased salinity levels in water delivered to the Lower Basin States 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 EPA. While currently the standards have not been exceeded, salinity control projects must be brought on-line in a timely and cost-effective manner to prevent future effects that could result in unnecessary damages from higher levels of salinity in the water delivered to 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, 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 $376,000,000 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. An appropriation of only the amount specified in the President's budget request is inadequate to protect the quality of water in the Colorado River and prevent unnecessary salinity damages in the states of the Lower Colorado River Basin. 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. Thus, 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 the Bureau of Reclamation's requests for proposals and funding opportunity announcements have far exceeded available funding appropriated in recent past years. Basin States cost sharing funds are available for the $17.5 million appropriation request

for fiscal year 2008. 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 parts, on-farm and off-farm, and EQIP funding appears to be adequate to accomplish needed on-farm work. Adequate funding for Reclamation off-farm work is needed to maintain timely implementation and effectiveness of salinity control measures.

Maintenance and operation of the Bureau 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 are critical while the Basin States continue to develop and use their compact-apportioned waters of the Colorado River. The water quality standards for salinity and the United States water quality requirements pursuant to treaty obligations with Mexico are dependent on timely implementation of 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. Generally, adequate funding for general investigations of salinity control opportunities has not been requested by the administration nor appropriated by the Congress.

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 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, 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.

colorado3/usbr-stmnt-HR.f08

Testimony of the Consortium for Fossil Fuel Science (CFFS)
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Production of Transportation Fuels from Coal plus Biomass with Reduced Carbon Dioxide Emissions

Submitted to the House Appropriations Subcommittee on Energy and Water Development
March 19, 2008

Chairman Visclosky and Members of the Subcommittee:

We request $2,000,000 in funding for a congressionally directed project in the budget of the Department of Energy in the Fuels Program of the Office of Fossil Energy, to continue a program of research to produce transportation fuels from coal and biomass. This program, which was recently initiated with a $750,000 contract from the U.S. Department of Energy in FY 2008, will focus on the conversion of coal plus waste biomass into ultra-clean transportation fuels by gasification and Fischer-Tropsch synthesis. This approach has the potential to minimize the amount of carbon dioxide emitted by the fuel conversion process to less than that produced by the production of similar transportation fuels from petroleum. Additionally, combustion of the biomass component of the carbon during fuel utilization in vehicles or planes will be carbon dioxide neutral.

Overview:

Traditional petroleum-derived fuels will continue to dominate transportation by vehicles and planes for at least the next 20 years. The U.S. currently imports over 10 million barrels of oil per day at a cost exceeding $470 billion/year, most of it from unstable regions of the world. Not only is this the biggest item in the U.S. trade deficit, it is also a serious threat to our national security. Increasing global demand, coupled with an expected peaking in the world oil supply, will undoubtedly cause shortages and markedly increased prices, possibly deepening the current economic recession and leading to more severe recessions in the future.

It is therefore essential that we begin to produce transportation fuels from our own national resources, particularly our most abundant energy resource, coal. It is equally essential, however, that we do so without harming the environment. The Consortium for Fossil Fuel Science (CFFS), a research center of the University of Kentucky, has formed an integrated team of fossil fuel scientists from five universities (University of Kentucky, West Virginia University, Auburn University, University of Utah, and University of Pittsburgh) to conduct a basic research program focused on producing Fischer-Tropsch fuels using mixtures of coal and biomass as the feedstock. We believe that costs can be reduced, a superior transportation fuel can be produced, and carbon dioxide emissions can be minimized through such research.

The CFFS has extensive experience and broad expertise in research on the conversion of coal into clean liquid transportation fuels and the conversion of coal into hydrogen. We have made significant breakthroughs in such areas as:

- Catalysis of coal conversion reactions
- C1 chemistry processes, including Fischer-Tropsch (F-T) synthesis, to produce transportation fuels from coal-derived syngas
- Co-processing of coal with waste materials, including plastic, rubber, and cellulose (biomass)
- Development of novel processes to produce hydrogen from fossil fuels
- Environmental research focused on a number of pollutants derived from coal (fine particulate matter (PM), toxic trace metals (arsenic, chromium, mercury, etc.) and SO_x)

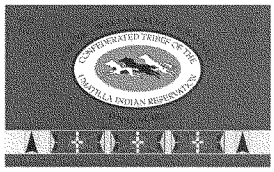
We are now focusing on a research program to develop processes that use biomass as a co-feed with coal for the production of clean transportation fuels with reduced carbon emissions. In this program, lignocellulosic waste materials will be used because they are not food feedstocks. Wood wastes and agricultural wastes (sawdust, bark, corn stover, etc.) will be emphasized because they reflect the lumber, paper, and farming industries in the CFFS states.

Goals: Some of the research goals of the CFFS coal + biomass program are summarized below.

1. A pilot scale (3-30 lbs/hr) gasifier is under construction that will be used to gasify coal + biomass feeds. It will be coupled with a supercritical fluid (SCF) F-T synthesis reactor.
2. Biomass feedstocks (lignin, cellulose, hemicellulose, etc.) will be reformed in supercritical water (SCW) to produce hydrogen for F-T synthesis and fuel upgrading with no net carbon dioxide emissions.
3. Iron-alloy nanoparticle catalysts will be used to dehydrogenate gaseous alkanes produced by F-T synthesis, yielding pure hydrogen to recycle to the coal + biomass syngas stream, raising its hydrogen content while avoiding carbon dioxide emissions from the water-gas shift reaction.
4. A laboratory-scale fluid-bed gasifier will be designed and built to convert coal + biomass into syngas with an adjustable composition. Potassium and calcium will be tested as catalysts.
5. Novel catalysts (dual function catalysts, metallic nanoparticles on carbon nanotube supports, xerogels, etc.) will be developed for F-T synthesis using syngas typical of coal + biomass.
6. Systems engineering modeling will be used to optimize fuels production from coal + biomass with regard to both economics and carbon dioxide emissions.

Summary

We request your support for $2,000,000 in funding for this program from the Fossil Energy budget for FY 2009. This funding will be shared between the CFFS universities (Kentucky, West Virginia, Utah, Auburn, and Pittsburgh) to support the second year of a three-year research program for the production of liquid transportation fuels from coal and biomass. The CFFS will provide $500,000 in cost-sharing to support this important research on a topic that is critical to both our states and our nation.



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TREATY JUNE 9, 1855 • CAYUSE, UMATILLA AND WALLA WALLA TRIBES

Antone C. Minthorn, Chairman, Board of Trustees
Confederated Tribes of the Umatilla Indian Reservation
Before the Appropriations Subcommittee on Energy and Water Development
U.S. House of Representatives

March 19, 2008

Honorable Chairman Peter J. Visclosky and Members of the Committee:

We respectfully request FY 2009 appropriation of funds for two priority watershed restoration and agricultural water supply protection projects in Oregon and Washington, the Umatilla Basin Water Supply Study Project (previously funded under the Umatilla Basin Project Phase III, OR) and the Walla Walla General Investigation Stream Flow Restoration Feasibility Study (previously funded under the Walla Walla River Watershed, OR & WA).

- For the Umatilla Basin Water Supply Project, Oregon, we request an appropriation of $150,000 in the Bureau of Reclamation, Pacific Northwest Region, Water and Related Resources budget. This request is in addition to the $100,000 included in the Administration's Budget. This request will build upon the $450,000 committed by the Bureau of Reclamation to the Project in FY 2007 and the approximately $488,000 provided by the Committee for FY 2008.

- For the Walla Walla River Watershed, Oregon and Washington, we request an appropriation of $700,000 in the U.S. Army Corps of Engineers, Portland Division, Walla Walla District, General Investigations budget. This request will allow the District to move directly into Pre-Construction Engineering and Design after completion of Feasibility Report in 2009. This project is also known as Walla Walla River Basin Feasibility Report/Environmental Impact Statement.

Both the Umatilla Basin Water Supply Project and the Walla Walla General Investigation Stream Flow Restoration Feasibility Study are ongoing projects and have had Administration and/or Congressional line item funding in past fiscal years.

Umatilla River Basin, Oregon Water Supply Project

By letter dated March 19, 2007, the Office of the Secretary of Interior responded favorably to the formal requests of the Washington and Oregon delegations and of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Westland Irrigation

District and Governor Theodore Kulongoski to initiate Umatilla Basin water development projects and concurrent settlement of the Tribe's reserved water rights. Counselor to the Secretary, L. Michael Bogert, wrote "I will ask the Secretary's Indian Water Rights Office to appoint an Assessment Team..." and "I will also ask the Bureau of Reclamation to move forward with a concurrent appraisal level study of water supply options, including a full Phase III exchange...to help resolve the Tribe's water rights claims."

The Bureau of Reclamation, provided $450,000 to FY 2007 work on the Umatilla Basin water supply appraisal study. The Committee subsequently provided approximately $488,000 for this account in the FY 2008 Energy and Water Appropriations Bill. The Bureau is actively developing its Umatilla Basin Water Supply Study with these funds.

The Umatilla Basin Water Supply Project is authorized by the Reclamation Feasibility Studies Act of 1966, 80 Stat. 707, Pub. L. 89-561, (Sept. 7, 1966).

The FY 2009 request of an additional $150,000 on top of the Administration's $100,000 budget request under "Oregon Investigations," will enable the Bureau of Reclamation to complete the estimated two and a half year appraisal level study in late 2009. The detailed appraisal study project will inform the concurrent Interior Department Indian Water Rights Assessment Team's work products. In 2009, Interior should have identified and estimated costs and feasibility of a clear project or suite of projects necessary to satisfy water rights of the CTUIR and in the Umatilla River.

This FY 2009 request follows on the work of the Bureau of Reclamation, authorized by the Umatilla Basin Project Act of 1988 (100 P.L. 557; 102 Stat. 2782 Title II), to construct and operate the Phase I Exchange with West Extension Irrigation District and the Phase II Exchange with Hermiston and Stanfield Irrigation Districts. Heralded as one of the most successful stream flow restoration and salmon recovery projects in the Columbia River Basin, the Umatilla Basin Project resulted in partially restored stream flows in the Umatilla River and successful reintroduction of spring Chinook, fall Chinook and Coho salmon. After nearly a century of dry river bed in summer months and extinction of all salmon stocks, there has been an Indian and non-Indian salmon fishery nearly every year in the Umatilla River since the project was completed in the mid-1990's.

Completion of the Water Supply Study and the concurrent Tribal Water Rights Assessment is supported and endorsed by the Honorable Governor Ted Kulongoski and by local irrigation districts including specifically Westland Irrigation District, the Umatilla County Commission, and local municipalities including specifically the City of Irrigon.

Walla Walla Basin, Oregon and Washington, GI Feasibility Study

In its sixth and final full year prior to completion, the U.S. Army Corps of Engineers' feasibility study will select the project necessary to restore stream flows in the Walla Walla River. Drained nearly dry during summer months by irrigation in Oregon and

Washington, the Walla Walla River is within the aboriginal lands of the CTUIR and the complete loss of salmon violates the agreement by the United States in the Treaty of 1855 to protect these fish.

Approximately $3 million of federal funds have either been budgeted or appropriated for completion of the Study through FY 2008. The Walla Walla District will complete the Feasibility Study Report in early 2009 and this request for $700,000 will allow the District and CTUIR to move directly into initiation of Pre-Construction Feasibility and Design phase.

The Feasibility Study Project is authorized by the Senate Committee on Public Works July 27, 1962 (Columbia River and Tributaries), 87th Congress, House Document #403 and initiated as a result of a positive Reconnaissance Report for the Walla Walla River Watershed (1997) under a General Investigation study.

The CTUIR is the formal sponsor of the Corps of Engineers Feasibility Study and has provided over $3.5 million in in-kind contributions. Additionally, the State of Washington Department of Ecology has provided $400,000 to the Feasibility Study.

Support for the completion of the Feasibility Study and moving to construction of the project is strong and diverse and includes the Honorable Governor of Washington Christine Gregoire, the Honorable Governor of Oregon Ted Kulongoski, the Walla Walla Watershed Alliance, the Walla Walla Basin Watershed Council, basin irrigation districts, local state legislators and many local and regional advocacy groups.

In closing, the CTUIR appreciates the opportunity to provide this testimony in support of adding funds for the ongoing Umatilla River Basin Water Supply Project, Bureau of Reclamation, and the Walla Walla River Basin Watershed Restoration Feasibility Study, Army Corps of Engineers. Both projects are critically important to protecting existing agricultural economies, completing future water supply development and concurrently restoring stream flows and recovering threatened salmon and other Columbia River Basin fish stocks.

If Committee Members or staff require more information, please feel free to contact:

- Mark Phillips, Edwards Associates, Inc. at (202) 546-1516;
- Rick George, CTUIR Environmental Planning/Rights Protection Program Manager at (541) 966-2351; or
- Lisa Ganuelas, CTUIR Legislative Coordinator at (541) 922-2028.

Thank you.

Central Utah Water Conservancy District

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February 12, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Don A. Christiansen
General Manager

BOARD OF TRUSTEES

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Colorado Water Congress
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Name: Douglas Kemper
Title: Executive Director
Institution: Colorado Water Congress
Contact: (303) 837-0812 fax (303) 837-1607 cwc@cowatercongress.org

February 15, 2008

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

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Sincerely,

// S //

Doug Kemper, Executive Director
Colorado Water Congress

Colorado River District
Protecting Western Colorado Water Since 1937

R. Eric Kuhn
General Manager
Colorado River Water Conservation District
970-945-8522 ph. 970-945-8799 fax
ekuhn@crwcd.org

February 20, 2008

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

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Sincerely,

/s/Kuhn

R. Eric Kuhn
General Manager

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JIM GIBBONS, *Governor*
JAY D. BINGHAM, *Chairman*
ACE L. ROBISON, *Vice Chairman*
GEORGE M. CAAN, *Executive Director*

STATE OF NEVADA

ANDREA ANDERSON, *Commissioner*
MARYBEL BATJER, *Commissioner*
CHIP MAXFIELD, *Commissioner*
GEORGE F. OGILVIE III, *Commissioner*
LOIS TARKANIAN, *Commissioner*

COLORADO RIVER COMMISSION
OF NEVADA

March 17, 2008

VIA ELECTRONIC MAIL

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

Subject: Support for Fiscal Year 2009 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 (CRC) supports funding the Fiscal Year 2009 budget request for $17,500,000 for the Bureau of Reclamation's Colorado River Basin Salinity Control Program. The CRC 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 CRC 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

cc: Representative Shelley Berkley, State of Nevada
Representative Jon Porter, State of Nevada
Representative Dean Heller, State of Nevada

AJM:bh

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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 12, 2008

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

For the Department of the Interior

Bureau of Reclamation – FY 2009 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

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 2009 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. This year the request dropped from the $7,970,000 level of FY 08 to $5,850,000 for FY 09. This is a 25% drop in funding. The Forum finds this unacceptable. Reclamation has requested for funding many very cost-effective proposals that far exceed this funding level. In the judgment of the Colorado River Basin Salinity Control Forum (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 $330 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.

For every 30 mg/l increase in salinity concentrations, there is $75 million in additional quantified damages in the United States. The Forum, therefore, believes implementation of the program needs to be accelerated to a level beyond that requested by the President.

The program authorized by the Congress in 1995 has proven to be very successful and very cost effective. Proposals from the public and private sector to implement salinity control strategies have far exceeded the available funding and Reclamation has a backlog of proposals. Reclamation continues to select the best and most cost-effective proposals. Funds are available for the Colorado River Basin states' cost sharing for the level of federal funding requested by the Forum. Water quality improvements accomplished under Title II of the Colorado River Basin Salinity Control Act also benefit the quality of water delivered to Mexico. Although the United States has always met the commitments of the International Boundary & Water Commission's (Commission) Minute 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 the point of reuse.

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 2005 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.

Jack A. Barnett
Executive Director
Colorado River Basin Salinity Control Forum
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Testimony of the Consortium for Fossil Fuel Science (CFFS)
Gerald P. Huffman, Director
University of Kentucky
Lexington, KY 40506-0043
(859)257-4027; huffman@engr.uky.edu

Production of Transportation Fuels from Coal plus Biomass with Reduced Carbon Dioxide Emissions

Submitted to the House Appropriations Subcommittee on Energy and Water Development
March 20, 2008

Chairman Visclosky and Members of the Subcommittee:

We request $2,000,000 in funding for a congressionally directed project in the budget of the Department of Energy in the Fuels Program of the Office of Fossil Energy, to continue a program of research to produce transportation fuels from coal and biomass. This program, which was recently initiated with a $750,000 contract from the U.S. Department of Energy in FY 2008, will focus on the conversion of coal plus waste biomass into ultra-clean transportation fuels by gasification and Fischer-Tropsch synthesis. This approach has the potential to minimize the amount of carbon dioxide emitted by the fuel conversion process to less than that produced by the production of similar transportation fuels from petroleum. Additionally, combustion of the biomass component of the carbon during fuel utilization in vehicles or planes will be carbon dioxide neutral.

Overview:

Traditional petroleum-derived fuels will continue to dominate transportation by vehicles and planes for at least the next 20 years. The U.S. currently imports over 10 million barrels of oil per day at a cost exceeding $470 billion/year, most of it from unstable regions of the world. Not only is this the biggest item in the U.S. trade deficit, it is also a serious threat to our national security. Increasing global demand, coupled with an expected peaking in the world oil supply, will undoubtedly cause shortages and markedly increased prices, possibly deepening the current economic recession and leading to more severe recessions in the future.

It is therefore essential that we begin to produce transportation fuels from our own national resources, particularly our most abundant energy resource, coal. It is equally essential, however, that we do so without harming the environment. The Consortium for Fossil Fuel Science (CFFS), a research center of the University of Kentucky, has formed an integrated team of fossil fuel scientists from five universities (University of Kentucky, West Virginia University, Auburn University, University of Utah, and University of Pittsburgh) to conduct a basic research program focused on producing Fischer-Tropsch fuels using mixtures of coal and biomass as the feedstock. We believe that costs can be reduced, a superior transportation fuel can be produced, and carbon dioxide emissions can be minimized through such research.

The CFFS has extensive experience and broad expertise in research on the conversion of coal into clean liquid transportation fuels and the conversion of coal into hydrogen. We have made significant breakthroughs in such areas as:

- Catalysis of coal conversion reactions
- C1 chemistry processes, including Fischer-Tropsch (F-T) synthesis, to produce transportation fuels from coal-derived syngas
- Co-processing of coal with waste materials, including plastic, rubber, and cellulose (biomass)
- Development of novel processes to produce hydrogen from fossil fuels
- Environmental research focused on a number of pollutants derived from coal (fine particulate matter (PM), toxic trace metals (arsenic, chromium, mercury, etc.) and SO_x)

We are now focusing on a research program to develop processes that use biomass as a co-feed with coal for the production of clean transportation fuels with reduced carbon emissions. In this program, lignocellulosic waste materials will be used because they are not food feedstocks. Wood wastes and agricultural wastes (sawdust, bark, corn stover, etc.) will be emphasized because they reflect the lumber, paper, and farming industries in the CFFS states.

Goals: Some of the research goals of the CFFS coal + biomass program are summarized below.

1. A pilot scale (3-30 lbs/hr) gasifier is under construction that will be used to gasify coal + biomass feeds. It will be coupled with a supercritical fluid (SCF) F-T synthesis reactor.
2. Biomass feedstocks (lignin, cellulose, hemicellulose, etc.) will be reformed in supercritical water (SCW) to produce hydrogen for F-T synthesis and fuel upgrading with no net carbon dioxide emissions.
3. Iron-alloy nanoparticle catalysts will be used to dehydrogenate gaseous alkanes produced by F-T synthesis, yielding pure hydrogen to recycle to the coal + biomass syngas stream, raising its hydrogen content while avoiding carbon dioxide emissions from the water-gas shift reaction.
4. A laboratory-scale fluid-bed gasifier will be designed and built to convert coal + biomass into syngas with an adjustable composition. Potassium and calcium will be tested as catalysts.
5. Novel catalysts (dual function catalysts, metallic nanoparticles on carbon nanotube supports, xerogels, etc.) will be developed for F-T synthesis using syngas typical of coal + biomass.
6. Systems engineering modeling will be used to optimize fuels production from coal + biomass with regard to both economics and carbon dioxide emissions.

Summary

We request your support for $2,000,000 in funding for this program from the Fossil Energy budget for FY 2009. This funding will be shared between the CFFS universities (Kentucky, West Virginia, Utah, Auburn, and Pittsburgh) to support the second year of a three-year research program for the production of liquid transportation fuels from coal and biomass. The CFFS will provide $500,000 in cost-sharing to support this important research on a topic that is critical to both our states and our nation.

TESTIMONY OF SUSAN BITTER SMITH, BOARD PRESIDENT,
CENTRAL ARIZONA WATER CONSERVATION DISTRICT,
BEFORE THE HOUSE COMMITTEE ON APPROPRIATIONS,
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT,
ADDRESSING FY 2009 APPROPRIATIONS FOR THE BUREAU OF RECLAMATION

The Central Arizona Water Conservation District (CAWCD) is pleased to present written testimony regarding the fiscal year 2009 (FY 2009) proposed budget for the Bureau of Reclamation (Reclamation).

CAWCD is a political subdivision of the State of Arizona, governed by an elected 15-member board of directors. CAWCD was created in 1971 for the purpose of contracting with the United States to repay the reimbursable construction costs of the Central Arizona Project (CAP) authorized by the Colorado River Basin Project Act of 1968. CAWCD subsequently assumed the responsibility for operating and maintaining the Project. CAWCD has and continues to meet its repayment responsibility. In addition to a $175 million upfront contribution from CAWCD, Reclamation has been paid about $765 million in principal and interest since repayment began in January 1994.

Bureau of Reclamation

CAWCD generally supports Reclamation's budget request. However, we believe that some of the priorities are misplaced. The Colorado River system is in the midst of one of the most severe droughts in its recorded history. In December 2007 Reclamation adopted new guidelines for managing the Colorado River system reservoirs. The Guidelines include Lower Basin shortage declaration criteria and shortage sharing guidelines. As the largest junior water rights contractor in the Lower Basin, these shortage criteria are essential for CAWCD to plan its water future. But it is just as important that Reclamation undertake affirmative action to preserve, enhance and more efficiently manage the Colorado River water supply. Accordingly, it is imperative that Reclamation's Lower Colorado River Operations budget include sufficient funds for structures and programs to improve operational efficiency and augment supplies. We urge the Committee to reorder priorities in Reclamation's budget to emphasize these important strategies for the Lower Colorado River.

Lower Colorado River Water Conservation

Specifically, we are concerned about the lack of concrete focus on preserving storage capacity in Lake Mead by undertaking activities that would augment water availability and improve system operational efficiency.

Congress is well aware of the huge impacts that a multi-year drought has imposed on this region, and of the significant drawdown of stored water in the river's reservoirs that has resulted from this drought. A significant amount of water has been released over these years from Hoover Dam that could have been retained if effective downstream strategies had been implemented.

The construction of an off stream regulatory storage reservoir near Drop 2 of the All-American Canal has been identified as capable of saving approximately 70,000 acre-feet per year. In order to ensure that this critical reservoir is constructed, the Seven Basin States and Reclamation have approved a program to make contributed funds available from Southern Nevada Water Authority (SNWA) to construct the reservoir in exchange for a portion of the conserved water. SNWA is prepared to contribute $172 million over two to three years of construction (the full estimated cost). The CAWCD and the Metropolitan Water District of Southern California expect to participate in the program with SNWA. Reclamation should be prepared with plans, administrative procedures and personnel to accept the money and ensure construction continues in FY 2009. The Lower Colorado River Front Work and Levee System budget request has only $619,000 designated to manage the process and plan for future operation and maintenance. Hopefully that is sufficient. CAWCD strongly supports this effort.

Yuma Desalting Plant

Reclamation's budget justification concerning the Yuma Desalting Plant (YDP) continues to be disingenuous. Reclamation continues to say that the plant is in "ready reserve" status, but states it would take four years and adequate funding to have the YDP fully operational yet no such funding is identified or requested. Continuing the budget request to pay U.S. water delivery contractors to forebear use of water indicates the Reclamation preference for a forbearance program as opposed to salvaging the saline water by operating the YDP. A long-term program relying primarily on forbearance in the U.S. is not acceptable to CAWCD or any of the Lower Basin States. Decisions need to be made and resources need to be applied to bring the YDP into actual operation. Every year the YDP remains idle results in the loss of enough water to supply the annual water needs of half a million people. Lessons learned from the pilot operations in FY 2007 identified what actions are needed to make the plant fully operational. This budget request contains no requests for funds or stated intention to operate the YDP in the future. The Lower Basin States, along with Reclamation, are developing alternate plans for one or all of the states to fund the rehabilitation and operation of the YDP at partial capacity. Nonetheless, it is the responsibility of the United States to operate the YDP at full capacity to satisfy the Mexican Treaty obligation without using additional system water. We urge the Committee to direct Reclamation to make the Yuma Desalting Plant operational at one-third capacity and initiate regular operations no later than September 30, 2009.

Colorado River Augmentation

CAWCD would like to call the Committee's attention to the provisions of Sections 201, 202 and 203 of Title 1 of the Colorado River Basin Project Act of 1968 (P.L. 90-537). These provisions call for studies and actions to augment the supply of water available for distribution within the Colorado River Basin. These provisions specifically make satisfaction of the obligations of the 1944 Treaty with Mexico a national obligation and anticipate that such obligation will be met through augmentation of the Colorado River supply. The Seven Basin States have a program in

process, led and funded primarily by the Southern Nevada Water Authority, to review previous augmentation studies and evaluate new concepts. Reclamation has participated in this process. A final report will be completed before the end of FY 2008. We intend to develop recommended augmentation programs to be undertaken by local, state, and federal organizations. At the very least, Reclamation needs to commit sufficient funds to support implementation of some of these programs beginning in FY 2009. CAWCD suggests that at least $500,000 be committed from Reclamation's overall appropriations for such activities as General Planning, Research and Development, or the Water for America Institute. CAWCD urges the Committee to direct Reclamation to take action and provide funding to fulfill the commitment Congress made 40 years ago to augment the water supply in the Colorado River Basin.

CAP Indian Distribution Systems

We support Reclamation's request for $18,371,000 in funding for CAP Indian Distribution Systems. A key element of the negotiated settlement embodied in the Arizona Water Settlements Act (Pub. L. 108-451) is continued Indian distribution system funding through 2009.

Tucson Reliability

Reclamation has requested $467,000 in FY 2009 for "Tucson Reliability." We have testified before and we reiterate here that Reclamation is obligated to confer with CAWCD before proceeding with any reliability projects that would increase the CAWCD repayment obligation. CAWCD acknowledges its repayment obligation and is willing to discuss necessary and appropriate contractual actions if facilities are to be constructed. The local Reclamation office is working with CAWCD and the Tucson-area CAP water users to identify the facilities necessary to provide those users the same degree of CAP reliability enjoyed by CAP users in the Phoenix area. We expect that by the end of FY 2008, Reclamation will determine the cost and cost sharing requirements for a complete program. The $467,000 requested for 2009 will be more than needed for further studies but insufficient for construction of facilities. It is time to determine what will be done concerning "Tucson Reliability" and allow the water providers to move ahead with their plans.

Lower Colorado River Operations Program

Reclamation's FY 2009 budget request for the Lower Colorado River Operations Program includes $8,850,000 for the Lower Colorado River Multi-Species Conservation Program (MSCP). The MSCP is a cost-shared program among federal and non-federal interests to conserve endangered species and their habitat along the Lower Colorado River from Lake Mead to Mexico. CAWCD is one of the cost-sharing partners. This program will provide habitat for threatened and endangered species and, at the same time, allow current water and power operations to continue. CAWCD supports Reclamation's budget request for the Lower Colorado River Operations Program. This funding level is necessary to support the MSCP effort as well as

environmental measures necessary to fully implement the interim surplus criteria for the Lower Colorado River. These are critical programs upon which Lower Colorado River water and power users depend.

Increased Security Costs for Reclamation Hydro Power Facilities

We continue to oppose the funding of post-9/11 increased security costs for Reclamation facilities through hydropower rates. The increased costs are being incurred for national security reasons, not project maintenance or operation. Details of these costs must be kept secret and cannot be disclosed like other data in Power Marketing Administration rate cases, raising serious due process issues. Other project beneficiaries are not and, in some cases, cannot be charged a fair share of these costs. Congress should make these increased national security costs nonreimbursable.

Conclusion

We have worked for over three decades with the Congress and all the succeeding Administrations to make the Central Arizona Project a reality as envisioned by Congress in the 1968 Act and to ensure its major contribution to the economic welfare of the State of Arizona. Improving the ability of the Lower Colorado River system to conserve and store precious Colorado River water supplies is central to our mission and, we believe, a core directive of the 1968 Act. The lengthy drought on the Colorado River has proven the correctness of that focus and the wisdom of Congress in passing the 1968 Act. It is time to move forward to aggressively accomplish the additional tasks that have been identified. We look forward to working with the Congress, the Bureau of Reclamation and the other federal agencies and the Basin States to get this work done.

Public Witness Testimony by
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Submitted to the United States House of Representatives
Appropriations Subcommittee on Energy and Water
Addressing the FY 2009 Civil Works Budget
Of the US Army Corps of Engineers

With reference to the FY 2009 Civil Works budget submitted by US Army Corps of Engineers (Corps) pertaining to the Operations and Maintenance (O&M) account, the Coosa-Alabama River Improvement Association requests the Committee adjust the appropriation for the Alabama River Lakes project to $20.672 million for the purpose of dredging the navigation channel to its authorized dimensions.

I wish to address three topics my Association considers of major importance to the welfare of the State of Alabama and the US inland waterways infrastructure: O&M funding of the Alabama River navigation channel; the regionalization concept proposed by the US Army Corps of Engineers; and the proposed lockage fees by the Assistant Secretary of the Army for Civil Works.

The Alabama River navigation channel was authorized by the River and Harbor Act of 1945 to support navigation, hydropower, and recreation on the Alabama River. The project includes the Robert F Henry Lock and Dam, Millers Ferry Lock and Dam, and the Claiborne Lock and Dam, all located in the central and southern parts of the State. Authorized channel dimensions are nine feet in depth and 200 feet in width.

The navigation channel is the only waterway connection between the capital city of Montgomery and the Port of Mobile and traverses the Black Belt of Alabama, an area sorely in need of economic development. Historically, commodities moved on the channel are bulk cargoes, including forestry, petrochemical, agricultural, and aggregates. The highest tonnage moved on the system was 4.1 million tons in 1986. Since, due to economic downturns, environmental rulings, and droughts, tonnage dropped precipitously to below 100,000 tons (mostly sand and gravel) until two years ago when signs of commercial barge traffic began to resurface on the system.

In the meantime, however, as a result of OMB's performance-based metric system, the Alabama River navigation was placed into a "low-use" waterway category, i.e., relegated to a lower priority in Corps budget formulations. Accordingly, since 2001, the President's Budget submission has eliminated any dredging funds to allow Mobile District of the Corps to maintain the navigation channel. In 2005, even funds to operate and maintain the locks were eliminated. In most years, with help from Alabama's congressional delegation, Congress added money to keep the channel open.

An open channel has enabled economic development agencies in our area, including our Association, to continue searching for barge-using industries. We succeeded in that search and are now projecting over 500,000 tons of wood products, aggregates, and petroleum products moving on the system in 2008. We expect even more in 2009. If the channel is closed due to no dredging, those 500,000 tons will have to move by truck to the Port of Mobile, which at 1500 tons/barge, will take 333 barges. Given one barge carries as much as 60 trucks, moving that tonnage by road will require 20,000 trucks.

Moving forestry products and aggregates by barge in this part of the country is approximately half the cost of moving those same commodities by truck. In addition to added costs, another 20,000 trucks on the road greatly increase hazards to public safety and the environment. Wear and tear on roads increases dramatically: one truck does as much damage to a roadway as 9600 cars. Benefits of this kind are not considered when the Corps draws up its budget for any given year. Despite our best efforts, however, the Corps and OMB refuse to recognize the considerable progress being made in our area.

The President's FY 2009 Budget for the Alabama River Lakes project, of which the navigation channel is part, calls for $15.672 million, again eliminating dredging. To dredge the Alabama to its authorized dimensions of nine feet deep and 200 feet wide requires an expenditure of approximately $5 million as dredging costs have escalated over the past three years from $850/hour before Katrina to over $1800/hour today.

I ask the Committee to increase the appropriation for the Alabama River Lakes project to $20.672 million for the purpose of dredging the navigation channel to its authorized dimensions. Anything less than these dimensions presents safety hazards for the four-barge tows operating on the system as well as decreases the economic efficiency of those tows. Modifying the amount of money appropriated for this purpose will allow the US Army Corps of Engineers to fulfill its congressionally-mandated responsibility of operating and maintaining the Alabama River navigation channel.

Regional Concept of Civil Works Budget. The last two civil works budgets submitted by OMB and the Corps of Engineers have been based on identifying amounts by region and/or watershed basins rather than by individual projects. For the FY 2008 cycle, Congress did not accept the budget being presented in that manner, and I urge the Committee to not accept it for FY 2009.

From the waterways industry perspective, the regional concept essentially takes away the decision-making authority of Congress and hides the oversight of funds being spent on any one project from both the Congress and the public stakeholders. I cite the Alabama River projects as an example. In the FY 2009 budget submission, all of those locks and dams were incorporated into the Alabama River Lakes project, which, in and of itself, is not unacceptable, but the funds to support that project were then rolled into a composite line for a basin called the Alabama-Mississippi Basin. Within that basin are funding lines supporting various business functions, such as navigation, recreation, hydropower, etc., but nowhere can one determine whether a particular civil works project is being supported. The navigation line funding for the Alabama-Mississippi Basin is $35.808

million, but those funds support the navigation function on the Alabama, Warrior-Tombigbee, and Tennessee-Tombigbee systems. One cannot determine how much of that $35.808 million is to be spent on which project.

To make matters worse, I understand the decisions on which projects get funded and in what amount will be done by a regional committee, members of which have no direct operational oversight of the projects in question. This concept eliminates a basic management philosophy of operational decisions being made by those who have direct responsibility of managing the project efficiently, i.e., the Corps project managers who work with the issues daily. Funding decisions will be in the hands of bureaucrats without the benefit of oversight from Congress, project beneficiaries, and grassroots supporters.

In the end, neither Congress nor project stakeholders will have any way to ensure designated projects will receive sufficient funding to be properly operated and maintained. I strongly urge the Committee to **continue its constitutional prerogatives by appropriating funds to individual projects**, and disregard the regional concept of budgeting for civil works projects.

Lockage Fees Proposed by the Assistant Secretary of the Army for Civil Works. The Administration proposes to replace the 20 cents per gallon fuel tax now paid by barge operators with a lockage fee. The fuel tax provides about $90-$100 million annually to finance one-half of construction costs for waterway improvements. The proposed lockage fee would be phased in beginning in October 2008, but the fees would be set to generate $190 million annually or twice the current user charges. Details of the proposal are sketchy at this time, but sufficient to conclude that a lockage fee would have a devastating impact on the tributary waterways serving Alabama and the Nation.

About one-half of annual shipments on our nation's waterway infrastructure utilize waterways that have no locks. Therefore, the imposition of a two-fold increase in user charges would be borne by only one-half of commercial users of waterways while the other half would get a free ride. Using preliminary information, the following are some examples of the impacts of the proposed lockage fees based on charges needed to generate $190 million of annual revenues. An 8-barge tow of pig iron shipped from Mobile to Decatur, AL would pay a total of $8400 of lockage fees, alone, while a 25-barge tow operating between New Orleans and St. Louis would not pay any fees, including the current fuel tax. A similar shipment from Mobile to Columbus, MS would pay $2400 in lockage fees while the charges for the same tow to Port Birmingham would be $3600. Returning empty barges would pay the same fees when traversing locks.

I strongly urge Congress to **continue implementing the more equitable fuel tax that treats all waterways users equally, a position supported by the entire waterway industry**. Congress should direct the Corps to implement measures that would help facilitate more efficient construction of waterway projects and better use of available funding, such as easing current restrictions on reprogramming and multi-year contracts. Fully funding project construction would also reduce stretch-outs and delays in the completion of projects that lead to higher costs and more funding requirements.

Chambers County-Cedar Bayou Navigation District, Texas
House 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'09 for construction of the project to deepen and widen Cedar Bayou, Texas –

PRESIDENT'S BUDGET INCLUDED.....$0
FUNDS NEEDED IN FY'09- $1,000,000 (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. 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.

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 $9,056,000 for 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.

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Antonio R. Villaraigosa, *Mayor*
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Testimony by S. David Freeman
President
City of Los Angeles Board of Harbor Commissioners
Port of Los Angeles

And

Geraldine Knatz, Ph.D.

Executive Director
Port of Los Angeles

Regarding

The Main Channel Deepening Project

Los Angeles Harbor

Submitted

To the

House Committee on Appropriations
Subcommittee on Energy and Water Development

The Honorable Peter J. Visclosky, Chairman

March 19, 2008

Chairman Visclosky and Members of the Subcommittee:

Thank you for the opportunity to submit testimony in support of full funding of the Channel Deepening Project at the Port of Los Angeles/Los Angeles Harbor, the largest container seaport in the United States and eighth largest in the world. Our testimony speaks in support of an FY2009 appropriation of $1.33 million for the Federal share of continued construction of the Channel Deepening Project. Proposed funding for the Channel Deepening Project was not included in the President's FY2009 budget.

The Port of Los Angeles is America's busiest seaport with record volumes of cargo moving through the 7,500-acre harbor, along 43 miles of waterfront and 27 cargo terminals (including dry and liquid bulk, container, break-bulk, automobile and omni facilities). Combined, these terminals handle almost 190 million metric revenue tons of cargo annually. The Port is a major reason for the remarkable cargo volumes. Its world-class facilities and infrastructure maximize the "one-stop shopping" concept of cargo transportation and delivery favored by most shipping lines. Ocean carriers can send the majority of their West Coast-bound cargo to Los Angeles with full confidence in the Port's modern cargo terminals and efficient train/truck intermodal network to get their goods into the American marketplace. The Channel Deepening Project is a critical Federal navigation improvement project, and is the underpinning of shipping line confidence in the Port of Los Angeles.

In the *FY2006 Energy and Water Development Appropriations Act*, Congress authorized an increase in the total project cost to $222 million from $194 million, representing a Federal share of $72,000,000 and a local share of $150,000,000, in accordance with the Army Corps of Engineers' revision. This revision accounts for credits for in-kind services provided by the Port and other required project modifications, including adjustments to the disposal costs for the dredged material, adjustments for construction contract changes, and project administration costs. The cost-share amounts for the Channel Deepening Project are currently under review, as well as a Supplemental EIS/EIR that will evaluate and determine the best alternative for increased disposal capacity. Upon completion of both reviews, the new cost-sharing amounts and the additional costs for disposal at the recommended site(s) will be established. The ongoing need for a Supplemental EIS/EIR has moved Project completion to FY2009.

Port Navigation Demands

The evolving international shipping industry prompted a collaborative effort by the Port of Los Angeles and the Corps of Engineers to implement the Channel Deepening Project in the early 1980s. With this project, the Port is deepening its main Federal channel and tributary channels by eight feet, from -45 to -53 feet Mean Lower Low Water (MLLW), to accommodate the industry's shift to larger container vessels. The first of these deeper-draft ships began calling at the Port of Los Angeles in August of 2004, carrying 8,000 twenty-foot equivalent units of containers (TEUs) and drafting at -50 feet. Currently, carriers have on order more than 155 of these larger vessels that range in size from 7,500 to 10,000 TEUs. These vessels will be delivered at a steady pace over the next three years, which means that ports unable to accommodate the bigger ships could be left out of the surge in trade.

In addition to greater navigability for these larger ships, deepening the Federal Main Channel improves safety and security, shipping efficiencies and provides beneficial use of dredged material to build new land for future terminal development. Dredging for the project began in early 2003 with construction originally scheduled for completion in 2006. Currently, nearly 45 percent of containerized cargo entering the United States goes/travels through the San Pedro Bay port complex. Last year, the Port moved an impressive 8.5 million TEUs, establishing a new national container record of continued growth for any American seaport once again. The Port is also home to the nation's most secure cruise passenger complex, the World Cruise Center.

As we have testified before, cargo throughput for the San Pedro Bay—the Port of Los Angeles in particular—has a tremendous impact on the United States economy. We at the Port of Los Angeles cannot over emphasize this fact. The ability of the Port to meet the spiraling demands of the steady growth in international trade is dependent upon the speedy construction of sufficiently deep navigation channels to accommodate the new containerships. These new ships provide greater efficiencies in cargo transportation, carrying one-third more cargo than most of the current fleet, and making more product inventory of imported goods available to American consumers at lower prices. In addition, exports from the United States have become more competitive in foreign markets. However, for American seaports to keep up, they must immediately make the necessary infrastructure improvements that will enable them to participate in this rapidly changing global trading arena.

Mr. Chairman, these state-of-the-art container ships represent the new competitive requirements for international container shipping efficiencies in the 21st Century, as evidenced by the increased volume of international commerce. As such, we strongly urge Congress to appropriate the full $1.33 million for FY2009 that will enable the Corps of Engineers to finally complete construction of the Channel Deepening Project in this calendar year, 2008.

Economic Benefits

The Port of Los Angeles is one of the world's largest trade gateways and the scope of its economic contributions to the Southern California regional economy is far-reaching. The Port is connected directly and indirectly with tens of billions of dollars in industry sales each year in Southern California. Those sales translate into hundreds of thousands of local jobs and billions of dollars in wages, salaries, and state and local taxes. Regional Port of Los Angeles benefits include:

- 1.1 million jobs in California;
- 3.3 million permanent, well-paying jobs in the United States;
- $89.2 billion in California trade value;
- $223 billion in U.S. trade value;
- $5.1 billion in state tax revenue; and
- $21.5 billion in federal tax revenue;

The Channel Deepening Project is clearly a commercial navigation project of national economic significance, and one that will yield exponential economic and environmental returns to the United States annually. *As an aside, the 8.5 million TEUs handled by the Port of Los Angeles in 2007 had a commercial value of more than $450 billion in container cargo, with significant tax revenues accruing to the Federal government.* Similarly, according to the U.S. Customs Service, users of the Port pay approximately $13 million a day in Customs Duties. The Los Angeles Customs District leads the nation in total duties collected for maritime activities, collecting more than $7 billion in 2007 alone. The return on the Federal investment at the Port of Los Angeles is real and quantifiable, and we expect it to continue to surpass the cost-benefit ratio—as determined by the Corps of Engineers' project Feasibility Study—many times over.

In closing, Federal investment in the Channel Deepening Project will ensure that the Port of Los Angeles, the nation's busiest container seaport, remains at the forefront of the new international trade network well into this century. The Channel Deepening Project marks the second phase of the *2020 Infrastructure Development Plan* that began with the Pier 400 Deep-Draft Navigation and Landfill Project. The Port of Los Angeles is moving forward with the 2020 Plan designed to meet the extraordinary infrastructure demands placed on it in the face of the continued high volume of international trade.

Chairman Visclosky, the Port of Los Angeles respectfully urges your Subcommittee to appropriate $1.33 million in FY2009 to support the U.S. Army Corps of Engineers' continued construction of the Channel Deepening project on behalf of the Port of Los Angeles.

Thank you, Mr. Chairman, for the opportunity to submit this testimony for continued Congressional support of the Channel Deepening Project at the Port of Los Angeles. The Port has long valued the support of your Subcommittee and its appreciation of the role of the Port of Los Angeles in contributing to this country's economic strength, and the port industry's importance to the economic vitality of the United States.

S. David Freeman
President
City of Los Angeles Harbor
Department
Board of Harbor Commissioners
Port of Los Angeles

Geraldine Knatz, Ph.D.
Executive Director
City of Los Angeles Harbor
Department
Port of Los Angeles

Statement of the Coalition of Northeastern Governors
to the United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water Development
Regarding FY2009 Appropriations for
The U.S. Department of Energy's
Weatherization Assistance Program, State Energy Program,
Energy Information Administration,
Northeast Home Heating Oil Reserve, and Regional Biomass Energy Program
March 19, 2008

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 FY2009 appropriations the U.S. Department of Energy (DOE). While the Governors recognize the daunting fiscal challenges facing the Subcommittee this year, we believe that the modest funding requested for these programs is a wise investment for the nation=s energy, environmental and economic security. The CONEG Governors request that funding for the Weatherization Assistance Program be provided at a level of $300 million; funding for the State Energy Program be increased to $75 million; and funding for the Energy Information Administration be provided at $120.6 million in FY2009. The Governors support the President's request to fund the Northeast Home Heating Oil Reserve at $9.8 million. The Governors also urge the Committee to ensure that, through the U.S. Department of Energy, $7.5 million is again provided to continue the critical networks and market development work of the National Biomass Partnership (previously known as the Regional Biomass Energy Program).

These very successful energy programs play a vital role in the nation=s efforts to strengthen the security and reliability of domestic energy supplies and to reduce dependence on foreign sources of energy. Improved energy efficiency is a key component in a near-term strategy to achieve a better balance of supply and demand that, by moderating demand, can also help moderate volatile energy prices. Energy efficiency technologies and programs can also complement longer-term federal investments in domestic production and emerging technologies.

Federal resources for research and program implementation must also emphasize programs that can bring alternative energy and energy saving technologies quickly to the marketplace. The Weatherization Assistance Program, the State Energy Program, and the National Biomass Partnership provide established networks and federal-state-local government and private sector partnerships which can achieve timely energy savings and encourage renewable energy development. The proven benefits of these complementary programs have taken on a renewed significance as the nation is faced with rapidly increasing energy costs.

Weatherization Assistance Program (WAP): Weatherization is taking on increased importance as an immediate and effective tool to manage energy use during this time of high energy prices. Through a network of more than 900 local weatherization service providers, the WAP improves the energy efficiency of more than 100,000 low-income dwellings a year, thereby reducing the home energy bills of the nation's most vulnerable citizens. The Governors are deeply concerned with the Administration=s proposal to eliminate funding for this critical program in FY2009. In a brief span of time, the cost of home energy has increased significantly. The effects are particularly devastating for low-income residents who 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, the program has weatherized more than 5.6 million low-income residences across the country. On average, weatherization measures that address a home=s heating and cooling systems, electrical system, and electricity consuming appliances reduce heating fuel use by almost 25 percent. At 2006 prices, this translates to a $358 savings for a low-income household the first year after weatherization.

The WAP has a proven record of success in increasing the energy efficiency of low-income households, thereby lowering the utility bills, and increasing the health, safety, and comfort of these vulnerable citizens. The benefits of the program are numerous, wide-spread, and proven. According to the Department of Energy, for every $1 invested in the Program, Weatherization returns $2.69 in energy and non-energy related benefits. Oak Ridge National Laboratory estimates that the program reduces national energy demand by the equivalent of 18 million barrels of oil per year, and leads to significant reductions in emissions of carbon, methane and nitrous oxide. Non-energy benefits include increased property value, reduced incidence of fire and reduced arrearages. In addition, the program supports more than 6,000 direct jobs across the country.

State Energy Program (SEP): The SEP is the major state-federal partnership program addressing energy efficiency and conservation in all sectors of the economy. The program has an immediate effect on reducing demand while assisting states= efforts in support of the national goals of greater energy efficiency, reduced energy costs, and development of alternative and renewable energy resources. The SEP also helps states in their critical emergency preparedness activities, improving the security of the energy infrastructure, and preparing for natural disasters.

SEP=s targeted programs increase the awareness of the opportunities available in states to improve energy efficiency, reduce energy costs, create jobs, and diversify energy use. Working with DOE, states tailor their renewable energy and energy efficiency programs to maximize the effectiveness of the program=s resources. These programs contribute to more rapid deployment of new energy efficiency and renewable energy technologies, and the achievement of substantial energy, environmental, social and economic benefits. Their transformative effects in the market have been repeatedly demonstrated and proven.

For example, the Northeast states have used SEP-supported projects to provide technical assistance and financial incentives that have spurred building designers and owners to adopt

energy efficient design features in the commercial, institutional, multifamily, and industrial sectors. Our states have also used SEP resources in programs that help state and local public agencies reduce energy use in public housing, state government facilities and schools; monitor and enhance the reliability of the energy supply and delivery infrastructures; support the timely updating of energy emergency preparedness plans; and promote the use of alternative fuels in the transportation sector.

The modest federal funds provided to the SEP are an efficient federal investment, as they are leveraged by significant non-federal public and private sources. According to the most recent data from the Department of Energy (2006), each dollar of SEP funding is leveraged by $10.71 in state, local and private sources; and results in $7.22 in energy cost savings. With the recent rapidly increasing cost of energy, these savings linked to SEP investments can become even more significant.

In its recent evaluation of the program, Oak Ridge National Laboratory found that the program has "a substantial positive impact on the nation=s energy situation." The report estimated that the program results in annual cost savings of $256 million while providing environmental and public health benefits through reduced energy use and emissions reductions. For example, the program results in an annual reduction of carbon emissions of 826 million metric tons – the same amount produced by 582,000 automobiles in a single year.

Energy Information Administration (EIA): EIA provides timely, reliable and credible information and analysis on the energy produced, imported and consumed in the United States. At this time of volatile global energy markets, rising energy prices and renewed focus on the safety and security of the nation=s energy supply, the information provided by the EIA is a vital tool in keeping energy markets functioning efficiently. In addition, states rely on EIA data as the core of their information for energy emergency planning. Increased funding in FY2009 will help ensure that EIA can continue to collect, analyze and make available this vital data.

Northeast Home Heating Oil Reserve: The nation's heightened emphasis on energy security places renewed importance on the Northeast Home Heating Oil Reserve. Roughly 69 percent of the 5.3 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 affects the Northeast. The Reserve provides an important buffer to ensure that the states will have prompt access to immediate supplies in the event of a supply emergency.

Renewable Energy and the National Biomass Partnership: Renewable energy plays a vital role in meeting the nation=s goal of reduced reliance on imported fossil fuels, a more balanced, diverse energy resource mix, and reduction of greenhouse gases emissions. Modest but timely support for research and commercialization opportunities for near-term bioenergy technologies is a vital component in meeting that goal. A partnership of government funding to complement private market development and technology commercialization for biofuels offers one of the most promising hopes for strengthening the nation=s energy security by accelerating the

development and deployment of renewable energy technologies and distribution infrastructure. States contribute significant resources to support the development of biomass fuels, technology, and infrastructure, but they need a strong federal partner in this National Biomass Partnership to help coordinate these activities across the nation.

The National Biomass Partnership is a collaboration of five regional biomass energy programs. Each of the five regional biomass programs has established an extensive network for cooperation and coordination of biomass energy activities that are designed for the specific bioenergy resources and market opportunities of each region. These networks link state, regional and national objectives and provide an effective and valuable conduit for information. This Partnership is a critical link in the chain of research, resource production and technology commercialization. The absence of a federal partner threatens continuation of this essential, successful work.

The Partnership has demonstrated its ability to efficiently leverage resources, coordinate policies and activities, and expedite deployment of the biomass fuels, technology, and infrastructure that is necessary to reach common goals of states and the federal government. The Partnership has successfully contributed to the adoption of state policies supportive of bioenergy resource and technology development, public awareness of the benefits and uses of bioenergy, and increased intensity of biomass use. The benefits have been documented in a DOE-directed program review, which found that 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.

In conclusion, the Coalition of Northeastern Governors request that you provide $300 million for the Weatherization Assistance Program, $75 million for the State Energy Program, and $7.5 million for the National Biomass Partnership in FY2009. These programs promote sound energy management by encouraging development of alternative energy resources and helping manage the nation=s energy use. The Governors also request $120.6 million for the Energy Information Administration in FY2009, and $9.8 million for the Northeast Home Heating Oil Reserve. CONEG welcomes the opportunity to provide additional information on these essential programs as Congress continues the FY2009 appropriations process.

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TO: UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS
THE HONORABLE PETER VISCLOSKY, CHAIRMAN

PROJECT REQUESTS

ST. HELENA COMPREHENSIVE FLOOD CONTROL PROJECT (Construction General)	$2,500,000
UPPER YORK CREEK DAM REMOVAL AND RESTORATION PROJECT (Construction General- Section 206)	$600,000
ST. HELENA WASTEWATER TREATMENT PLANT UPGRADE AND EXPANSION PROJECT (Construction General- Section 5039)	$600,000

Respectfully Submitted,

Del Britton
Mayor
City of St. Helena
March 2008

OVERVIEW

On behalf of the City of St. Helena, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 2009 and, at the same time, express our appreciation for your support of the City's projects in recent years. The City is respectfully seeking the following requests before the House Energy and Water Development Appropriations Subcommittee from the U.S. Army Corps of Engineers during fiscal year 2009. We are seeking $2,500,000 in Construction General funding for our Comprehensive Flood Control Program recently authorized in the Water Resources Development Act of 2007; $600,000 in funding under Section 206 for the Upper York Creek Dam Removal and Restoration Project and $600,000 in Section 5039 funding for the City's Wastewater Treatment Plant Upgrade and Expansion Project.

As background, the City of St. Helena is located in the center of the wine growing Napa Valley, 65 miles north of San Francisco. The area was settled in 1834 as part of General Vallejo's land grant. The City of St. Helena was incorporated as a City on March 24, 1876 and reincorporated on May 14, 1889. The City of St. Helena is a General Law City and operates under the Council-City Manager form of government. St. Helena is a full service City and encompasses an area of 4 square miles. The City Council is the governing body and has the power to make and enforce all laws and set policy related to municipal affairs. The official population of the City of St. Helena as of January 1, 2003 is 6,041. Because of its size and its rural nature, St. Helena has serious infrastructure, as well as, flood protection and environmental needs that far exceed its financial capabilities.

The City from its inception has served as a rural agricultural center. Over the years, with the growth and development of the wine industry, the City has become an important business and banking center for the wine industry. The City also receives many tourists as a result of the wine industry. While, the main goal of the City is to maintain a small-town atmosphere and to provide quality services to its citizens, this is becoming increasingly difficult. Regulatory, administrative and resource requirements placed on the City through the listing of threatened and endangered species under the Endangered Species Act on the Napa River, as well as significant Clean Water Act requirements require the city with a small population base to face significant financial costs.

The Napa River flows along the east boundary of the City of St. Helena in northern Napa County. The overall Napa River Watershed historically supported a dense riparian forest and significant wetland habitat. Over the last 200 years, approximately 6,500 acres of valley floor wetlands have been filled in and 45,700 acres of overall watershed have been converted to urban and agricultural uses. This degradation of natural habitats has had a significant effect on water quality, vegetation and wildlife, and aquatic resources within the Napa River Watershed.

Surface water quality of the Napa River is dependent upon time of year, runoff from York and Sulphur Creeks, and urban area discharges. During the winter months when stream flow is high, pollutants are diluted; however, sedimentation and turbidity is high as well. During the summer months when stream flow is low, pollutants are concentrated and oxygen levels are low, thereby decreasing water quality. Agricultural runoff adds pesticides, fertilizer residue, and sometimes sediment. Discharges from urban areas can include contaminated stormwater runoff and treated

city wastewater. The Napa River has been placed on the Clean Water Act 303(d) list and TMDL Priority Schedule due to unacceptable levels of bacteria, sedimentation, and nutrients. It is against this backdrop that the City of St. Helena faces its biggest challenges.

ST. HELENA COMPREHENSIVE FLOOD CONTROL PROJECT

Major flooding has occurred frequently along the Napa River with occurrences happening in 1986, 1995, 1997 and 2006. Combined, these floods have cost the City of St. Helena over $95.6 million in property damages. It is against this dire backdrop that the City is seeking $2,500,000 for the advancement of the St. Helena Comprehensive Flood Control Project.

The City of St. Helena is seeking this funding to implement a flood control plan, recently authorized in the Water Resources Development Act of 2007, that will reduce damage resulting from Napa River flooding in a manner that is economically feasible, acceptable from a public policy standpoint, and environmentally sensitive. In particular, the City wishes to reduce flooding in a manner that will result in overall improvement to the health of the ecosystem within the project's reach while providing significant water quality improvements downstream.

The project being sought by the City will re-connect the Napa River to its historic floodplain, thereby reducing water surface elevations through the area by several feet, avoiding large flood control structures and canalization, and would provide 100-year flood protection to the area. It will also restore habitat of the natural floodplain terraces, including riparian and aquatic habitat. Within and adjacent to this reach of the River, the City proposes various flood control components, ranging from widening the floodplain and constructing new floodwalls and levees. The St. Helena Comprehensive Project will also restore native plant and tree communities through re-vegetation efforts.

The City of St. Helena respectfully requests the Committee's support for $2,500,000 under the Corps of Engineers Construction General Account in fiscal year 2009.

Upper York Creek Dam Removal and Restoration Project

The Upper York Creek Watershed originates at the western side of the Napa Valley watershed and the creek flows through a narrow canyon before joining the Napa River at a 225 foot elevation.

This project will improve fish passage and ecological stream function for the York Creek, a key Napa River Tributary. The project will open an additional two miles of steelhead habitat upstream from the current dam location by removing an earthen dam and accumulated sediment necessary to restore fish passage to provide unimpeded upstream adult and downstream juvenile fish passage. This project is especially critical as York Creek is potentially one of the best steelhead spawning and rearing streams within the Napa River basin, and is important for the overall Napa River steelhead population. Unlike many streams in the Napa River watershed, York Creek maintains a perennial flow, making it especially valuable rearing habitat for juvenile steelhead.

The project plans also call for extensive revegetation of the project area. As part of the project, the City will restore a self-sustaining native plant community that will remove and help exclude non-native invasive species from the project area.

The City of St. Helena respectfully requests the Committee's support for $600,000 under the Corps of Engineers Section 206 Aquatic Ecosystem Restoration Program to continue construction in fiscal year 2009.

ST. HELENA WASTEWATER TREATMENT PLANT UPGRADE AND EXPANSION PROJECT

The City of St. Helena is required to upgrade its current water treatment facilities in the near term or else it will be exposed to the very-real possibility of regulatory violations and fines, as well as the threat of costly third party environmental litigation.

To this end, the City is seeking $600,000 from the subcommittee for its St. Helena Wastewater Treatment Plant Upgrade and Expansion Project. The project will enable the City to accommodate a tertiary treatment process which will produce tertiary quality recycled water that will be piped via new distribution lines to parks, agricultural fields and other open areas for irrigation. With the successful implementation of this project the City will be able to use reclaimed water for irrigation and other associated activities. The benefits accruing from this project are great as the implementation of the project will greatly reduce demand on the City's scarce groundwater supplies and will enhance the City's water supply reliability.

Total Project Costs for Phase I of the project currently stand at $10,000,000. The funding being sought in fiscal year 2009 will be used to continue advancement of the project as the City stands ready to immediately begin construction on Phase I of the project this year.

David Culp, Legislative Representative
Friends Committee on National Legislation (Quakers)

Written Public Testimony for the Record

Submitted to the
House Committee on Appropriations
Subcommittee on Energy and Water Development

March 19, 2008

The Friends Committee on National Legislation (Quakers) makes the following recommendations on the budget request of the **National Nuclear Security Administration** for Fiscal Year 2009 (FY09):

- **Reliable Replacement Warhead**, under the Weapons Activities/Directed Stockpile Work program. Delete all funding from the $10 million requested. Include in the report the same language that was in the Consolidated Appropriations Act, 2008: "No funding is provided for the Reliable Replacement Warhead."
- **International Nuclear Materials Protection and Cooperation,** under the Defense Nuclear Nonproliferation program. Increase funding by $195 million, from the requested $430 million to $625 million for FY09. This would be the same amount as was appropriated for FY08.
- **Nonproliferation and Verification R&D,** under the Defense Nuclear Nonproliferation program. We oppose the administration's proposed budget cut of $112 million and support a funding level closer to the FY08 level of $387 million, but make no specific suggestion.
- **Global Threat Reduction Initiative,** under the Defense Nuclear Nonproliferation program. We strongly support the administration's proposed increase of $26 million for FY09, to $220 million.

Reliable Replacement Warhead. This Subcommittee and Congress wisely rejected the administration's request for the Reliable Replacement Warhead (RRW) for FY08. The arguments have not changed since last year.

As Chairman Pete Visclosky stated in a press release following Subcommittee markup on May 23, 2007:

> "Without question, there is a need for a comprehensive nuclear defense strategy and stockpile plan to guide transformation and downsizing of the stockpile and nuclear weapons complex, and until progress is made on this critical issue, there will be no new facilities or Reliable Replacement Warhead."

FCNL agrees. The United States still has no 21st century nuclear weapons policy in place. Until the reports mandated by the FY08 defense authorization bill are completed, there is no framework on which to base long-term nuclear stockpile decisions.

The nuclear stockpile continues to be annually certified as safe and reliable by the secretaries of Defense and Energy. There remains no need to rush to replace the plutonium pits in warheads, which have been found to have lifetimes of a century or more.

Additionally, further development of RRW could have serious adverse international security consequences. Proceeding with RRW would send the wrong message to would-be proliferators, and undermine efforts to curb the nuclear programs of Iran and North Korea. Development of a new U.S. warhead would also provide nuclear weapons advocates in Russia with effective material to lobby for more aggressive Russian nuclear weapons modernization programs. Former Sen. Sam Nunn's 2007 testimony before the Subcommittee remains as relevant today:

> "[I]f Congress gives a green light to this [RRW] program in our current world environment, I believe that this will be: misunderstood by our allies; exploited by our adversaries; and complicate our work to prevent the spread and use of nuclear weapons."

Finally, FCNL rejects the Energy Department (DOE) assertion that pursuing the RRW program is the only way to elicit the data needed to address stockpile certification concerns raised by the September 7, 2007 review of RRW by the JASON Defense Advisory Group.

We believe DOE can address the stockpile certification concerns raised by the JASONs review without developing RRW. The Joint Explanatory Statement for the Consolidated Appropriations Act for FY08 also reaches this conclusion. By creating the Advanced Certification campaign to address these certification issues and simultaneously zeroing out the RRW program, the Subcommittee (in conjunction with your Senate counterpart) determined that these issues could be pursued without advancement of the RRW program.

Nuclear Nonproliferation Programs. Hundreds of tons of nuclear weapons materials are stored at inadequately secured facilities in Russia and perhaps 20 other countries. One hundred and ten pounds of highly enriched uranium could be fashioned into a crude nuclear weapon by a committed group of violent extremists. Such a weapon would destroy downtown New York, killing more than half-a-million people from the immediate effects of the explosion. The cost would be well over $1 trillion from the staggering economic disruption. A nuclear detonation in any U.S. city would cause devastation that would make the 9/11 attack and the Katrina hurricane pale in comparison.

These programs continue to enjoy strong support across the political spectrum, as evidenced by these statements from the past few months (emphasis added):

> "...the Department of Defense's Cooperative Threat Reduction program and the Department of Energy's nuclear nonproliferation programs ... address perhaps the **single biggest threat** to the U.S. homeland, the threat of nuclear terrorism and

> other weapons of mass destruction." Rep. Ike Skelton, Chairman, House Armed Service Committee, press release, December 7, 2007
>
> "Nuclear nonproliferation programs such as the NNSA's Global Threat Reduction Initiative, GTRI, are some of the **most important tools** we have to curb the threat of nuclear material being acquired by those who wish to do us harm." Sen. Pete V. Domenici, Ranking Member, Senate Appropriations Subcommittee on Energy and Water Development, *Congressional Record,* December 12, 2007, p. S15228
>
> "The proliferation of weapons of mass destruction remains the **number one national security threat** facing the United States and the international community." Sen. Richard G. Lugar, Ranking Member, Senate Foreign Relations Committee, "Remarks at the Defense in Depth against WMD CPC Conference," Chantilly, VA, January 30, 2008

The House Budget Resolution for FY09 also reaches the same conclusions:

> "It is the policy of this resolution that ... implementing the recommendation of the National Commission on Terrorist Attacks Upon the United States (commonly referred to as the 9/11 Commission) to adequately fund cooperative threat reduction and nuclear nonproliferation programs (securing 'loose nukes') is a **high priority** and **should receive far greater emphasis** than the President's budget provides;" H.Con.Res.312, Sec. 502, March 7, 2008 (emphasis added)

Even the administration's budget request agrees:

> "The convergence of heightened terrorist activities and the ease of moving materials, technology and information across borders have made the potential for terrorism involving weapons of mass destruction (WMD) the **most serious threat** facing the Nation. Preventing WMD from falling into the hands of terrorists is the **top national security priority** of this Administration." Department of Energy, *FY 2009 Congressional Budget Request,* vol. 1, p. 453, February 2009 (emphasis added)

However, the administration's budget request does not match its rhetoric. We ask the Subcommittee to increase the nuclear nonproliferation programs to at least last year's levels.

We greatly appreciate the House Energy and Water Appropriations Subcommittee terminating the Reliable Replacement Warhead last year. We also appreciate the additional funds the Subcommittee provided for nuclear nonproliferation programs in the Continuing Resolution, the Supplemental Appropriations Act, and the Consolidated Appropriations Act. We believe the

country is more secure because of your actions. We urge you again to apply those priorities in your FY09 bill.

Thank you for your consideration.

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The Friends Committee on National Legislation (FCNL) is the largest peace lobby in Washington. Founded in 1943 by members of the Religious Society of Friends (Quakers), FCNL staff and volunteers work with a nationwide network of tens of thousands of people from many different races, religions, and cultures to advocate social and economic justice, peace, and good government. FCNL is also the oldest registered, ecumenical lobby in Washington.

Testimony on the Fossil Energy R&D Program for Fiscal Year 2009

Submitted to

Subcommittee on Energy and Water Development Appropriations
The U.S. House of Representatives
Room 2362B Rayburn House Office Building
Washington, DC 20515

by

Roe-Hoan Yoon, Director
Center for Advanced Separation Technologies
146 Holden Hall
Virginia Polytechnic Institute and State University

March 19, 2008

Chairman Visclosky, Ranking Member Hobson, and Members of the Subcommittee, I represent the Center for Advanced Separation Technologies (CAST), which is a consortium of seven universities. I appreciate the opportunity to submit this testimony requesting your committee to add $3 million to the 2008 Fuels program budget, Fossil Energy Research and Development, U.S. Department of Energy, for Advanced Separations research. Research in Advanced Separations Technology Development is authorized by the Energy Policy Act of 2005, Title IX, Subtitle F, Sec. 962. I am joined in this statement by my colleagues from the consortium:

Richard A. Bajura,	West Virginia University
Peter H. Knudsen,	Montana Tech of the University of Montana
Rick Q. Honaker,	University of Kentucky
Jan D. Miller,	University of Utah
Ibrahim H. Gundiler,	New Mexico Tech and
Maurice C. Fuerstenau,	University of Nevada-Reno

FUNDING REQUEST FOR CENTER FOR ADVANCED SEPARATION TECHNOLOGIES

CAST was formed initially as a partnership between Virginia Tech and West Virginia University in 2001 to address the needs of the U.S. coal industry. In 2002, five other universities (University of Kentucky, Montana Tech, University of Utah, University of Nevada, Reno, and New Mexico Tech) joined to form a consortium, with Virginia Tech as the lead institute. The objective of the consortium was to develop Advanced Separation Technologies that can be used to produce cleaner fuels from domestic resources in a manner that can improve the environment.

PROPOSED WORK

The U.S. faces an energy crisis created by an imbalance between domestic supply and demand. While the U.S. makes up only 4.6% of the world's population, it consumes 24% of the world's energy resources, 25% of oil, and 44% of motor gasoline, while its domestic energy production lags behind. As a result, the U.S. imported 30% of its energy needs in 2006, a number expected to grow in the future. On the other hand, the U.S. is fortunate to have large amounts of untapped energy resources within its borders, which include 271 billion tons of recoverable coal, 2.6 trillion barrels of oil in the form of oil shale, and 20 billion barrels of oil in oil sands. In addition, the U.S. has 200,000 trillion cubic feet (Tcf) of methane deposited in the form of hydrates in ocean floors and permafrost. The amount of energy deposited as methane hydrates far exceeds the amounts of all fossil energy resources combined. The advanced separation technologies developed by CAST will be useful for developing these resources in environmentally acceptable manner and help the U.S. achieve its energy independence.

A major concern in developing these domestic resources is the greenhouse gases (GHG) emitted from the utilization of fossil energies, which account for 85% of the total energies consumed in the U.S. Therefore, the country is seeking to increase energy efficiencies and develop renewable energies. However, the renewable energies account for only 7% of the total, including hydroelectric power (2.9%), bio-fuels (0.8%) and others. Recognizing that the crux of the energy crises lies in the shortages of transportation fuel liquids, the country is striving to increase the production of bio-fuels. In 2005, the U.S. produced about 4 billion gallons; however, the U.S. consumed 180 billion gallons of gasoline and diesel fuel combined in the same year. Thus, the ethanol accounts for only a small percentage of the transportation fuel need. According to a publication by the National Academies, the energy from biomass will likely increase by 60%, and those from wind, solar and other renewable resources are likely to nearly triple by 2030. But the net effects of all these activities will probably raise the total renewables from 7% of the total energies consumed in the U.S. to about 8% in 2030. Thus, the U.S. will have to rely on fossil energy resources for a foreseeable future.

On the other hand, the scientific debate on global warming seems to be over, and the country is prepared to reduce CO_2 emissions by legislation. But the Congress recognizes that the U.S. cannot stop global warming single-handedly. Developing countries, such as China and India, should also participate in limiting their own CO_2 emissions. If the U.S. did reduce the emissions unilaterally, the cost of producing American goods would increase relative to those manufactured in countries without emission limits, resulting in the relocation of U.S. industry and manufacturing jobs.

It is projected that developing countries will account for more than three-quarters of the increase in global CO2 emissions between 2005 and 2030, and these countries' overall share in world emissions is expected to rise from 40% in 2005 to nearly 55% by 2030. In 2006, China and India alone produced 3.1 billion tons of coal, representing 46.2% of the world production, while the U.S. produced 1.16 billion tons of coal accounting for 19.3% of the world production. In the near term, the major focus of these countries is on economic development and reducing poverty. Recognizing this situation, the House Committee on Energy and Commerce issued a white paper on January 31 of this year, which suggests that the U.S. should develop affordable

clean coal technologies (ACCT) that can be used in these countries. The white paper suggests further that an R&D program that can spur such development should have the double benefit of helping developing countries to curb their GHG emissions and of creating manufacturing and service industries for the ACCTs in the U.S.

A serious problem in China and India is that much of the coal is burned as mined without cleaning, causing low thermal efficiencies. For power generation, the thermal efficiencies are 29% in these two countries as compared to 38% in the U.S. By improving the quality of coal used for power generation, China can increase the efficiency to 33% and reduce CO_2 emissions by 20%. Currently, only 12% of the coal burned in China for electricity generation is cleaned coal. Thus, increased use of ACCTs would help China reduce CO_2 emissions substantially. According to a recent IEA report, India could reduce CO_2 emissions by 55% using state-of-the-art technologies relating to coal quality, boiler/generator design, instrumentation and control, and high voltage distribution systems. Unfortunately, much of the coals burned in India for power generation are of low quality, assaying 35-42% ash.

It is, therefore, an objective of CAST research to develop advanced technologies that can be used to separate various impurities such as ash, sulfur, and mercury from coal so that they can be burned more cleanly and efficiently. The Chinese government considers precombustion coal cleaning an important element in their current strategy to increase energy supply and improve energy transportation systems, as emphasized in their plan to implement clean coal technologies in China. Recently, India passed a law requiring coals to be cleaned if they are to be transported more than 1,000 km.

SUMMARY OF ACCOMPLISHMENT

Thanks to your support, CAST has become the world leader in developing advanced separation technologies for the coal industry. Many of the solid-solid and solid-liquid separation technologies developed by CAST are marketed commercially worldwide under license agreements. For example, the Microcel flotation technology is used to remove ash, sulfur, mercury and other impurities from coal in the U.S., Australia, and China. In addition, an advanced fine coal dewatering technology has been tested successfully in full-scale tests, and is marketed commercially. More recently, another fine coal dewatering technology has been tested successfully at a pilot-scale and is expected to be commercialized before the end of this year. With the commercialization of these advanced separation technologies, the U.S. coal industry will no longer have to discard fine coal due to the lack of appropriate separation technologies. These new technologies will help the mining companies produce cleaner solid fuels without causing environment damages.

The advanced separation technologies developed at CAST will soon be implemented in India. As part of the Asia-Pacific Partnership on Clean Development and Climate (APP) program, the U.S. Department of State (DoS) provided major funding for CAST through a competitive solicitation process to implement advanced separation technologies in India. Also, CAST has submitted a proposal to Coal India Limited (CIL), which produces 86% of coal in the country, to

implement the advanced fine coal beneficiation technologies developed by CAST in a demonstration plant.

Some of the advanced separation technologies developed by CAST have cross-cutting applications in minerals industries. For example, the methods of separating fine particles are used for producing potash (KCl) from previously unminable resources in New Mexico. For another, methods of separating coarse particles are used for producing phosphate fertilizer in Florida.

NEW INTITIATIVES

Coal is the most abundant energy resource the U.S. has, and it is difficult to displace it with renewable energy resources in a relatively short time frame. Therefore, it is imperative to develop methods of utilizing coal with minimal CO_2 emissions. To meet this objective, it is proposed to develop advanced gas-gas separation methods which will have crosscutting applications for many of the ongoing programs such as Carbon Sequestration, Innovation of Existing Plants, Gasification, and Hydrogen from Coal.

During the course of studying the basic sciences involved in a solid-solid separation process (*i.e.*, flotation), CAST has developed a new understanding of the behavior of hydrophobic species in water. Based on both experimental and theoretical studies conducted, it has been proposed that hydrophobic surfaces attract each other *via* hydrophobic force, which may originate from the tendency of the water molecules to form structures around hydrophobic entities. This mechanism in turn has lead to a new understanding that ice can be formed around gas molecules such as methane on ocean floors. It has also been found that most of the gas molecules, including methane, oxygen, CO_2, nitrogen and hydrogen, are hydrophobic, but each has a different degree of hydrophobicity. This new finding provides a basis for separating one type of gas molecule from another by forming ice structures around the former but not around the latter.

It is, therefore, proposed to separate different type of gases from each other by forming hydrates. At present, cryogenic distillation is the only commercially viable method of separating oxygen and nitrogen, and this new approach can reduce the cost of producing oxygen substantially. The same approach can also be used to separate other gases (*e.g.*, hydrogen, CO_2, methane) from each other. Since the process is not based on forcing gases to flow through small pores of a membrane under pressure, it will be of much higher capacity. Thermodynamic analyses have shown that gas-gas separation *via* hydrate formation is possible. The new gas-gas separation approach will also be used for producing ultra-pure hydrogen for fuel cell applications, which is a major objective of the Fuels Program.

The proposed approach will allow methane hydrates to be extracted from ocean floors, while allowing at the same time CO_2 to be sequestered in place as hydrates. The Blake Ridge deposit on the shores of South Carolina alone has 1,300 Tcf of methane, which is approximately six-times larger than the amount of the conventional natural gas resource in the U.S. Thus, the

proposed work offers a new approach for carbon capture and sequestration (CCS), the cost of which can be net negative.

FUNDING REQUEST

It is requested that $3 million of research funding for CAST be added to the FY 2009 Fuels Program budget, Fossil Energy R&D, the U.S. Department of Energy. Continued funding will allow CAST to develop advanced technologies that can be used to exploit domestic energy resources and help developing countries reduce their CO_2 emissions. In addition, the new gas-gas separations technologies to be developed at CAST will have crosscutting applications for a wide spectrum of the Fossil Energy R&D programs.

CALIFORNIA STATE COASTAL CONSERVANCY

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UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS
THE HONORABLE PETER VISCLOSKY, CHAIRMAN

CALIFORNIA STATE COASTAL CONSERVANCY

STATEMENT REGARDING FISCAL YEAR 2009
ARMY CORPS OF ENGINEERS APPROPRIATIONS REQUESTS BEFORE THE SUBCOMMITTEE

Respectfully Submitted,

Sam Schuchat
Executive Officer
California State Coastal Conservancy
March 2008

Summary
On behalf of the California State Coastal Conservancy, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 2009 and, at the same time, express our appreciation for your support of the Conservancy's projects in the years past. The Conservancy respectfully requests needed funding for the following critical projects during fiscal year 2009, all requests reflect Corps of Engineers capability for the individual projects: $2.8 million for the South San Francisco Bay Shoreline Study (General Investigations); $15 million for the Matilija Dam Ecosystem Restoration Study (Construction General); $8 million for the Napa River Salt Marsh Ecosystem Restoration Project (Construction General); $14 million for the Hamilton Bel-Marin Keys Wetland Restoration Project (Construction General) and $12.3 million for the Upper Newport Bay Ecosystem Restoration Project (Construction General).

Conservancy Background
The California State Coastal Conservancy, established in 1976, is a state agency that uses entrepreneurial techniques to purchase, protect, restore, and enhance coastal resources, and to provide access to the shore.

To date, the Conservancy has undertaken more than 950 projects along the 1,100 mile California coastline and around San Francisco Bay. Through such projects, the Conservancy: protects and improves coastal wetlands, streams, and watersheds; works with local communities to revitalize urban waterfronts; assists local communities in solving complex land-use problems and protects agricultural lands and supports coastal agriculture to list a few of our activities.

Since its establishment in 1976, the Coastal Conservancy has: helped build more than 300 access ways and trails, assisted in the completion of over 100 urban waterfront projects, joined in partnership endeavors with more than 100 local land trusts and other nonprofit groups and completed projects in every coastal county and all nine San Francisco Bay Area counties.

South San Francisco Bay Shoreline Study
The Conservancy is seeking $2.8 million in funding in order to continue the Feasibility Study for this groundbreaking project that would provide fluvial flood protection to the South San Francisco Bay Area. The study was initiated in fiscal year 2005 and has been ongoing, receiving $785,000 in funds in fiscal year 2008.

This project is of national significance as it will provide tidal and fluvial flood protection for the South San Francisco Bay Area, including the Silicon Valley, protecting approximately 42,800 acres, 7,400 homes and businesses, and significant urban infrastructure, to include major highways, hospitals and airport facilities. In addition, the project is of further significance as it is being pursued in conjunction with the largest restored wetland on the west coast of the United States and will provide extensive habitat for federally endangered species and migratory waterfowl.

In order to continue to advance this important study it is imperative that local interests and the federal government work together to ensure a reliable funding stream for the project. This is even more critical as the recently passed Water Resources Development Act of 2007 requires the

Corps of Engineers to complete the study within three years of passage of the act. In accordance, substantial cost-sharing has already begun among the land management agencies. The U.S. Fish and Wildlife Service contributed $8 million toward the $100 million acquisition of the salt ponds. The State of California provided $72 million and the Hewlett Foundation, Packard Foundation, Moore Foundation, and Goldman Fund provided $20 million. The foundations are providing an additional $15 million for restoration planning and $9 million for land management. The State of California is providing $8 million for planning and $6 million for land management.

We are seeking $2.8 million, in accordance with Corps of Engineers capabilities, for this project during the current fiscal year. Funds in fiscal year 2009 will be used for the following activities associated with the project: Hydrology, Hydraulics and Coastal analysis $1,000,000; Economics Analysis $250,000; Plan Formulation - Alternatives Development $250,000; Habitat Evaluation analysis - $150,000; NEPA - EIS Development - $400,000; Engineering & Design / Geotech - $200,000; Project Management (incl Programs S&A, OC) - $400,000; Surveys & Mapping - $150,000

Matilija Dam Ecosystem Restoration Project
In fiscal year 2009 we are seeking $15 million for the Army Corps of Engineers Construction General account to finalize design and begin the removal of the Matilija Dam in Ventura County, California.

The Matilija Dam Ecosystem Restoration Project is a project of vital importance as the project seeks to remove the 200-foot tall Matilija Dam on a tributary to the Ventura River. The dam is currently unusable as sediment accumulation has rendered the dam ineffective. This much-needed project seeks to remove the dam and reestablish runs of the endangered southern steelhead trout. Completion of the project will also result in the replenishment of area beaches by allowing sand (now trapped as sediment) to flow to coastal beaches upon the Dam's removal. This project is one of the largest dam removal projects in the Country and enjoys broad support from many local, state and federal agencies.

To remove the dam, six million cubic yards of sediments currently trapped behind the dam will be moved or recontoured and a high flow sediment bypass system will be constructed at a water diversion downstream. In addition, a silt removal system will be installed along the diversion canal. Furthermore, levees will be built in several places along the river channel to protect property from flooding due to the expected increases in stream channel elevation in the first years after removal of the dam. The project also involves removal of invasive plants and the installation of replacement water wells.

As mentioned previously, the requested funding for fiscal year 2009 will be utilized to finalize design and begin construction of the project. Of this amount, $2 million will be utilized to finalize design activities and the remaining $13 million in Corps capability will be used to advance construction of the project. Of that amount, approximately $7.5 million would be designated for construction activities associated with the high-flow bypass of the dam with the remaining $5.5 million being utilized for the building of levees downstream from the site.

Napa River Salt Marsh
For fiscal year 2008, we are seeking $8 million in federal funds to advance this critical project that was authorized for construction in the Water Resources Development Act of 2007 (P.L. 110-114). Federal funding for this project during the current fiscal year is essential to ongoing project success as the local sponsors have spent their full share and have no additional State or local funds dedicated to the project to continue its implementation. Without federal funding this fiscal year, the project will be halted, benefits will be delayed and project costs will increase greatly.

The funds requested would allow the Corps of Engineers to complete design of the Napa River Salt Marsh Project and move the project to construction as authorized in the Water Resources Development Act of 2007. Our request is in accordance with Corps capability for the project and funding would be utilized to complete design of Ponds 6-8. In addition, funding will be utilized to initiate design of the pipeline, apply for necessary permits, and begin construction of Ponds 6-8. A federal contribution to the project would be in accordance with P.L. 110-114 and would provide for the continuation of construction of the project. This is critical as the project will provide extensive benefits to the region, to include: providing extensive wetland habitat in San Francisco Bay; the beneficial use for recycled water in the North Bay; improve open space and recreational opportunities; and resolve urgent issues associated with deterioration of the site's levee, water control structures, and water quality.

The 10,000 acre Napa River Salt Marsh was purchased by the State of California from Cargill in 1994 and is managed by the California Department of Fish and Game. The State Coastal Conservancy has been the non-federal sponsor working with the Corps on the Feasibility Study. The Corps' Feasibility Study was completed and the Chief's Report was signed in December of 2004. Preconstruction Engineering and Design is currently taking place with construction commencing once the project is authorized in WRDA.

Hamilton Bel-Marin Keys Wetland Restoration Project
In fiscal year 2009, the California State Coastal Conservancy is seeking $14 million for the Hamilton Bel-Marin Keys Wetland Restoration Project in accordance with Corps of Engineers' capability for the project.

This project is of critical importance as it will provide nearly 700 acres of restored tidal and seasonal wetlands at a former Army base, in Marin County, California and provide much needed habitat for several threatened and endangered species; as well as, shorebirds and waterfowl migrating along the Pacific Flyway. In addition, this project beneficially uses dredged material from the San Francisco Bay which provides for increased navigation and maritime commerce for the Bay Area, a much needed economic stimulus for the region.

The first phase of construction, which started last year, is taking place on the former Army Airfield. The majority of the required site preparation has been completed on the former airfield, including the construction of miles of levees. The main runway and taxiways are now in the process of being buried under millions of cubic yards of clean dredged sediment. Subsequently, the easterly levee will be breached allowing tidal waters to once again flood the site. Later, the Corps will work on the adjacent Antenna field and Bel Marin Keys V property for a total project

area of nearly 2,400 acres. This phased approach will be used to complete the design and construction tasks in conjunction with the availability of land and dredged material.

The breakdown of requested funding for fiscal year 2009 will be utilized for the following activities: Federal maintenance dredging (O&M) projects $ 9,000,000;
Planning, engineering, and design $ 1,500,000; Bel Marin Keys design $ 1,000,000; Aquatic Transfer Facility planning and design $750,000; Permitting/Report preparation $ 750,000; Construction Management/Site Operations $ 1,000,000.

Upper Newport Bay Ecosystem Restoration
In fiscal year 2009, we are seeking $12.3 million in funding to complete construction of this project thereby avoiding significant cost increases and project delays.

Upper Newport Bay, one of the largest remaining tidal wetlands in Southern California, provides significant habitat for numerous federally endangered species, migratory waterfowl and shorebirds along the Pacific Flyway as well as anadromous fish and many other aquatic species. To ensure the long-term viability of this diverse salt marsh ecosystem, as well as the stability of the region's ecosystem, the Army Corps of Engineers and the County of Orange developed the Upper Newport Bay Ecological Restoration Project.

This project, authorized in the Water Resources Development Act of 2000, will address the habitat conversion resulting from sedimentation in the upper bay, increase the quantity and quality of wetlands habitat, improve water quality by reducing sediment inflows and algal blooms and preserve both federal and local navigational channels, which if unaddressed will require costly maintenance dredging.

A construction contract for this project was awarded on September 26, 2005. Since that time significant progress has been made, as such, the Federal funds we are seeking this year will be used to complete construction. The authorized project entails dredging access channels and two sediment basins; removal of a least tern island in Basin I and reconstruction of the island adjacent to Basin II; restoration of side channels around New, Middle and Shellmaker Islands; and the restoration wetland habitat near Northstar Beach. Approximately 2.3 million cubic yards of material will be dredged, of which 2 million cubic yards will be placed at the LA-3 ocean disposal site.

As mentioned, funding provided during fiscal year 2009 will be used towards completion of the federal responsibility in the project, leading to a reduction in the Corps portfolio. The local project sponsor is currently in negotiations with the contractor as the $2.2 million allocated to the project in fiscal year 2008 will only keep the contractor on-site throughout the month of July. An effort is currently underway to seek out funds in the Corps portfolio that could be reprogrammed to the project in an effort to avoid demobilization by the contractor. This is being undertaken to avoid drastic cost increases and significant project delays at a time when the majority of the project elements have been completed.

Statement of Andrew Skok, Treasurer
The Fuel Cell Power Association
To
The Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
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The Fuel Cell Power Association appreciates the opportunity to submit this statement in support of the Department of Energy's Fossil Energy, Fuels and Power Systems, Fuel Cell Program. We urge the Subcommittee to continue to support this breakthrough program by appropriating $71 million for development of this highly efficient, clean, and secure energy technology.

DOE's Fossil Energy Fuel Cell Program, through the Solid State Energy Conversion Alliance (SECA) fuel cell activity, is developing technology to allow the generation of highly efficient, cost-effective, carbon-free electricity from domestic coal resources with near-zero atmospheric emissions in central station applications. The program will develop cost-effective, highly efficient, power blocks that facilitate sequestration in coal-based systems. The technology will also permit grid independent distributed generation applications.

SECA fuel cell systems operating on coal gas are building blocks for zero emissions power and are projected to be available at a cost of $400/kw, a tenfold reduction in cost from existing fuel cell technology. In addition the technology developed in this program will produce electricity at up to 60% in coal-based systems, produce near-zero emissions, and be compatible with carbon sequestration.

In all applications SECA fuel cells will be both low-cost, with the above-stated goals of $400/kw, as well as highly efficient. Integrated with coal gasification, such systems will approach 60% efficiency compared to the existing coal-based power generation fleet average of about 33% efficiency. In distributed generation applications even higher efficiencies may be reached, and cogeneration opportunities can further increase efficiency.

Along with these attributes fuel cells are one of the cleanest technologies available in terms of atmospheric emissions, which enhances their attractiveness for urban applications or applications in areas of non-attainment for Clean Air Act emissions. They also provide 24 hour, silent operation.

Finally, coal-based fuel cell systems will increase energy security by using domestic resources. In distributed generation applications fuel cells can eliminate transmission and distribution system infrastructure concerns and issues by providing generation near the point of use and by being able to operate in a grid-independent mode.

The SECA Program consists of integrated industrial manufacturing teams designing fuel cell systems, developing the necessary materials, and ultimately responsible for deploying the technology. These teams are complemented by two to three dozen core technology performers providing generic problem-solving research needed to overcome barriers to low-cost, high performance technology as identified by DOE and the manufacturing teams. The core technology teams are universities, national laboratories, and other research oriented organizations. This unique structure assures that a variety of approaches to solving the problems associated with fuel cells will be undertaken in a manner that will increase the chances of success for this highly complex technology.

The manufacturing teams are developing systems for application to large coal-based central generation systems. The fuel cells being developed can be used in both these large systems as well as in distributed generation applications such as auxiliary power units, military power applications and remote or on-site power generation.

The DOE budget request for this program for FY 2009 is $60.0 million, approximately $4 million above FY 2007 funding levels. This level of funding will continue to support the current program, which involves larger-scale Phase II development work on the part of manufacturing teams in the program and continued effort by the core technology performers. However, in order to deliver full scale fuel cell system hardware for central station applications additional support is necessary to assist and accelerate the creation of manufacturing capability by the formation of teams between existing fuel cell stack developers and industry with the goal of delivering hardware by the scheduled date of 2011 and also to keep the base program on schedule.

We believe that the SECA fuel cell program has achieved the progress to date as anticipated by the program managers, and will continue to display such progress given sufficient funding support by DOE and the Congress. Hybrid technology has been successfully integrated into the program and an emphasis on use with coal-based systems has been established. Industry partners in the program have continued and increased cost-sharing support. All major stack developers have met the initial goals of the program allowing continuance to more advanced stages of development. This technology is essential in enabling the generation of cost-effective, efficient electricity from domestic coal resources with near-zero emissions of carbon and air pollutants in large, central station applications and can also provide low-cost, low-emissions alternatives for distributed generation applications. Therefore, we urge you to support our request for $71 million to execute the DOE Fossil Energy, Fuels and Power Systems, Fuel Cell Program in FY 2009.

FOSSIL 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 18, 2008

Summary

The National Research Center for Coal and Energy submits this testimony in support of the Fossil Energy program and requests support from the Subcommittee as follows:

- Carbon Capture and Storage (+$6 million for the Focus Area for Carbon Sequestration Science)
- Fuels Program (+20 million for continuation of the coal and biomass liquid fuels program)
- Advanced Research (+$10 million to initiate a Focus Area for Materials Science and +$5 million for the Focus Area for Computational Energy Science)
- Innovations for Existing Plants (+$10 million for criteria pollutants and water programs)
- Oil and Natural Gas Programs (+30 million to restore programs for small producers)

We advocate strong research programs in fundamental science and engineering for developing new concepts and larger scale projects which prove out and hasten the deployment of current technologies. We urge your continued strong support for fossil energy research to meet our national energy needs.

Introduction

Inexpensive, abundant, and reliable electricity is a mainstay of our economic vitality. Coal will continue to play a leading role in electrical power generation in the United States well into the future. Transforming coal into liquid fuels and chemicals can help to reduce petroleum imports, bringing associated positive effects on our international balance of payments and helping to preserve jobs in this country. Concerns about the effect of greenhouse gases on global climate will require reducing emissions of CO_2 from all fossil fuel use. The successful deployment of cost-effective carbon capture and storage (CCS) technologies will ensure that America can continue to use its abundant domestic fossil fuel resources into the future. Given the projected global use of coal and other fossil fuels, leadership by the United States to implement low carbon emission

technologies will set a positive example for the rest of the world and would be an economic stimulus for developing global markets for a U.S. based CCS industry.

Advanced low carbon fossil energy technologies will enable the world community to meet pressing environmental challenges driven by growing populations and growing economies faced with diminishing resources. We recommend strong congressional support for fossil energy research, development, and technology deployment. We also call the Subcommittee's attention to the critical shortage of energy technologists at all levels. We urge your support in particular for basic research in fossil energy that supports academic programs under which we can both develop breakthrough discoveries and also educate our future workforce of scientists and engineers to meet the challenges which face the energy sector.

Carbon Capture and Storage

We recommend strong support for carbon sequestration research for injecting CO_2 into geologic formations. 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 electrical demands of the East Coast. We recommend congressional support for a diverse portfolio of investments in the National Energy Technology Laboratory (NETL) as the national center for carbon management research and technology development. NETL should also expand its programs on pre-and post-combustion CO_2 capture technology development. Continued support for the collaborative research program with NETL and the Zero Emissions Technology Center is also recommended. In addition to supporting the base Administration request, we recommend restoring the Focus Area for Carbon Sequestration Science to its FY 2007 level of $13 million.

Fuels Program

The Administration request for fuels research includes only $10 million for the development of hydrogen from coal. This program contributes to developing a national hydrogen economy. However, the Administration program should also support projects which address deployment and critical infrastructure issues to demonstrate to the general public that hydrogen (from coal) is both economically viable and safe. We are also concerned that little attention is paid to developing transportation fuels and/or chemicals from alternative energy sources such as coal and biomass and recommend $20 million for continuation of the coal and biomass program initiated by Congress in FY 2008. These funds would permit investments in fuels research to support programs such as the Consortium for Fossil Fuel Science and the Consortium for Advanced Separation Technology. These fundamental research programs educate coal chemistry and coal materials technologists who will be needed in the energy industry of the future

as our aging scientists and engineers from the Synfuels Corporation era complete their careers. Other worthwhile investments which should be supported from these funds include the program conducted by the United States and China under Annex II of the Fossil Energy Collaborative Research Protocol to study the development of large scale coal liquefaction / carbon sequestration plants in China. The modest investments in the China program pay back big dividends in access to commercial-scale results at a fraction of the cost of building such plants in the U. S.

We support the position that CCS must be integrated with the fuel production aspects of coal conversion technologies. Fundamental programs of research conducted with the additional funds recommended would develop new technologies that are cost effective with respect to both fuels production and CO_2 capture. We recommend that computational modeling, especially for polygeneration systems, also be conducted under these additional programs.

Advanced Research

Materials Research: Advanced materials are needed in a variety of applications such as ultra supercritical power plants, high temperature gas-fired and hydrogen-fired turbines, sensor technology, catalysts for fuel conversion, high temperature materials for fuel cells, and new processes for carbon capture. We recommend the addition of $10 million to the Advanced Research account for the creation of a Focus Area for Materials Research at NETL to develop advanced materials for energy applications.

Focus Area for Computational Energy Sciences: Advanced computing capability enabled by newer, high speed computers and developments in computing science permit modeling of energy systems in scale ranges from molecular interactions to 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. We are disappointed that the Administration has again neglected this important area of research and recommend additional funding of $5 million for this account for FY 2009.

Innovations for Existing Plants Program

We support the request of the Administration to provide increased funding to the Innovations for Existing Plants (IEP) program for CCS technologies. We are concerned however, that the Administration request neglects other important areas such as particulate control, air toxics, combustion byproduct utilization, and research in technologies which minimize the use of water in energy systems. Continued research is needed in these areas in view of the new CAMR ruling calling for more stringent studies on mercury emissions and national concerns about the scarcity of water in many regions where electric power demands are increasing. We recommend an additional $10 million for the IEP program for these applications.

Oil and Natural Gas Programs

The Administration request zeros out funding for both the Oil and Natural Gas programs again this year. The core oil and natural gas programs under Fossil Energy are specifically authorized in P. L. 109-58 (EPAct 2005). This authorization includes programs such as the Stripper Well Consortium, the Petroleum Technology Transfer Council, and the Enhanced Oil Recovery in Marginal Fields programs. All three of these programs are of major interest to areas such as Appalachia where small producers do not have sufficient funding or expertise to conduct research to recover the valuable resources remaining in the ground. These programs also support research which educates our geologists and petroleum engineers needed in the future to produce our existing resources and to manage our carbon storage programs for CO_2. We recommend restoration of the Oil and Natural Gas program at NETL to a level of $30 million, which is considerably less than Congress provided in earlier times when we were not facing national crises such as $110 per barrel oil.

Thank you for considering our testimony.

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TESTIMONY

House Energy and Water Development Appropriations Subcommittee
Honorable Chairman Pete Visclosky

Fort Peck Reservation Rural Water System (PL 106-382)
Assiniboine and Sioux Rural Water System
Dry Prairie Rural Water System

Bureau of Reclamation

1. FY Budget Request

The Fort Peck Assiniboine and Sioux Tribes and Dry Prairie Rural Water respectfully request FY 2009 appropriations in the amount of $41,953,000 for the Bureau of Reclamation rural water program. The project is 21% complete and has progressed well subject to available funds.

FY 2009 Funds will be used to construct critical elements of the Fort Peck Reservation Rural Water System, Montana, (PL 106-382, October 27, 2000). The amount requested is based on need to build Phase II of the regional water treatment plant, pipelines needed to connect with the Town of Poplar and distribution system on the east and west sides project. The request is within capability to spend funds and is set out below. The Schedule of Activities and Cash Flow analysis to build the major features of the regional system (water treatment plant and common pipelines) is included as Attachment A and helps demonstrate capability to use funds.

FY 2009 FUNDING REQUEST
FORT PECK RESERVATION RURAL WATER SYSTEM (PL 106-382)

Sponsor	Project Feature	Federal	Non-Federal
Fort Peck Tribes			
	Water Treatment Plant		
	Phase I, Clear Well Wash Water Reco	$0	$0
	Phase II, Main Treatment	20,967,000	0
	Pipelines		
	Water Treatment Plant to Poplar	10,783,000	0
	Water Treatment Plant to Wolf Point	0	0
	FP OM Buildings	736,000	0
	Subtotal	$32,486,000	$0
Dry Prairie			
	Big Muddy to Plentywood	7,924,000	2,502,000
	Fort Kipp	291,000	92,000
	Porcupine Creek to Opheim		
	St. Marie to Nashua	4,241,000	1,339,000
	St. Marie to Opheim	0	0
	Subtotal	$9,467,000	2,989,000
Total		$41,953,000	$2,989,000

The sponsor Tribes and Dry Prairie greatly appreciate the previous appropriations from the subcommittee that have permitted building the Missouri River intake (the water source), elements of the water treatment plant, the Culbertson to Medicine Lake pipeline and branches serving rural users outside the Fort Peck Indian Reservation. Without funds to complete the water treatment plant, service to tribal users and communities within the Fort Peck Indian Reservation has not been possible.

The request is less than the average annual appropriations needed to complete the project in FY 2015 ($44,960,000 annually), and is within our capability to use funds for construction.

Total Federal Funds Authorized (October 2007 $)	$264,481,000
Federal Funds Expended Through FY 2008	55,944,000
% Complete	21.15%
Amount Remaining After FY 2008	
Project Cost (October 2007$)	208,537,000
Adjusted for Inflation to Project End	269,757,000
Average Annual Required to End in FY 2015 (Need Extension of PL 106-382)	44,960,000
FY 2009 Amount Requested	$41,953,000

Note that cost indexing from FY 1998 due to inflation increased the cost of the project from $176 million to $265 million, an increase of $89 million. Increases in the level of appropriations are needed to outpace inflation, which averaged 3.35% for pipe in the first 5 years of the project and 7.89% over the last 5 years. The request of $41.953 million recovers last year's inflation and provides a real advance of $24.851 million toward the authorized ceiling.

2. Proposed Activities

PL 106-382 (October 27, 2000) authorized this project, which includes all of the Fort Peck Indian Reservation in Montana and the Dry Prairie portion of the project outside the Reservation.

Fort Peck Indian Reservation

On the Fort Peck Indian Reservation the Tribes have used appropriations from previous years to construct the Missouri River raw water intake, a critical feature of the regional water project. The raw water pump station has been constructed, and the raw water pipeline between the Missouri River and the water treatment plant has been constructed to within 2 miles of the water treatment plant. The sludge lagoons at the water treatment plant have been completed. Phase I of the regional water treatment plant is under construction and will be completed early in FY 2009 with funds appropriated previously.

The regional water treatment plant was divided into three construction phases over the past several years. This segregation of the project in smaller contracts increased the cost of the project significantly but was necessary due to inadequate funding to bid the project as a single unit, which would normally be the case. Rather than one contractor, there will ultimately be three contractors. Three sets of plans and specifications were required to coordinate new construction contracts with pieces already built. The plans and specifications for the complete plant have been approved by the Bureau of Reclamation for three years. Capability to use funds has not been an issue.

The request for FY 2009 includes funds for construction of the essential pipelines from the water treatment plant to the community of Poplar (but not to Wolf Point). The pipeline to Poplar is a regional transmission pipeline east of the water treatment plant to serve the Fort Peck Indian Reservation and to eventually connect to Dry Prairie facilities east of the Reservation. The Tribes will have capability to build the pipeline to Wolf Point in FY 2009, which is a regional transmission pipeline west of the water treatment and serves the west sides of the Fort Peck Indian Reservation and Dry Prairie.

The pipeline project from the water treatment plant to Poplar will provide a water supply from the Missouri River to replace groundwater contaminated by "brine" from oil drilling operations. The brine contamination is the subject of EPA orders against the responsible oil company. The replacement supplies will serve the community of Poplar and the surrounding rural area where wells have been contaminated. More are threatened. There is urgency in completing the regional project to Poplar before the advancing plume of contamination reaches existing community wells. Projections of the date that contamination will reach the Poplar wells range from imminent danger to as much as a decade, but the anxiety of the Tribes' leadership and membership cannot be overcome without completing the water treatment plant and connecting the regional pipeline to Poplar early in FY 2010. This is a critical time frame for the Tribes. The staff and members of the subcommittee are urged to review this matter with the Tribes and Bureau of Reclamation to clarify the urgency of completing necessary project facilities and alleviating the threat of contamination of the public water supply for the Tribes' headquarters community of Poplar.

The Bureau of Reclamation can confirm that the use of funds proposed for FY 2009 is well within the project's capability to spend (see Attachment A).

Dry Prairie

Dry Prairie has used previous appropriations to construct over 200 miles of distribution pipelines from the community of Culbertson, an iterim water source to be replaced when the regional water treatment plant and transmission pipeline have been completed on the Fort Peck Indian Reservation. The distribution system serves the communities of Froid and Medicine Lake and over 200 rural homes, farms and ranches. Pipelines were sized to serve the area north of the Missouri River, south of the Canadian border and between the Fort Peck Indian Reservation and the North Dakota border (see general location map, Attachment B) as funds are made available and water sources are expanded.

The request for FY 2009 funds of $9,467,000, supplemented by a non-federal cost share of $2,989,000, will be used to construct pipelines starting in FY 2008 to rural services on the west side of the Dry Prairie project between the communities of St. Marie and Nashua. An existing water treatment plant owned by the Boeing Co. at the former Glasgow Air Force Base will provide an interim water supply to serve the west side project until the regional water treatment plant of the Tribes is complete and pipelines from Wolf Point to Nashua are constructed. The facilities constructed on the west side of the project are the same facilities required after connection of the regional water treatment plant. Therefore, no duplication of facilities are associated with the interim project.

3. Master Plan

The project master plan is provided for review as Attachment C. The request for FY 2009 is shown in relation to the project components that remain to be completed after FY 2009.

4. Aministration's Support

The project has crossed the threshhold of 20% completion and needs greater funding support to complete the project. The Administration's budget included the project in FY 2007 at the $5.0 million level but has not supported funds for the project since that time. The Administration's support for the rural water program has diminished to only include the Mni Wiconi and Garrison projects. Congressional support is need for the broader program of projects under construction.

The Tribes and Dry Prairie have worked extremely well and closely with the Bureau of Reclamation following the authorization of the project in FY 2000. The Bureau of Reclamation has participated, reviewed and commented on the Final Engineering Report, and all comments were incorporated into the report. Agreement was reached on final presentation. OMB reviewed the Final Engineering Report prior to its submission to Congress in the final step of the approval process. The Commissioner, Regional and Area Offices of the Bureau of Reclamation have been consistently in full agreement with the need, scope, total costs, and the ability to pay analysis that supported the federal and non-federal cost shares. There have been no areas of disagreement or controversy in the formulation of the project.

The Bureau of Reclamation collaborated with the Tribes and Dry Prairie to conduct and complete value engineering investigations of the Final Engineering Report (planning), the Culbertson to Medicine Lake pipeline (design), the Poplar to Big Muddy River pipeline (design), the Missouri River intake (design) and the Regional Water Treatment plant (design). Each of these considerable efforts has been directed at ways to save construction and future operation, maintenance and replacement costs as planning and design proceed. Agreement with Reclamation has been reached in all value engineering sessions on steps to take to save federal and non-federal costs in the project.

The Bureau of Reclamation conducted independent review of the final plans and specifications for the Missouri River raw water intake, the regional water treatment plant and the

Culbertson to Medicine Lake Project. The Agency participated heavily during the construction phases of those projects and concurred in all aspects of construction from bidding through the completion of construction. The regional water treatment plant is under construction, and the Bureau of Reclamation is providing sound oversight..

Cooperative agreements have been developed and executed between the Bureau of Reclamation and the Tribes and between Bureau of Reclamation and Dry Prairie. Those cooperative agreements carefully set out goals, standards and responsibilities of the parties for planning, design and construction. All plans and specifications are subject to levels of review by the Bureau of Reclamation pursuant to the cooperative agreements. The sponsors collaborate to undertake activities that assure propoer oversight and approval by the Bureau of Reclamation. Each year the Tribes and Dry Prairie, in accordance with the cooperative agreements, develop a work plan setting out the planning, design and construction activities and the allocation of funding to be utilized on each project feature.

Clearly, the Fort Peck Reservation Rural Water System is well supported by the Bureau of Reclamation. Congress authorized the project with a plan formulated in full cooperation and collaboration with the Bureau of Reclamation, and major project features are under construction with oversight by the Agency.

END TESTIMONY
***

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 2009

The Board of Commissioners for the Fifth Louisiana Levee District respectfully requests that construction funding for Mississippi River Levees be increased from the $28,767,000 contained in the proposed budget for Fiscal Year 2009, to the U.S. Army Corp of Engineers' capability of $125,927,000, and the Mississippi River Levee maintenance allocation be increased from the proposed $10,726,000 to $35,047,000.

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 $260,000,000 allocated for the entire Mississippi River and Tributaries (MR&T) project. We request that be increased to the Corp's capabilities of $500,000,000.

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 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 2009, 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.

Statement of Christopher R. Bentley, Executive Vice President
FuelCell Energy, Inc.
To
The Subcommittee on Energy and Water Development
Committee on Appropriations
US House of Representatives
2362 Rayburn HOB
Washington, DC 20515

FuelCell Energy appreciates the opportunity to submit this statement in support of the Department of Energy's Fossil Energy, Fuels and Power Systems, Fuel Cell Program. We urge the Subcommittee to continue to support this breakthrough program by appropriating $71 million for development of this highly efficient, clean, and secure energy technology.

DOE's Fossil Energy Fuel Cell Program, through the Solid State Energy Conversion Alliance (SECA) fuel cell activity, is developing technology to allow the generation of highly efficient, cost-effective, nearly carbon-free electricity from domestic coal resources with near-zero atmospheric emissions in central station applications. The program will develop cost-effective, highly efficient, power blocks that facilitate sequestration in coal-based systems. The technology will also permit grid independent distributed generation applications.

SECA fuel cell systems operating on coal gas are building blocks for zero emissions power and are projected to be available at a cost of $400/kw, a tenfold reduction in cost from existing fuel cell technology. In addition the technology developed in this program will produce electricity at up to 60% in coal-based systems, produce near-zero emissions, and be compatible with carbon sequestration.

In all applications SECA fuel cells will be both low-cost, with the above-stated goals of $400/kw, as well as highly efficient. Integrated with coal gasification, such systems will approach 60% efficiency compared to the existing coal-based power generation fleet average of about 33% efficiency. In distributed generation applications even higher efficiencies may be reached, and cogeneration opportunities can further increase efficiency.

Along with these attributes fuel cells are one of the cleanest technologies available in terms of atmospheric emissions, which enhances their attractiveness for urban applications or applications in areas of non-attainment for Clean Air Act emissions. They also provide 24 hour, silent operation.

Finally, coal-based fuel cell systems will increase energy security by using domestic resources. In distributed generation applications fuel cells can eliminate transmission and distribution system infrastructure concerns and issues by providing generation near the point of use and by being able to operate in a grid-independent mode.

The SECA Program consists of integrated industrial manufacturing teams designing fuel cell systems, developing the necessary materials, and ultimately responsible for deploying the technology. These teams are complemented by two to three dozen core technology performers providing generic problem-solving research needed to overcome barriers to low-cost, high performance technology as identified by DOE and the manufacturing teams. The core technology teams are universities, national laboratories, and other research oriented organizations. This unique structure assures that a variety of approaches to solving the problems associated with fuel cells will be undertaken in a manner that will increase the chances of success for this highly complex technology.

The manufacturing teams are developing systems for application to large coal-based central generation systems. The fuel cells being developed can be used in both these large systems as well as in distributed generation applications such as auxiliary power units, military power applications and remote or on-site power generation.

The DOE budget request for this program for FY 2009 is $60.0 million, approximately $4 million above FY 2007 funding levels. This level of funding will continue to support the current program, which involves larger-scale Phase II development work on the part of manufacturing teams in the program and continued effort by the core technology performers. However, in order to deliver full scale fuel cell system hardware for central station applications additional support is necessary to assist and accelerate the creation of manufacturing capability by the formation of teams between existing fuel cell stack developers and industry with the goal of delivering hardware by the scheduled date of 2011 and also to keep the base program on schedule.

We believe that the SECA fuel cell program has achieved the progress to date as anticipated by the program managers, and will continue to display such progress given sufficient funding support by DOE and the Congress. Hybrid technology has been successfully integrated into the program and an emphasis on use with coal-based systems has been established. Industry partners in the program have continued and increased cost-sharing support. All major stack developers have met the initial goals of the program allowing continuance to more advanced stages of development. This technology is essential in enabling the generation of cost-effective, efficient electricity from domestic coal resources with near-zero emissions of carbon and air pollutants in large, central station applications and can also provide low-cost, low-emissions alternatives for distributed generation applications. Therefore, we urge you to support our request for $71 million to execute the DOE Fossil Energy, Fuels and Power Systems, Fuel Cell Program in FY 2009.

Testimony Submitted

by

Dr. Raymond Bye, Jr.

Director of Federal Relations

Florida State University

Before the Subcommittee on Energy and Water Development

Committee on Appropriations

US House of Representatives

March 17, 2008

Florida State University seeks **$4,000,000** from the U.S. Department of Energy (Electricity Transmission and Distribution) for our **Electric Power Infrastructure, Security R&D** Program.

Mr. Chairman, I would like to thank you and the Members of the Subcommittee for this opportunity to present testimony before this Committee. I would like to take a moment to briefly acquaint you with Florida State University.

Located in Tallahassee, Florida's capitol, FSU is a comprehensive Research university with a rapidly growing research base. The University serves as a center for advanced graduate and professional studies, exemplary research, and top-quality undergraduate programs. Faculty members at FSU maintain a strong commitment to quality in teaching, to performance of research and creative activities, and have a strong commitment to public service. Among the current or former faculty are numerous recipients of national and international honors including Nobel laureates, Pulitzer Prize winners, and several members of the National Academy of Science. Our scientists and engineers do excellent research, have strong interdisciplinary interests, and often work closely with industrial partners in the commercialization of the results of their research. Florida State University had over $190 million this past year in sponsored research awards.

Florida State University attracts students from every state in the nation and more than 100 foreign countries. The University is committed to high admission standards that ensure quality in its student body, which currently includes National Merit and National Achievement Scholars, as well as students with superior creative talent. Since 2005, FSU students have won more than 30 nationally competitive scholarships and fellowships including 2 Rhodes Scholarships, 2 Truman Scholarships, Goldwater, Jack Kent Cooke and 18 Fulbright Fellowships.

At Florida State University, we are very proud of our successes as well as our emerging reputation as one of the nation's top public research universities.

Mr. Chairman, let me summarize our primary interest today.

The electric power system is critical as a fundamental enabling infrastructure for every aspect of the economy, national security, and defense. Large-scale failures in the electrical grid systems of North America and Europe have made us aware of the critical nature of our dependence on the availability of electrical power. A contributing factor to these failures was a lack of detailed understanding of the system response to an initial minor disturbance. Lack of investment in power systems grids over the last 20-30 years has eroded the redundancy traditionally built into the system. Over time, this lack of investment in R&D resulted in the loss of many power engineering educational programs. The nation is now facing an acute shortage of power engineers.

This multi-university project will build on existing expertise at FSU, other Florida universities, and several of DOE's National Laboratories. The research conduced will focus on critical issues associated with modernizing the U.S. electric grid to improve reliability, security, and efficiency and to support new technologies. Much of the research will include industrial partners, thereby ensuring rapid technology transfer from research-to-practice. These activities include:

1) Employing the real time digital simulator capability at FSU to simulate real-time behavior of regional and local power systems and interconnections and to examine areas of vulnerability to major outages and cascading failures. We plan that this will become a national user facility with remote access capability over high-speed connections.
2) Use of the real-time digital simulator through comparisons of concurrent real time modeling and an actual system to assess new technologies.
3) Investigation into technology needs for enabling wide area measurement, communications, and control advances for improved coordination over large areas.
4) Advanced materials R&D for superconductivity applications in power systems.

Through coordinated efforts across multiple universities, FSU will lead the initiative to address future needs to assure reliable energy. We are seeking $4,000,000 in FY 2009 for this important project.

Statement for the Record
FutureGen Industrial Alliance
House Committee on Appropriations
Subcommittee on Energy and Water Development
March 19, 2008
Fiscal Year 2009 Budget

Alliance Recommendations

Department of Energy (DOE) – Fossil Energy Budget Request

- $156 million for the FutureGen program at Mattoon, IL

Background

The FutureGen Industrial Alliance ("Alliance") submits this testimony to support the $156 million requested for the FutureGen program, but only specifically for the FutureGen program at Mattoon, IL. This action is essential to continuing the progress that has been made in the path forward to achieving near-zero emissions coal technology incorporating carbon capture and sequestration (CCS). We urge Congress to continue with the federal government's ongoing commitment to adequately fund the FutureGen program as initially conceived as a necessary and integral aspect of the research and development activities required for commercial deployment of advanced clean coal technologies.

Further, the Alliance maintains its position that funds appropriated for FutureGen at Mattoon be considered a complement to funds required to support other fossil-energy programs including the Clean Coal Power Initiative and the Base Coal R&D program. Each of these elements is part of an overall national program to secure our energy future and protect the environment.

The President announced the FutureGen Initiative in 2003, and Congressional appropriations have supported this important program each year since Fiscal Year 2004, and we are grateful to the Committee for its leadership in supporting these budgets. In March of 2007, the Department of Energy entered into a Cooperative Agreement with the FutureGen Alliance to conduct the FutureGen program, a public-private partnership to design and build in the United States the first-of-its-kind commercial-scale power plant that will capture and permanently store 90 percent or more of the plant's CO_2 emissions; 2) power about 150,000 American homes with the clean electricity it generates from coal; and 3) co-produce hydrogen and potentially other useful by-products from coal. It is the most advanced R & D endeavor of its type in the world.

Clearly, both ends of Pennsylvania Avenue recognize that the federal government has a pivotal role to play in fostering the development and deployment of near-zero emission coal technology. It is important that, as a nation, we invest at the scale required to develop, prove, and deploy CCS technologies to the marketplace. While estimates vary, the required federal investment is certainly in excess of $10B over the coming decade. This investment in our nation's future must be supported by the development and demonstration of near-zero emission coal technologies and CCS in a variety of applications. While nuclear, renewables, biomass, and efficiency will all be part of the low-carbon technology solution, coal is used to generate over 50% of the electricity in the U.S. and is projected to remain the backbone of the U.S. electricity system for most of this century. Therefore, the availability of affordable, near-zero emission coal technology incorporating carbon capture and sequestration (CCS) is essential to our future.

DOE's Restructuring Proposal

The U.S. Department of Energy is to be commended for its vocal support of near-zero emission coal technology, including CCS. Its support of this technology was recognized in its initial support of the FutureGen program as originally envisioned, but the Department's proposal to restructure FutureGen fails to recognize the scale of the challenge that this nation, and indeed the world, is facing. It delays technology development and integrated demonstration of commercial scale CCS by five years or more. It backs away from a non-profit partnership that has been created to act in the public benefit and broadly share its technical results throughout the world. It rebuffs the participation of international companies (and countries) that are critical to the ultimate deployment of clean coal technology around the world, and it undermines the reliability of the U.S. Department of Energy as a partner.

Therefore, regardless of what other CCS initiatives that the DOE proposes, it is essential that the Congress reaffirms the federal government's position as a global leader in near-zero emission coal technology and CCS development by maintaining the historical position of both Congress and the DOE that FutureGen at Mattoon is the top priority program in advancing CCS technologies.

FutureGen at Mattoon

The FutureGen Industrial Alliance, which is comprised of thirteen of the largest coal producers and coal-based utilities in the world, was formed to partner with the U.S. Department of Energy to develop a technology solution to mitigate CO_2 emissions from coal. The Alliance has pledged approximately $400 million dollars under its current Cooperative Agreement with DOE. This level of non-profit financial donation, by the coal and coal-fueled utility industry, to a DOE program, and without any opportunity for financial return on its donation, is unprecedented. We hope that the administration and the Congress will view this fact as proof of the importance of FutureGen at Mattoon. The Alliance urges the Department to continue its support of the FutureGen at Mattoon program with the non-profit Alliance, and for Congress to continue to fund it as is.

- FutureGen at Mattoon offers DOE an opportunity to beat its proposed timeline. The FutureGen Alliance has delivered five years of progress, including contract negotiations, an enthusiastic and committed local community, a site that is technically and legally ready to go, a design and cost estimate, a final environmental impact statement, vendor relationships, and a team of fifty engineers and scientists. No fully integrated, near-zero emission power-plant project in the world can compete with FutureGen in terms of its ability to move forward with urgency on the required technology development and demonstration.

- FutureGen at Mattoon will meet or exceed all DOE emissions and CO_2 capture goals. All emissions and CO_2 capture criteria included in the FutureGen Report to Congress and DOE's current Request for Information (RFI) will be met by FutureGen at Mattoon, ***including 90% CO_2 capture***.

- FutureGen at Mattoon is fully integrated and commercial scale. FutureGen at Mattoon incorporates a commercial-scale gasifier and commercial-scale "Frame 7" turbine. As configured, and with the commitment to share lessons learned widely, it gives industry a chance to learn about the cost, performance, and operating strategies for an integrated system with CCS.

- Public benefit and information sharing is a hallmark of FutureGen at Mattoon. As a nonprofit enterprise, the FutureGen Alliance will broadly share information from the program, facilitating the deployment of commercial, near-zero emission power plants throughout the world. Alternative for-profit approaches may be complements, but they will feature protection of technological know-how and IP within individual companies rather than sharing it for broad benefit.

- International involvement is essential to success and FutureGen at Mattoon includes it at an unprecedented level. Thirteen companies with operations on six continents are participating. Climate technologies must be globally acceptable and globally deployed, or they will not be effective. International participation has been exceptionally well-managed and has added to the performance of the program. No other project can replicate FutureGen at Mattoon's level of international involvement.

- FutureGen at Mattoon provides a platform for testing advanced technologies, which accelerates technology development and saves the taxpayer money. FutureGen at Mattoon can serve as a test bed for advanced technologies emerging from DOE's Fossil Energy R&D program and industry R&D efforts. Such testing will not interfere with the primary mission of the facility and provides a cost-effective approach to advance technology. Alternative testing approaches will be far more expensive. By proposing to end its support of FutureGen at Mattoon, DOE will be increasing the cost and difficulty of testing the very advanced technologies that its program managers seek to develop and deploy.

- FutureGen at Mattoon's costs are manageable. As with all global energy infrastructure projects, costs have increased since 2003. However, between the approximately $400 million in cash the Alliance is contributing and plant revenue that is being returned to DOE, the costs are manageable and a good national investment. Alternative projects that truly deliver the same results will not be cheaper. Further, the Alliance's offer to sit down with DOE and discuss cost containment strategies remains an open offer.

There is no program in the world that can move near-zero emission power and CCS further or faster than FutureGen at Mattoon. It is non-profit, includes unprecedented international involvement and information sharing, and has a site that is technically and legally ready-to-go. Alternatives will cost the country five years or more of delay and/or deliver less in terms of results. As Congress and the administration debate the appropriate structure and funding levels for the FutureGen program, we urge that: the factors outlined here be taken into account; FutureGen at Mattoon be maintained as a global flagship program that is the nation's top priority for advancing near-zero emission coal technology; and complementary programs be added to the program as the budget allows.

The FutureGen Industrial Alliance is a non-profit consortium comprised of thirteen of the largest coal producers and coal-based utilities in the world, and was formed to partner with the U.S. Department of Energy on the FutureGen program to develop a technology solution to mitigate CO_2 emissions from coal.

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Statement To: U.S. House of Representatives Appropriations Committee – Subcommittee on Energy and Water Development
Regarding: Department of Energy Turbine R&D Programs: "FTT Spar-Shell Blade"
Submitted By: Shirley Brostmeyer, Chief Executive Officer, Florida Turbine Technologies, Inc.

Thank you for the opportunity to present to the United States House of Representatives Committee on Appropriations – Subcommittee on Energy and Water Development our unique technology that, when applied to *existing* gas turbine power plants, *increases the generating capacity by 15%* by increasing power plant efficiency. Further, reduced fuel consumption due to increased efficiency leads to *decreased CO_2 and other undesirable emissions*. FTT's Spar-Shell Blade is *a key enabler of efficient zero emission* turbines. This game-changing technology can be demonstrated with a $3.1 million addition to the Fiscal Year 2009 (FY09) Department of Energy (DOE) Office of Fossil Energy (FE) Advanced Turbines R&D.

FTT Spar-Shell Technology Can Increase the Efficiency of up to 14% of Today's World-Wide Power Generation Capacity

Near-Term, The Spar-Shell Blade Can Achieve:
- Natural gas savings of 480 trillion BTU/year
- Equivalent oil savings of 84 million barrels, which is 4 days of US consumption per year!
- CO_2 emissions reduction of 25 million tons/year due to reduced fuel consumption

Aggressive reductions in greenhouse gas emissions require advances in new power plant designs *and* upgrades of existing gas turbines. Since power plants have life-spans of 30-50 years and the cost of new plants is so high, the importance of upgrading cannot be overstated. Although new combined-cycle plants can achieve 60% efficiencies, existing plants have efficiencies of 50% or less. By increasing the efficiency of existing power plants, we can essentially obtain "free" electric power without increasing fuel consumption and greenhouse gas emissions.

The *FTT Spar-Shell Blade* represents a promising leap in gas turbine technology that can be applied to 500GW of existing power generation capacity which is equal to 14% of today's total world-wide power generation capacity. If applied on a global basis, the *FTT Spar-Shell Blade* has the potential to save 480 trillion BTU of natural gas per year. *This amount of natural gas is equivalent to saving 4 days of US oil consumption every year.* Efficiency improvements brought to bear by the FTT Spar-Shell Blade may result in world-wide CO_2 emissions reductions of up to 25 million tons per year.

Immediate funding for this game-changing technology is critical to increase existing power plant capacity while minimizing CO_2 emissions. Clean energy initiatives must consider the less expensive and more rapidly deployable option of improving the efficiency of existing power plants. A $3.1 million addition to the Fiscal Year 2009 Department of Energy Office of Fossil Energy Advanced Turbines R&D Budget will fund the demonstration of the Spar-Shell Blade.

Enabling Technology for Advanced Cycle Turbines

The *FTT Spar-Shell Blade* is an enabling technology for advanced zero emission gas and steam turbines such as the High-Hydrogen (H_2) and Oxy-Fuel turbines. The Spar-Shell technology can

be leveraged to develop blade designs capable of enhancing existing gas turbine power plant performance and efficiency in Integrated Gasification Combined Cycle (IGCC) applications. Additionally, the performance and efficiency benefits afforded by FTT's Spar-Shell technology allow for higher performance carbon sequestration cycles.

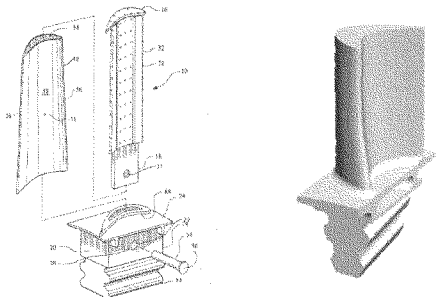
Background of the Spar-Shell Program:

The DOE competitively awarded a Phase I Small Business Innovative Research (SBIR) contract to *Florida Turbine Technologies, Inc.* (FTT) in Jupiter, Florida for the preliminary development of the FTT Spar-Shell Blade. This brand new concept, recently patented by FTT, is a game-changing technology that can accomplish two critical needs of the US Energy Initiative:

1) Improve the efficiency of existing gas turbine power plants thereby reducing fuel consumption and hence harmful emissions.

2) Enable the design of advanced zero emission turbine-based power plants, such as the High-Hydrogen (H2) and Oxy-Fuel plants.

Spar-Shell Technology employs an innovative new turbine blade construction concept (see Figure 1) which allows the incorporation of extremely high temperature materials that cannot be used in today's turbine blade manufacturing process. These advanced materials allow the turbine components to run at much higher temperatures (with reduced parasitic cooling) which increases the power output for the same fuel consumption (improved efficiency). Since this technology can be retrofitted into existing turbines, it represents "free" energy that can be online within three years, without any increase in CO_2 or other harmful emissions. The ability of turbines to withstand extreme temperatures is also an enabling feature for future zero emission turbine-based power plants.



FTT Spar-Shell Blade Construction *Cast One-Piece Turbine Blade*

Figure 1. FTT's innovative Spar-Shell Blade technology leverages the enhanced properties of high temperature materials in a multi-piece blade construction which requires significantly less cooling air than the one-piece casting of conventional turbine blades.

Other Sources of Funding for this Project:

The DOE competitively awarded a Phase I SBIR contract to *Florida Turbine Technologies, Inc.* (FTT) in Jupiter, Florida for the preliminary development of the FTT Spar-Shell Blade (DE-FG02-07ER84668). The 7-month contract began in August 2007 and is valued at $100,000. A Phase II program, if awarded in 2008, will fund $750,000 towards the detailed design of the Spar-Shell Blade. In addition, FTT has invested $200,000 in internal funding since the inception of the Spar-Shell program.

Florida Turbine Technologies—A Leader in Power and Innovation

With 160 employees, Florida Turbine Technologies, Inc is a world-leader in design and analysis of industrial gas turbines for world-wide energy production; and next generation aerospace gas turbines for the Department of Defense and NASA. FTT's average employee has nearly 20 years of gas turbine experience and our innovations have resulted in over 300 patent applications related to gas turbine design. FTT's reputation for innovation and quality has lead to FTT being highly regarded by the DOD and the DOE as a critical source for technology in the field of turbomachinery. FTT is a small, woman-owned business, with headquarters, engineering offices and laboratory facilities in Jupiter, Florida.

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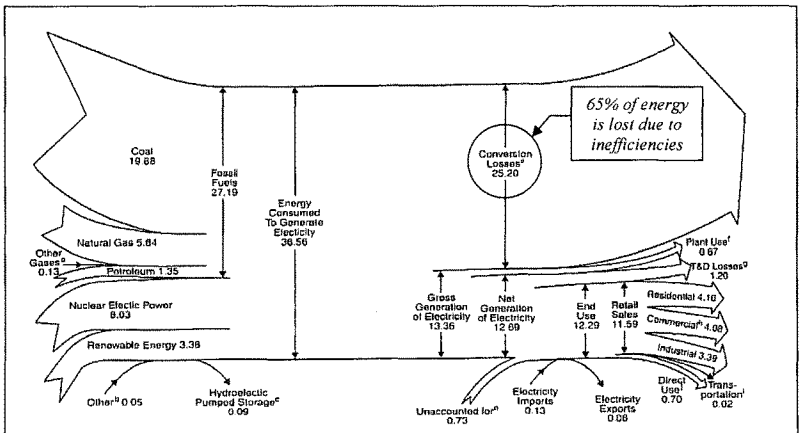


Figure 2. Sources and end use of electricity in the US for 2001, showing 65% of energy from power plants operating in 2001 is lost due to inefficiencies. Units are quadrillion (i.e. 10^{15}) Btu. Source: Energy Information Administration (EIA), 2002.

THE FY 2009 FOSSIL ENERGY RESEARCH AND DEVELOPMENT BUDGET

Testimony submitted by Ben Yamagata – Executive Director, Coal Utilization Research Council
To the Committee on Appropriations, Subcommittee on Energy and Water Development
U.S. House of Representatives
March 19, 2008

CURC submits this testimony in support of increasing the DOE's fossil energy budget by the following amount: $29 million for the Coal R&D program (for a total of $411.7 million) for specific R&D activities as noted below; and an additional $200 million for the CCPI program (for a total of $285 million). CURC supports the Administration's request to fund FutureGen at $156 million, but does not support the DOE proposal to restructure the FutureGen program. Rather, CURC recommends that the Committee consider providing multi-year funding through an additional $1 billion advance appropriation for a new, near-term program to support installation of currently available or emerging carbon capture and storage (CCS) technology on power generation or industrial facilities using coal.

Introduction

Coal will continue to play a pivotal role in meeting U.S. energy needs. Its abundance and use in the United States helps to insure our national energy security and economic vitality. 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. Technology also will play a crucial role worldwide as the demand for energy from coal grows rapidly.

CURC wishes to emphasize in as strong a manner as possible the importance of DOE's coal R&D program as a critical component to our nation's greenhouse gas mitigation efforts. To achieve the challenging CO_2 emission reduction schedules that have been discussed in Congress, much more significant levels of funding for coal-related technology development, demonstration and deployment will be required, and a multi-year commitment from the federal government is needed that industry can rely upon. That means Congress should again consider funding programs for multiple years through advance appropriations. Our membership has defined such a multi-year program and the Congress is urged to adopt such a strategy.

For CCS to be technically and economically capable of contributing to longer-term climate change solutions, initial commercial deployment of currently available technology is needed now. In addition – and most important with respect to this Subcommittee's jurisdiction – a well-funded and focused research, development and demonstration program directed at developing the next generation of CCS technologies is needed.

CURC Near- and Long-Term Program

CURC has developed a two-part program. The first program is focused upon near-term technology applications. This program identifies technologies available now, i.e. technologies that do not require additional development work, but need to have proven operational experience

to be accepted in the marketplace. This near-term effort is needed to accelerate progress in the development of commercially deployable CCS technologies. It will provide "learn-by-doing" knowledge regarding the integration of carbon capture systems with power plants, as well as much needed experience with underground storage of large quantities of CO_2. The CURC near-term program identifies a suite of incentives designed to improve power plant efficiency, to encourage the construction of advanced coal based power plants, and to support early technology deployment projects to capture and store (or use) CO_2. While this program calls for the use of federal tax incentives to fully energize American industry to deploy the first stages of CCS technology, the Subcommittee is urged to examine the CURC near-term program and to support initial funding not by re-directing FutureGen funding, but by appropriating additional funds to initiate this near-term program.

The second program, developed with the Electric Power Research Institute (EPRI) in consultation with the Department of Energy (the CURC-EPRI Technology Roadmap) defines a research, development and demonstration program that focuses upon the rapid development of cost-effective CCS technologies. The Roadmap identifies a set of technology options for the electric power sector that once successfully developed, will insure low cost electricity to the American consumer while capturing and permanently storing most of the CO_2 emissions from coal use (details about the CURC-EPRI Roadmap can be found on the CURC website at www.coal.org). The CURC-EPRI roadmap defines the steps necessary to develop much more efficient power plant platforms and affordable, safe, reliable CO_2 capture and storage systems. The goal of the roadmap is to have, by 2025, new combustion and gasification based power plants operating with CCS with an efficiency between 39% to 46% at a cost equal to or lower than alternative sources of electric power. Our analysis suggests that the combined Federal and industry investment necessary to achieve these goals is approximately $17.0 billion between now and 2025. This amount reflects both the federal and industry investment (traditionally, the maximum Federal cost-share is 80% for R&D projects and 50% for demonstration projects).

Recommendations

Using the CURC-EPRI roadmap as a tool to guide our nation's coal research and development (R&D) efforts, CURC has examined the President's FY 2009 budget request for coal and submits the following recommendations which are keyed to the roadmap.

1. Clean Coal Power Initiative (CCPI). The $85 million proposed for CCPI is not adequate to support pre-commercial and commercial-scale demonstrations of integrated coal conversion, CO_2 capture, and sequestration technologies for combustion and gasification-based coal power systems. DOE issued a draft Funding Opportunity Announcement (FOA) for the CCPI program in late 2007 with the expectation of making awards in late 2008. However, a final solicitation has yet been released. DOE indicates only $250 million may be available for awards and this total includes an FY 2009 appropriation for the CCPI program. This level of funding is not sufficient to mirror the magnitude of effort required to address greenhouse gas mitigation. There is a serious concern that the level of available funding will be inadequate to induce viable projects to come forward. CURC recommends that the Subcommittee increase funding for this vital program by an additional $200 million above the amounts requested. This is the federal government's key technology demonstration

program to address CO_2 capture and storage. Inadequate funding of this program is not acceptable.

In addition, the DOE should be directed to clearly include in its solicitation eligibility for large pilot and pre-commercial scale projects that will demonstrate carbon capture and storage as an integrated part of a combustion or gasification based electric generating unit. Several technologies are ready to be demonstrated at the large pilot and/or pre-commercial scale. These smaller scale demonstrations will be less costly than full scale systems, but will still provide critical engineering data and operational experience that can thereafter be scaled to commercial size. CURC recommends that DOE solicit applications for the demonstration of pre-commercial scale activities through the CCPI program.

Finally, and most important, we urge the Subcommittee to direct the DOE to immediately issue the CCPI solicitation. In its original draft solicitation the Department indicated that the request for proposals would be issued first in December of 2007, with awards to be made no later than April of 2009. We believe there are many potential projects awaiting the DOE solicitation. Further delays simply postpone the demonstration of technologies that industry might use in the nation's efforts to mitigate greenhouse gases.

2. FutureGen. The Administration seeks to use previously appropriated funds to support a proposed restructured FutureGen program in FY 2009. CURC supports the use of these funds for the original FutureGen project, and opposes the proposed action by DOE to terminate support of the current FutureGen project. FutureGen is intended to begin operation, including CCS operations, in 2012 and to serve as a living laboratory to test components for the gasification technologies being developed in the R&D program. We believe this project is a critical component not only in the further development of IGCC related technologies, but also to our understanding in the capture and permanent storage of CO_2. If DOE discontinues support of FutureGen, as much as five years of development of a fully integrated IGCC with carbon capture will be lost, not to mention the work already done on CO_2 storage and site characterization. These actions could greatly delay the commercialization of IGCC-CCS technology.

3. Initiate a New Industry-Government CCS Program. CURC supports the Department's initiative to undertake a separate solicitation in which the DOE would provide funding for the incremental costs associated with installing CCS on commercial-scale facilities. This program, however, cannot be limited to CCS applications on IGCC facilities only. CURC has recommended to the DOE, and we take this opportunity to recommend to the Congress as well, that combustion-based projects, including both advanced pulverized coal with carbon capture and oxycombustion technologies, be included in this new initiative. Because the manner in which combustion and gasification based systems will be able to capture CO_2 from a generating unit differ greatly, we have recommended establishing parallel programs to reflect differing qualification criteria. The purpose of this recommendation is only for ease of administration. The amount of funding proposed for this new program, $1.3 billion (in as-spent dollars), over a 14 year period (the scope and duration of the proposed program) is not adequate to support "multiple" CCS deployment projects as DOE suggests. CURC has recommended the establishment of a 15 year and $30 billion (a combined industry and

government investment) program to rapidly deploy CCS technology, as identified above as CURC's "near-term" program. Federal appropriations are needed to initiate this program and the Subcommittee is encouraged to make available advance appropriations of $1.0 billion to begin this important government and industry program.

4. Coal R&D Program. The Department of Energy is to be commended for its proposed FY 2009 R&D budget, which is substantially higher than in years past. However, the entire DOE coal R&D program is now, in its entirety, a critical component of our nation's greenhouse gas mitigation program and as such requires a much higher level of funding and a multi-year commitment from the Federal government in order to come close to achieving the challenging schedules that have been put forward by policymakers for CO_2 reductions. We urge that such a commitment for an accelerated funding approach be consistent with the technology goals of the CURC-EPRI roadmap. CURC believes that additional R&D funding in the amount of $29.0 million, without earmarks, is required for focused development activities in particular R&D programs to accomplish the goals of the CURC-EPRI roadmap, as follows:

   a. Innovations for Existing Plants (IEP). CURC agrees with the DOE proposal to restructure the IEP program to support development of CCS technologies including post combustion technologies to capture CO_2 from existing sources. Such a program should focus on post-combustion capture, oxyfuel combustion, separation and compression of CO_2 from coal fired utility boilers, efficiency improvements, and concepts to reduce water consumption. In addition, CURC recommends funding be provided to support development of technologies to control criteria and hazardous air pollutants. The recent decision by the D.C. Circuit Court of Appeals created new uncertainties about the types of mercury and other hazardous air pollutant control technologies that will be required to meet an unknown future regulation. CURC recommends DOE continue development and testing of different control technologies across a span of different coal types to address the technological uncertainties created by the court decision.
   b. Carbon Sequestration. CURC supports the President's proposed funding level of $149 million in FY 2009 to support large scale injection tests of carbon dioxide in geologic formations. CURC recommends that this program also continue and expand its focus on the development of novel approaches for pre- and post-combustion CO_2 capture technology development.
   c. Advanced Turbines. CURC recommends that this program, funded at $28 million in the Request, be funded at $55 million in FY 2009. The additional resources are needed to insure that the development of the hydrogen turbine remains on track, given it is an essential component of advanced high efficiency IGCC facilities that will capture CO_2. The funding increase should also support the development of oxyfuel combustion turbines. In both instances, improved turbines are critical to increase plant efficiencies and to reduce CO_2 emissions.
   d. Advanced Research. CURC recommends an additional $2.0 million (for a total $26.6 million) for this program in FY 2009. This increase would be required to support DOE's ultra supercritical materials research activities. This program, which has been under funded for the past two years, is focused on developing high temperature materials that will enable boiler systems and turbines to become more efficient, resulting in the

reduction of CO_2 emissions from combustion processes in power plants. CURC also recommends that DOE redirect a portion of the funding for this program to support oxycoal combustion science, CO_2 compression science and low temperature materials research, which are critical to develop integrated CO_2 capture technology systems.

e. IGCC. CURC supports the President's request to fund this program at $69 million in FY 2009, but does not support the request to provide $2.5 million from this program's budget to fund the Asia Pacific Partnership. CURC recommends that this money be utilized instead in areas where the current IGCC program is lacking focus, specifically on improving feed pressurization, instrumentation and controls, and solid filters.

f. Coal to Liquids. CURC supports the President's program for development of hydrogen from coal, but recommends additional work be conducted to improve and develop alternative syngas processes, develop catalysts and process technologies to reduce the amount of hydrogen needed and advance polygeneration systems.

5. University Based Research. CURC recommends that DOE initiate an academic or university based program to develop coal chemistry research programs to rebuild the declining workforce for coal technologies in the future and to support new university coal research projects for advanced research, gasification and combustion based technologies. University based programs to support students training to become engineers or craftsmen are needed for the development and construction and operation of advanced power systems in the future.

Conclusion

Recognizing the fact that we are operating within a severely constrained budget, and Congress is developing legislation that will require significant reductions of CO_2 emissions over the next several decades, CURC believes that funds provided for the DOE Clean Coal Program should focus almost exclusively upon those technology development programs that will enable deployment of CCS technologies as quickly as possible (between now and 2025). The issue of carbon mitigation is so predominant that we must focus limited resources upon developing and widely deploying CCS technologies to address the issue of CO_2 mitigation.

Statement of Hans Detweiler, Governor Blagojevich's Representative to the Governors' Ethanol Coalition
Before The House Energy And Water Development Appropriations Subcommittee
In Support of FY'08 Department Of Energy Funding For Biofuels
March 15, 2007

Mr. Chairman and members of the Subcommittee, we submit this statement on behalf of Nebraska Governor Dave Heineman and Illinois Governor Rod R. Blagojevich, Chairman and Vice Chairman, respectively, of the Governors' Ethanol Coalition (http://www.ethanol-gec.org), which represents thirty-five of the nation's governors, in support of funding for the U.S. Department of Energy's (DOE) biofuels research, demonstration, and market transformation efforts.

The Coalition requests that $213 million be provided for the Office of Energy Efficiency and Renewable Energy's (EERE) Biomass Program in order to overcome fundamental technology and market barriers in the production and use of substantially greater quantities of ethanol. We also recommend an additional $250 million, a one-time appropriation, for implementation of the *Section 942* Reverse Auction Cellulosic Production Incentive authorized under the *Energy Policy Act of 2005.* Finally, we recommend not less than $75 million for the Office of Science's Genomes to Life initiative. These funding requests are consistent with the governors' funding recommendations earlier submitted to Congress and the Administration in *Ethanol From Biomass: How to Get to a Biofuels Future* (http://www.ethanol-gec.org/information/biomasstoethanol2006.htm).

Background

The Governors' Ethanol Coalition respectfully urges the Subcommittee's consideration of these important funding requests because of the serious security, economic, and environmental risks associated with the United States' dependence on imported oil. The call for action to mitigate these risks by delivering advanced biofuels and efficient flex-fuel plug-in hybrid vehicles now comes from national security experts, business leaders, Congress, governors, environmental advocates, consumers and others. They believe we must transform both the transportation fuel system and the vehicle fleet so that the fuel we use does not threaten our way of life. Consider the following:

- Oil is the largest contributor to our trade deficit, accounting for more than $1 billion a day in funds that are largely sent — not to the shareholders of major publicly owned oil companies — but to increasingly unstable oil exporting countries;
- Oil accounts for more than 32 percent of U.S. carbon dioxide emissions, with each gallon of gasoline burned producing 28 pounds of carbon dioxide from the combination of tailpipe emissions and the refining and distribution of gasoline;
- Oil is the unquestionable epicenter of national security crises that distorts the foreign policy of many nations; and
- Oil supply and price volatility has demonstrated a capacity for world-wide economic disruptions.

Recognizing the seriousness of this crisis, the governors worked with Congress and the President to pass the *Energy Policy Act of 2005,* which established the Renewable Fuels

Standard and dramatically expanded biofuels research and demonstration. The result is unprecedented growth in ethanol production and the beginnings of a shift in the dynamics of our oil dependency. In a matter of months, we will exceed the 2012 goal of 7.5 billion gallons of ethanol a year set by the Renewable Fuels Standard — an amount equivalent to about 4 percent of our transportation fuels needs. This seemingly overnight achievement is a modest demonstration of what the nation's researchers, farmers, and entrepreneurs can achieve with sound policy directions and adequate resources.

However, the national security risks associated with our oil dependency suggests the need for a far greater response. Senator Richard Lugar identified these risks in September 2006, when he said, "In the absence of revolutionary changes in energy policy, we are risking multiple disasters for our country that will constrain living standards, undermine our foreign policy goals, and leave us highly vulnerable to the machinations of rogue states."

Production of 10 or 15 billion gallons of ethanol a year can aid in mitigating these risks and is a goal that can be met with existing feedstocks and technologies. Nevertheless, such a goal falls short of both our potential and the challenge we face. Instead, the Coalition believes we must establish far more ambitious goals than those envisioned only a few years ago.

Three months ago, the governors adopted a comprehensive set of policy and funding recommendations — *Ethanol From Biomass: How to Get to a Biofuels Future*. These recommendations include an expanded Renewable Fuels Standard, increased research and demonstration activities, production and infrastructure incentives, and greater attention to transforming the market for the use of higher blend ethanol fuels. All these actions aim to achieve a goal of providing 25 percent of our transportation fuel, about 60 billion gallons, from renewable, domestically produced ethanol by 2030.

Reaching this level of ethanol production requires overcoming technical barriers in the growth, collection, and conversion of cellulosic material to ethanol. We believe delivering the recommended funding on a sustained basis will result in the private sector being able to build cost-effective production capacity over next decade. This action will have a tremendous positive impact on the nation. For example, the production of 4 billion gallons of ethanol in 2005 resulted in the United States importing 170 million fewer barrels of oil — this means that $8.7 billion that was not transferred to oil-producing nations from our states that year. Imagine the impact of 15 times that amount of domestic ethanol production and use?

Funding Recommendations

Consistent with the technical, investment, and industry experts consulted by the governors, we urge the Subcommittee to provide a total of $213 million, exclusive of earmarks, in FY'2008 for EERE's Biomass Program. In general, we support the budget elements in the Administration's FY'2008 request for this program, including substantial funding for the recently awarded biorefinery demonstrations. Equally important, however, are smaller scale, 10 percent of commercial size, cellulosic demonstrations in all regions of the nation. These demonstrations allow for the use of a greater range of feedstocks and conversion technologies, as well as important logistics and harvesting experimentation.

In addition, we urge the committee to require that not less than $10 million of the $213 million for EERE's Biomass Program be used for higher blend ethanol infrastructure development. The ethanol infrastructure-vehicle stalemate has long been defined as which comes first — higher blend ethanol pumps and infrastructure or sufficient numbers of flexible fuel vehicles to use the fuel. The governors believe that these funds should be used to leverage state and local efforts through an initiative targeting three major metropolitan areas. Collaborative teams would compete for cost shared awards with possible selection criteria for potential for long-term market transformation and evidence of a local commitment. This concentrated effort would maximize private, state, and local investments in marketing and infrastructure and would provide evidence of the potential of a flexible fuel system. The governors believe the Biomass Program's close relationship with ethanol producers and understanding of logistical needs requires that the initiative be operated under the auspices of that program.

The Coalition also recommends that the Subcommittee provide a total appropriation of $250 million over the next several years for implementation of the Section 942 Reverse Auction Cellulosic Production Incentive authorized under the *Energy Policy Act of 2005*. This market-oriented incentive is a cost-effective means to maximize production with the least amount of federal incentive.

Finally, DOE's Office of Science is undertaking essential genomic research to advance cellulosic biofuel production capabilities. The Coalition recommends full funding for the program, with not less than $75 million for each of the next five years to support the Genomics to Life initiative. The Coalition recommends funding in this area so that three centers can be established and supported — allowing needed diversity of perspectives and approaches in terms of the challenges of producing cellulosic biofuels across a range of feedstocks, climates, and regions.

In addition to the overall level of funding, the makeup of funding for these programs remains a concern. While the FY'2007 Continuing Appropriations Resolution marked a dramatic change in the level of Congressionally directed funding, the FY'2006 Department of Energy Biomass Program budget included congressionally directed spending totaling 57 percent of available funds. Although such directed funding is often valuable and necessary, the high proportion of earmarks to the total program budget makes a serious national program extraordinarily difficult to implement. The Coalition respectfully requests your consideration of this issue with regard to this program.

Technological breakthroughs and incremental process improvements are the bedrock of expanding production of ethanol and in particular delivering the promise of cellulosic ethanol. Without sustained investments in the well-planned research and incentive authorizations of the *Energy Policy Act of 2005,* America will not lead the biofuels technology of the future. The governors re-state their call for expanded federal resources for ethanol research, demonstration, and incentives for key programs authorized under the *Energy Policy Act of 2005* and implemented by DOE, states, and industry. The Subcommittee's leadership on this issue is greatly needed, and we look forward to working with you and the Administration on this important work.

U.S. HOUSE OF REPRESENTATIVES - COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
DEPARTMENT OF ENERGY FY 2009 APPROPRIATIONS

STATEMENT OF Scott Kell, President
ON BEHALF OF THE GROUND WATER PROTECTION COUNCIL

17 March 2008

Honorable Chairman Visclosky and Members of the Committee

The following request by the Ground Water Protection Council (GWPC) is for continued funding in FY 2009, of the US Dept of Energy's Oil Technologies- Effective Environmental Protection: Risked Based Data Management (RBDMS) and Cost Effective Regulatory Approaches (CERA) programs. The request for FY 2009 for the GWPC is at the FY 2008 enacted level of $1,200,000 (RBDMS) and $500,000 (Energy Efficiency).

- RBDMS ACCOMPLISHMENTS: Data utilities from the Risk Based Data Management System are installed and under use 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, increases production for small independent domestic operators, 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.

FY 2009 FUNDING WOULD PROVIDE:

E-Commerce - The development of new RBDMS e-commerce applications in FY 2009 will increase environmental monitoring and compliance and at the same time decrease both cost and time allocation for small oil and gas producers. The result is money saved by state governments, federal agencies and increased domestic oil and gas production.

- **Cost Effective Regulatory Approaches**: The GWPC will focus on three cost effective priorities: (1) reducing the costs of information exchange between the oil and gas and mining industries and regulatory agencies, (2) eliminating duplicative reporting requirements across state and federal jurisdictions, while (3) providing the reference data needed to make informed decisions about environmental protection and resource development

- **Energy-Water Sustainability** - The USDOE has a goal of minimizing water consumption by energy producing industries. The GWPC will develop applications that will aid state agencies in tracking water quality and quantity data related to oil and gas production. This will assist states in the analysis of related water consumption. Public education efforts through our Ground Water Report to the Nation series will emphasize ground water availability facts and realistic short and long term conservation efforts that can be made locally.

- **CO2 Geo-Sequestration**: Capture of CO2 from power plants is one potential tool for decreasing the release of this gas to the atmosphere. However, storage or sequestration of its liquid form in geologic formations must be done with protection of underground sources of drinking water in mind. The GWPC will continue to work in cooperation with state and federal agencies to apply sound science in the development of effective regulations, policy and technical guidance, with a focus on protecting the nation's invaluable ground water resources. With additional funds we would be able to develop a geo-sequestration volume information tracking system.

THE GWPC: 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 2009 at the FY 2008 level of $1,200,000 (RBDMS) and $500,000 (Energy Efficiency).

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
Scott Kell
President,
Ground Water Protection Council

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: Jeffrey Abboud, Gas Turbine Association Executive Director

The Gas Turbine Association (GTA) 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 regarding Fiscal Year 2009 (FY09) Department of Energy (DOE) Office of Fossil Energy (FE) Advanced Turbines R&D at $55 million and Energy Efficiency and Renewable Energy (EERE) Industrial Technologies Program (ITP) Distributed Energy $60 million funding levels.

From Connecticut to California, states are working to put in place regulations to dramatically reduce greenhouse gas emissions. At the same time, our economy will be demanding more electric power to maintain its growth. Without new technology, the power generation industry will be hard pressed to produce additional electric capacity, while at the same time meet 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 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.

$55 MILLION FOR DOE FE ADVANCED TURBINES

$60 MILLION FOR DOE EERE ITP DISTRIBUTED ENERGY

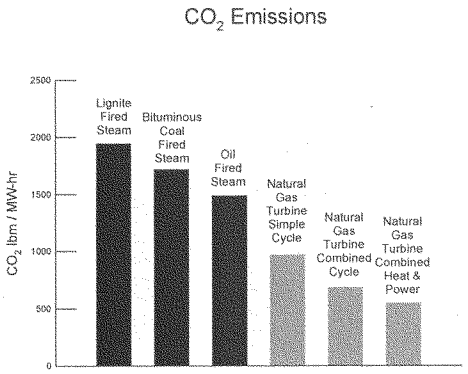
Supporting these programs provides the following benefits:

- ✓ Efficient and reliable turbine technologies for alternative fuel, near-zero-emission power plants
- ✓ Energy security by utilizing domestic energy sources to reduce the demand for foreign energy imports
- ✓ Globally competitive electricity prices for U.S. industries, businesses and homes, with reduced greenhouse gas emissions from power plants

Because policy makers have begun implementing rigid CO_2 regulatory mandates, failure to invest now will translate into stifled economic growth and the loss of our global competitiveness later. The Advanced Turbines program needs $55 million and the Distributed Energy budget needs to be restored to $60 Million in FY09 to ensure a smooth transition into a low-carbon economy.

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 without increasing our reliance on natural gas. This can be done by funding research to make gas turbines more capable to utilize 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.

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

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 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 outputs; 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 FY09 funding request for the Advanced Turbines program is inadequate to meet DOE's 2010 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 2010 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 high-hydrogen fuels.

The turbine industry believes that this technology is highly relevant to industrial coal gasification applications: 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 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. LNG, syngas and hydrogen combustion are issues for new sites and the legacy fleet. Funding is required to design efficient and low emissions combustors that accommodate the new fuels.

High-Efficiency, Alternative-Fueled Distributed Energy

The Administration's budget request recognizes the need for the development of alternate and dual fueled combined heat and power gas turbines systems. The budget document states "ITP would

also pursue the growth opportunity in traditional industry CHP applications below 20 MW, including medium-sized plants that require both power and process heat. Specific activities would include the development of alternative/dual fuel capability for turbines that meet the most stringent NOx and CO regulations (e.g., those in southern California)".

However, there are insufficient funds allocated in the request to do any work in this area. The Administration's justification contends "full consideration of the new DG/CHP activity within the context of the FY 2009 request was not possible". If the United States is serious about transitioning to a low-carbon economy, we must restore the Distributed Energy budget to $60 Million in FY09 to allow DOE to fund partnerships to develop ultra-high efficiency alternative and dual fuel CHP systems.

University Turbine Systems Research (UTSR) Program

Under the UTSR program, a consortium of 111 U.S. universities located across 42 states conducts fundamental and applied research to resolve critical knowledge gaps identified by the 17 industrial partners that sit on the UTSR program's Industrial Review Board and by the DOE in support of the IGCC / FutureGen program. The UTSR program has been described as a model for university / government / industry collaboration that is tightly focused on the research needed to support widespread use of syngas and hydrogen fueled gas turbines for power production.

This DOE/industry/university partnership is needed to help power producers cleanly and efficiently produce electric power from gasified coal, biomass and hydrogen, as well as natural gas. The UTSR program is the only federally-funded university-based program in the gas turbine area. The UTSR program's critical research efforts is needed to meet the Advanced Turbine program goals of preparing low-cost, high-efficiency, high-reliability, low-emission gas turbines for electricity production using IGCC-derived fuels. The UTSR program provides critical gas turbine research expertise in the U.S and graduates with knowledge and training. Without adequate DOE funding, universities will de-emphasize this area in their own research investments and curriculums and the United States will lose its competitive advantage in this critical industry.

The Advanced Turbines program needs $55 million and the Distributed Energy budget needs to be restored to $60 Million in FY09 to keep pace with the rapidly approaching Climate Change emissions mandates.

GTA MEMBER COMPANIES

Alstom Power, Capstone Turbine Corporation, ExxonMobil, GE Energy, Florida Turbine Technologies, Rolls-Royce, Siemens Power Generation, Solar Turbines, South Carolina Institute for Energy Studies, Pratt & Whitney Power Systems, VibroMeter

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Testimony of

Dave Koland, General Manager
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Carrington, North Dakota

Submitted to the

COMMITTEE ON APPROPRIATIONS
US HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON ENERGY & WATER DEVELOPMENT
Peter J. Visclosky, CHAIRMAN

March 19, 2008
(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 $102 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 FY2009 budget request was pitifully 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 river valley, 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. At the rate of payment the President's budget proposes, the federal government will not even stay current with the indexing applied by law on their commitment to North Dakota.

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) 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 $48.97. 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 $134.19/month or a whopping 3.8% of the MHI. Rates would have ranged as high as $190.80/month or a prohibitive 5.3% 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.

The President's budget request for fiscal year 2009 is $22.11 million. This year, Garrison Diversion Conservancy District is asking Congress to appropriate a total of $102 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 three major categories. The first I would call the base operations portion of the budget request. This amount is nominally $18 million annually. However, as more Indian MR&I projects are completed, the operation and maintenance costs for these projects will increase and create a need that will need to be addressed.

The second 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 Tribes toward this goal.

The MR&I program consists of a number of projects that are independent of one another. They are generally in the $20 million category. 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 is over $19 million. Several other projects have been approved for future funding and numerous projects on the reservations are ready to begin construction. These requests will all compete with one another for funding. It will be a delicate challenge to balance these projects. Nevertheless, we believe that once a project is started, it needs to be pursued vigorously to completion. If 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 third category of the budget is the Red River Valley Water Supply Project (RRVWSP) construction phase. 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 three years. This will create an immediate need for greater construction funding.

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 three years. This creates the need for additional funding of $30 million/year starting in FY2011.

Using these two projects as examples frames the argument for a steadily increasing budget. There is a need to accelerate the MR&I program now to assure the timely completion of the NAWS project and then to accommodate the need for additional construction funds when the RRVWSP construction is underway.

It is simply good management to blend these needs to avoid drastic hills and valleys in the budget requests. By accelerating the construction of NAWS and other projects which are ready for construction during the next few years, some of the pressure will be off when the RRVWSP construction funding is needed. A smoother, more efficient construction funding program over time will be the result.

It begins with a $65 million budget in FY2008 and gradually builds to over $200 million when the RRVWSP construction could be in full swing (FY2011). Mr. Chairman, this is why we have supported a budget resolution that recognizes that a robust increase in the budget allocation is needed for the Bureau of Reclamation, Water and Related Resources Account in FY2009.

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 $102 million appropriation
FY 2009

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 18 years of study and diplomatic delay. Construction costs (federal) are estimated to be $133 million. Designs are based on a five-year construction period; thus, over $19 million is needed for NAWS alone.

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.

The SWC has advanced the MR&I program $25 million to allow construction to continue on several critical projects. One project is the $68 million South Central Regional Water District system currently under construction.

OPERATION AND MAINTENANCE OF INDIAN MR&I SYSTEMS AND JAMESTOWN DAM **$ 5.61 million**
(Provides for the O&M of the Tribal water systems and the Jamestown Dam.)

BREAKDOWN OF $96.39 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.)	**$ 5.24 million**
Wildlife Mitigation & Natural Resources Trust (Provides for O&M of Arrowwood, Audubon, Kraft Slough, Lonetree and Canalside Lands.)	**$ 3.96 million**
Red River Valley Water Supply (Provides for the work on the RRVWSP.)	**$ 0.22 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.)	**$84.00 million**
Oakes Test Area and Miscellaneous (Provides for the O&M of the Oakes Test Area, Recreation Facilities, work for 28K unidentified acres.)	**$ 1.09 million**
Standing Rock Irrigation (Provides for development on Standing Rock Reservation.)	**$ 1.88 million**
Total for Construction	**$96.39 million**
Grand Total	**$102.00 million**

Statement Submitted by Karl Gawell, Executive Director
Geothermal Energy Association
Regarding the U.S. Department of Energy, Geothermal Research Program
to the House Subcommittee on Energy and Water Appropriations
March 19, 2008

The Geothermal Energy Association applauds Congress' efforts to support the expanded use of the largely untapped domestic geothermal energy resource base. In 2007, Congress passed the Energy Independence and Security Act which included the *Advanced Geothermal Energy Research and Development Act of 2007.*[1] Its provisions define a bold new vision of public-private partnerships and federal research and information initiatives that could help bring substantial new geothermal energy sources online to meet national energy needs. We urge the Subcommittee to support implementing the new law by appropriating $77.5 million for the DOE geothermal research program in FY 2009, as outlined in this testimony.

GEA believes that implementing the provisions of the *Advanced Geothermal Energy Research and Development Act of 2007* will revitalize DOE's geothermal research efforts and help tap the full potential of the resource in light of recent reports by the Massachusetts Institute of Technology (MIT) and National Renewable Energy Laboratory (NREL)[2]. The new law defines key actions to move technology forward across the spectrum of resources so that geothermal energy can become a major energy source in the future.

Unfortunately, the Department of Energy's (DOE) budget submission for FY 2009, while it proposes to increase geothermal research funding from $20 million to $30 million, does not appear to implement the new research initiative authorized by Congress.[3] Instead, the DOE seems to focus on one section of the new authorization—enhanced geothermal systems (EGS)—to the exclusion of the others.[4]

GEA urges Congress to direct the DOE to implement the new law and to provide adequate funding to achieve its goals. DOE should have a geothermal research program that seeks out opportunities to enhance near-term production, develops long-term enhanced geothermal system technology, supports oil and gas coproduction and geopressured resource utilization, provides better information, examines and pursues advanced geothermal concepts, sustains an effective Intermountain West Geothermal Consortium, and recognizes new market opportunities, each of which is discussed in our following testimony.

Specific Program Recommendations

Near-term potential: Dr. Roy Mink, former Director of the DOE Geothermal Program, outlined the opportunities for increasing geothermal energy production as part of a briefing held by the

[1] Subtitle B of H.R. 6, Sections 611–625, signed into law 12/19/2007 as Public Law 110–140.
[2] *The Future of Geothermal Energy*, Massachusetts Institute of Technology, January 2007; *Geothermal—The Energy Under Out Feet*, National Renewable Energy Laboratory, November 2006.
[3] Similarly, DOE asserts that FY08 funding can only be used for EGS work due to report language accompanying the FY08 appropriations bill, which we believe is a misreading of the report language, and ignores statements in the legislative history of the statute that the new Advanced Geothermal Research law now governs the DOE geothermal program (see Statement of Senator Reid, page S15887 of the Congressional Record, Tuesday, December 18, 2007).
[4] We applaud the twelve Senators who have written Secretary Bodman on February 1, 2008 urging DOE to immediately being implementing the new geothermal research law in FY 2008 by either reprogramming funds or requesting additional appropriations.

Environmental and Energy Study Institute in March of 2007.[5] The first opportunity Dr. Mink discussed was "the untapped potential in the hydrothermal resource base." This is a near-term opportunity and can pay off in terms of clean domestic energy production in the next 10–20 years. He summarized the opportunity as: "Expand Existing Production—Small and Large (Resource: 30,000 MW); Unidentified/Hidden Resource (Resource: 120,000 MW)." That's up to 150,000 MW of near-term potential, which could provide as much as 20% of the total U.S. electrical power needs!

This represents a major opportunity for DOE to support the development of advanced geothermal technology to contribute in the near term to U.S. energy needs. Congress addresses this in Section 613 (Hydrothermal Research and Development) and Section 614 (General Geothermal Systems Research and Development) of the *Advanced Geothermal Energy Research and Development Act of 2007.* These sections provide specific research direction for DOE, including exploration technology development and cost-shared exploration drilling, which GEA believes are needed to achieve the energy production potential of the hydrothermal resource base.

GEA strongly urges Congress to provide specific direction to implement these provisions and to provide no less than $15 million for activities under Section 613 and $10 million for Section 614.

Enhanced Geothermal Systems: In FY 2008, DOE intends to spend $20 million on its EGS efforts. We understand that if Congress appropriates the requested $30 million for FY 2009, all of it would be directed to Section 615. GEA does not believe that would be an effective use of the requested funds. While GEA supports continued research on EGS, we believe any additional funds should be used to implement other sections of the new law.

We would urge Congress to appropriate $20 million for DOE to implement Section 615 of the law in FY 2009 and would direct DOE to include both EGS technology and "deep geothermal" as part of this research effort.

Oil and Gas Coproduction and Geopressured Resources: The Congress identified and directed DOE to undertake a program of research, development, and demonstration in other exciting and promising areas—geothermal energy from oil and gas fields and geopressured resources. According to the NREL report, there is the potential for as much as 100,000 MW of energy from these resources, but in order to be used, additional work is needed to develop and demonstrate the technology. In Section 616, the *Advanced Geothermal Energy Research and Development Act of 2007* proposes specific approaches to each of these resources, including technology development and demonstration.

GEA urges Congress to direct the DOE to implement these provisions of law and to appropriate no less than $15 million for implementation of this section, $10 million for oil and gas field geothermal production, and $5 million for geopressured resources recovery and production.

Information: To support expanded geothermal production and use, there is an urgent need for information of several types. Providing better resource and geological data to companies undertaking exploration, helping potential consumers learn how to use geothermal resources economically, and informing decision makers about the resources available are all areas where better information is needed. The new law provides for several initiatives in this area: establishment of a Center for Geothermal Technology, creation of Geopowering America, and authorization for an Educational Pilot Program (Sections 618, 619, and 620, respectively).

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[5] http://www.eesi.org/briefings/2007/Energy%20&%20Climate/3.1.07_Geothermal/3-1-07_Geothermal.htm

GEA supports these initiatives and believes they can be very cost-effective ways to spur greater use of our largely untapped geothermal resources. We would urge Congress to direct DOE to implement these provisions of the law and to appropriate no less than $5 million to begin implementing them in FY 2009.

Advanced Geothermal Concepts: While Advanced Geothermal Research Act provides clear direction for many key areas of geothermal research, which is a tribute to the House and Senate legislative and oversight hearings about geothermal energy research which were part of the process that led to the new law, there are areas of geothermal potential for which Congress did not provide specific program direction. Instead, in Section 612 of the law, Congress directs DOE to examine advanced geothermal concepts and determine what actions would be appropriate to maximize production from U.S. geothermal resources. Further, it directs DOE to provide this report to Congress.

In Section 621, DOE is asked to report to Congress on: *(1) the use of carbon dioxide as an alternative geofluid with potential carbon sequestration benefits; (2) mineral recovery from geofluids; (3) use of geothermal energy to produce hydrogen;(4) use of geothermal energy to produce biofuels; (5) use of geothermal heat for oil recovery from oil shales and tar sands; and (6) other advanced geothermal technologies, including advanced drilling technologies and advanced power conversion technologies.*

GEA supports early action on responding to this directive and would urge Congress to instruct the DOE, in consultation with industry and outside experts, to prepare a report in FY 2009 that examines the potential contribution from advanced geothermal technologies identified in Section 621. We would urge Congress to appropriate $2.5 million for this report, which we believe should be carried out by an independent laboratory with geothermal expertise, perhaps NREL, in collaboration with other laboratories and university researchers.

Intermountain West Geothermal Consortium: Section 623, which authorizes appropriations under the new law, also provides a specific authorization of funding for the Intermountain West Geothermal Consortium, which was created in the 2005 Energy Policy Act. The support of this consortium will be critical to expanding geothermal energy production in the next decade. This consortium's efforts should build upon and support the vital work conducted by the University of Nevada Reno, Great Basin Center for Geothermal Energy.

The UNR geothermal program and future consortium efforts should focus on developing the techniques, technology, and geologic information that allows identification of the currently "hidden" geothermal resource base. The U.S. Geologic Survey (USGS) has estimated that 80% of the hydrothermal resource has no surface manifestations. Current technology cannot find the resources without prohibitively risky and expensive drilling, a fundamental obstacle to expanded development.

The University of Nevada, Reno Geothermal Center has made significant progress in the past few years developing techniques that are succeeding in finding new resources. This shows great promise for overcoming one of the major obstacles to new development. Their efforts and expertise should not be allowed to wither away, as have so many other geothermal research capabilities at federal laboratories and other DOE-supported research programs. We urge Congress to provide at least $5 million for these activities in FY 2009 to support a continued effort at the Great Basin Center and its expansion to other western states through the Intermountain West Geothermal Consortium as authorized by law.

New Markets: Finally, the new law recognizes unique new opportunities. The international market for geothermal technologies is growing rapidly, and Section 624 seeks to

support U.S. firms competing in that arena. Section 625 addresses the needs of areas in the U.S. which face unusually high energy costs and where smaller or more distributed generation may be more appealing.

GEA supports these initiatives and urges that funds be appropriated for their implementation. In addition, we would urge Congress to provide direction on the implementation of Section 624, because we understand that there is some confusion among the federal agencies mentioned as to which of them bears responsibility to implement the provision. We believe it would make sense for the DOE to be the lead agency for Section 624 implementation.

Unleashing the Potential of Geothermal Energy

While only a small fraction of the geothermal resource base is utilized today, it already provides significant energy for our nation. The U.S. generates an average of 16 billion kilowatt hours of energy per year, which serves the household electricity needs of about 3 million people. With continued federal and state support, much more geothermal generation is possible.

In the near term, it is estimated that continued federal and state support could lead to the development of between 8 and 15 gigawatts of geothermal electric power to help meet national energy needs. Development of this additional electric power capacity will not only bring reliability to the power system but would create over 10,000 new full-time jobs and stimulate over 70,000 person-years of construction and manufacturing employment.[6]

But that's just the beginning. The USGS, in its Circular 790, estimates a hydrothermal resource base of between 95,000 and 150,000 MW, of which 25,000 are identified resources and the remainder are "hidden" resources. According to recent reports by MIT and the NREL, there are hundreds of thousands of megawatts of geothermal potential from resources beyond those included in the USGS estimate. With effective support from Congress and the DOE, we can develop the technology and achieve substantial new production from outside of the traditional hydrothermal resource base.

As advances in technology spurred by the Advanced Geothermal Energy Research and Development Act expand geothermal power production, geothermal energy's role among clean energy technologies stands out. It is one of the few technologies that can supply clean, reliable, low-emission fuel that is also a baseload resource providing power 24 hours a day, 365 days a year. Developing geothermal resource is critical to ensuring a reliable supply of electric power for our energy needs.

In addition to significant electric power generation, direct uses of geothermal resources by businesses, farms, and communities have substantial additional potential for energy, economic, and environmental benefits. While geothermal resources have been used in communities and homes for decades, the extensive potential for direct use has been largely ignored and underutilized. Direct use resources span the entire country—from New York to Hawaii—and their expanded use would displace the need for fossil fuels.

With expanded support from DOE, new areas of geothermal potential can be developed. Co-production of electricity from oil fields holds the promise of thousands of megawatts of new power, and geopressured resources hold even greater heat and natural gas potential if advanced

[6] For an examination of the barriers to near-term geothermal development, see *An Assessment of Geothermal Resource Development Needs*, January 2007, available at: http://www.geo-energy.org/publications/reports.asp.

technology can support their economic development. As technology develops, geothermal energy will move progressively along the continuum towards EGS.[7]

Congress recognized this potential when it enacted the Advanced Geothermal Energy Research and Development Act of 2007. Now we urge Congress to fully fund this effort and provide the DOE with the necessary direction to ensure they implement the law.

Summary and Conclusion

We recommend the following actions by the Subcommittee on Energy and Water for DOE's Geothermal Research Program in FY 2009:

- Provide specific direction to the DOE to implement the provisions of the *Advanced Geothermal Energy Research and Development Act of 2007.*
- Provide no less than $15 million for activities under Section 613 (Hydrothermal Research And Development).
- Provide $10 million for the implementation of Section 614 (Geothermal Systems Research and Development).
- Provide $20 million for activities under Section 615 (Enhanced Geothermal Systems Research and Development).
- Provide $15 million for implementation of Section 616, $10 million for oil and gas field geothermal production, and $5 million for geopressured resources recovery and production.
- Provide $5 million for the information and education provisions of Sections 618, 619, and 620.
- Direct DOE to provide Congress the report requested under Section 621 by the end of FY 2009 and provide $2.5 million for the preparation of this report through an independent outside laboratory with geothermal expertise.
- Provide at least $5 million for implementation of Sections 624 and 625 and direct the DOE to take the lead for implementation of Section 624.
- Provide at least $5 million for implementation of the Intermountain West Geothermal Consortium, including continued work at the University of Nevada Reno to develop techniques, technology, and geologic information that allows identification of the currently "hidden" geothermal resource base.

We believe DOE could, with proper direction and oversight, effectively use the entire amount authorized by Subtitle B of HR 6 for the DOE geothermal research program, some $100 million, in FY 2009. We urge the Subcommittee to provide full funding for this new initiative. We estimate that a minimum effort to implement the new law will require an appropriation of $77.5 million for the DOE geothermal research program in FY 2009, as outlined in this testimony. We emphasize the need for funding to be accompanied by clear direction from Congress to ensure that DOE utilizes these funds to create an effective program that addresses the opportunities across the board for geothermal energy.

Thank you for considering our views.

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[7] Two recent reports present a snapshot of current and possible future geothermal technology: *The State of Geothermal Technology—Part I: Subsurface Technology*, November 2007 and *The State of Geothermal Technology—Part II: Surface Technology*, January 2008. Both are available at: http://www.geo-energy.org/publications/reports.asp.

Written Testimony of Rob Wallace, GE Energy
Submitted to the
Subcommittee on Energy and Water Development Appropriations
Committee on Appropriations, U.S. House of Representatives
March 19, 2008

The following testimony is submitted on behalf of GE Energy (GE) for the consideration of the Committee during its deliberations regarding the FY 2009 budget requests for the Department of Energy (DOE). Among GE's key recommendations are: 1) support for the $241.6 million funding request for the Nuclear Power 2010 program to develop new U.S. nuclear generation; 2) $40 million in added funding for the GNEP program, for total funding of $341 million, to start the necessary activities for technology demonstration and to help industry provide DOE with the information necessary to support the 2008 Secretarial Record of Decision; and 3) $27 million additional for the Advanced Turbines program, DOE's major research effort focusing on gas turbines for electricity production which also addresses key needs for hydrogen turbines. Investments in these and the other important programs discussed below will help to meet the challenges of assuring a diverse portfolio of domestic power generation resources for the future.

NUCLEAR ENERGY

Nuclear Power 2010: The NP2010 Program provides vital funding in three areas that are essential to the development of new nuclear generation capacity in this country. The program provides support for: 1) certification of new reactor designs, such as GE's advanced light water reactor technology (ESBWR); 2) advancement of detailed design and deployment planning to support new nuclear plant construction; and 3) preparation, submittal and NRC approval of two Combined Construction and Operating Licenses (COL). These activities are currently advancing with co-funding support from GE-Hitachi Nuclear Energy (GEH) and Westinghouse. Adequate DOE funding in FY09 is necessary to maintain the schedules supporting certification, COL license approval and construction initiation.

The Administration has requested $241.6 million for FY09 to support the NP2010 Program. GEH supports this funding level, which reflects the additional funding needed above initial estimates to facilitate continued ESBWR detailed design and deployment activities at levels that support industry expectations.

Among other things, funding is needed to support critical detailed design activities including piping and instrumentation diagrams development, process flow diagrams, system design spec development, 3D pipe routing and pipe stress calculations and the development of procurement specifications for long lead and highly engineered equipment. These detailed design activities are required for advanced module design, simulation assisted engineering, and critical path construction activities. Moreover, these detailed engineering activities are critical to the refinement of the ESBWR capital cost estimate. Deployment planning activities include the development of site utilization plans, crane lift plans, construction execution plans, procurement strategies, warehousing strategies and craft labor planning. These are required to allow the ESBWR to be successfully deployed in the desired timeframe well within the next decade.

The costs to complete these activities have escalated due to a number of contributing factors that have changed versus baseline assumptions made in 2005. These factors include, but are not limited to, NRC rate increases, large volume of additional NRC RAI's (Request for Additional Information), recent changes in regulatory position related to aircraft impact and Human Factors Engineering design process, customer expectations of increased design and COL standardization, and performance of COL compliance reviews. Additionally, higher resource demands from increased industry activity as well as the FOAKE nature of the effort have placed a substantial cost burden on the project. These and other factors have led to significant additional program cost above baseline assumptions. The FY 2009 funding requested by the Administration will help offset some of these cost escalations.

The Advanced Fuel Cycle Initiative and the Global Nuclear Energy Partnership (GNEP): The Global Nuclear Energy Partnership (GNEP), initiated in early 2006, benefits from DOE's research and development work currently conducted under the Advanced Fuel Cycle Initiative (AFCI) and previously conducted in the Advanced Liquid Metal Reactor program (circa 1985 to 1995). GNEP seeks to expand the use of nuclear power in a proliferation-resistant manner, and to use nuclear waste by reducing the long-term radiotoxicity of spent nuclear fuel. The key emphases are on solutions for proliferation resistant fuel separations and long-term nuclear waste reduction.

In support of the broad GNEP goals and to help the DOE prepare for the 2008 Secretarial Record of Decision, DOE in October 2007 issued awards to four commercial teams, including the team led by GEH, for technical and conceptual design studies to provide information on commercial methods that are available to close the fuel cycle. The GEH team has explored the technical and business parameters that could support a viable system in a four-part submittal. The submittal included drafts of a Business Plan, a Technology Development Roadmap, a Conceptual Design and a Communication Plan. The Business Plan explored the current market, examined the financial viability of the Advanced Recycling Center and proposed policy direction for solutions to spent nuclear fuel. The cost and schedule report, a part of the Conceptual Design, served as the bridge between the technical details from the conceptual design and provided key financial input to the Business Plan. The Conceptual Design submittal (approximately 4,000 pages long) demonstrated in-depth knowledge developed during the Advanced Liquid Metal Reactor program, GE-funded programs and our current experience. The Technology Development Roadmap recommended direction on a future research and development program that could be started in FY 2009 to engage U.S. universities and national laboratories that would allow the United States to lead within the GNEP policy framework as well as have better collaborations with foreign governments. Finally, the Communication Plan provided guidance on how the DOE may communicate scientific, technical and practical information related to closing the nuclear fuel cycle.

For FY 2009, an additional $40 million above the Administration's budget request, for total GNEP funding of $341 million, is needed. The recommended additional funding should be used to help industry conduct technology demonstration projects, such as the manufacture and demonstration of: 1) key reactor components (*e.g.*, reactor vessel); 2) electrometallurgical based fuel separation; and 3) a reactor and fuel separation simulator. GEH further recommends that adequate funding through the GNEP program be provided to both the US industry and the

laboratories for electrometallurgical separations and the PRISM reactor in support of the GNEP policy goals.

FOSSIL ENERGY

Coal is facing a challenging landscape. In anticipation of carbon constraints, coal will require carbon capture and sequestration (CCS) if it is to continue serving as a major national energy resource. It is therefore necessary that the viability and efficacy of CCS be proven at large scale, for multiple projects and over a range of geologic settings. Only a major initiative and investment will provide the necessary confidence for the commercial and public acceptance of CCS. Meeting this challenge will require the combined resources of industry and government at all levels working in partnership.

Financial incentives alone will not be sufficient to achieve the goal of validated and commercially robust CCS. Reducing the risk and time required to identify and characterize potential storage sites, to obtain federal, state and local government commitments related to long-term liability issues, to conduct the necessary reviews and to complete permitting will also require a substantial effort by all levels of government. The DOE must acknowledge this challenge in all programs related to CCS and provide specific assistance in addressing these issues. For this reason, the commitment of government to assume long-term liability for monitoring and safety of the stored CO2 should be sought in forthcoming solicitations for CCS development. Without such assurances it is not likely that industry participation will be forthcoming.

FutureGen: DOE's decision to restructure the FutureGen program correctly targets the deployment of CCS technology at a commercial scale. The proposed restructuring recognizes that carbon capture ready IGCC can be commercially supplied today; GE's commercial 630 MW IGCC plant already is carbon capture ready. To be successful, FutureGen's restructuring must address two overarching needs: 1) validation of CO2 sequestration at a large scale; 2) in multiple geological settings and 3) demonstration that utility powerplants with carbon capture can be successfully integrated with sequestration. DOE's proposed restructuring can provide the platform to satisfy these needs and thus be a major step forward toward assuring a strong future for coal-based power generation. As the Department further develops the restructured FutureGen program, care must be taken, however, to avoid burdening large-scale CCS projects with unneeded additional complexity and cost. Nothing in the program's new structure should be allowed to divert attention from the central objective of proving that the most challenging goal can be met: that large-scale sequestration is viable and safe.

Clean Coal Power Initiative: GE supports CCPI and its role in validating and testing advanced technology. With the potential refocusing of FutureGen, that program's function as a platform for introduction and validation of advanced IGCC carbon capture technologies will not be available. CCPI must be ready to serve a larger role in the validation and deployment of those technology advancements that are needed to meet DOE's goal of no more than 10% additional cost for CCS. However, mounting multiple projects within the overall anticipated funding of $250 million for Round 3 of CCPI will be challenging. Front-end-engineering and detailed site characterization for a CCS project alone could account for $40-$50 million. After capital expenses for carbon capture equipment and sequestration pipeline and site development, there

will be little if any funding remaining for the additional costs of CCS operation needed to validate sequestration capacity. For example, for a single 300 MW IGCC train equipped with carbon capture, the minimum 50% capture requirement of CCPI will result in over 1 million tons/year of captured CO2 with potential annual incremental operating costs as high as $40-$50 million. In recognition of these cost challenges, the expectation for multiple project awards within the available CCPI funding needs to be reassessed.

IGCC: With its pre-combustion carbon capture, IGCC provides a significant advantage over combustion technology. Despite its current 20% cost premium over pulverized coal combustion, IGCC can provide a lower cost of electricity with carbon capture. However, it should be recognized that IGCC is still in an early phase of commercial deployment and at the very beginning of a steep cost learning curve. Investment in technology development promises to have a high return.

DOE's goal of a maximum 10% premium in cost of electricity for IGCC with carbon capture will not be met with current technology. It will require technology advancements. Key technology areas that can significantly lower cost and improve performance are advanced carbon shift, CO2 capture and separations, overall process efficiency plus advancing IGCC's capability for subituminous coals. Therefore we strongly endorse the Administration's request to increase FY2009 funding for IGCC by $15.5 million over the FY 2008 level to $69 million.

In addition, cost reduction must be pursued vigorously for IGCC to realize its potential in maintaining coal competitiveness in a carbon-constrained environment. From this perspective, the clearest and quickest path to reducing the cost of carbon capture is the accelerated deployment of IGCC and elimination of its cost premium. In order to achieve this, we recommend a continuation and broadening of the investment tax credits under the Energy Policy Act of 2005 from six to twelve IGCC projects and covering a scope that helps to offset both the cost premium of IGCC as well as the incremental cost of carbon capture.

Carbon Sequestration: GE also endorses the Administration's requested technology funding increase of $30 million from FY 2008 levels to $149 million for carbon sequestration. Research in sequestration needs to move forward as rapidly as possible. A primary focus needs to be the development of science-based requirements for site characterization, monitoring and CO2 quality. Advancements in these areas are necessary to guide commercial-scale sequestration. The DOE also needs to quickly move forward with the demonstration programs authorized under Section 702 of Energy Independence and Security Act of 2007 in order to apply and gain experience with modeling, monitoring and rapid sequestration site characterization.

Advanced Turbines: GE recommends that funding be increased by $27 million to a total of $55 million for the Advanced Turbines Program. This program represents the Department's high priority research effort focusing on the development of enabling technologies for high efficiency hydrogen turbines for advanced gasification systems. Gas turbine R&D is focused on advanced combustion and high temperature turbine technology for syngas/hydrogen fuels that will result from IGCC and carbon capture type power plants. The program addresses those gas turbine elements where the technology required for the use of syngas/hydrogen fuels differs from the requirements for natural gas fueled gas turbines. Development of these

technologies will help offset some of the efficiency and output penalties associated with CO2 capture. Unless the FY 09 budget for the Advanced Turbines program is increased, funding will be inadequate for this promising high priority work, and the progress and benefits of this research will be delayed accordingly.

TESTIMONY OF ROGER DUNCAN
GENERAL MANAGER, AUSTIN ENERGY/CITY OF AUSTIN
BEFORE THE
ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES
March 19, 2008

This testimony supports funding for energy efficiency and conservation, sustainability, renewable energy, electric transportation, and other clean energy initiatives passed as part of the Energy Independence and Security Act (EISA) of 2007. Fully funding these programs will enable the development and deployment of the clean technologies and programs needed to both reduce greenhouse gas emissions and achieve energy independence. Specifically, Austin Energy/City of Austin supports funding the fully authorized amounts for the following programs created or expanded though EISA: 1) $ 2 billion for the Energy Efficiency and Conservation Block Grants authorized by Sec. 542 of the EISA; 2) $250 million for the Energy Sustainability and Efficiency Grants and Loans authorized by Sec. 471 of the EISA; 3) $90 million for the competitive demonstration project grants for plug-in hybrid electric vehicles authorized by Sec. 131 of the EISA; 4) $50 million for the Zero Net Energy Commercial Buildings Initiative authorized by Sec 422 of the EISA; 5) Funding for the Solar Energy Research and Advancement Act established in Subtitle A, Title, VI of the EISA, specifically, a) $7 million the Thermal Energy Storage Research and Development Program established by Sec 602 of the EISA, b) $10 million for the Solar Energy Curriculum Development and Certification Grants for solar energy system installers, instructors, and training programs authorized by Sec 604 of the EISA and c) $30 million for Photovoltaic Demonstration Program authorized by Sec. 607 of the EISA; 6) Funding the Energy Storage for Transportation and Electric Power authorized by Sec. 641 of the EISA specifically, a) $50 million for basic research, b) $80 million for applied research, c) $30 million for stationary energy storage demonstrations, d) $30 million for vehicle energy storage demonstrations; and 7) $100 million for the Smart Grid Regional Demonstration Initiative authorized by Sec 1304 of the EISA. Austin Energy supports funding for development and deployment of plug-in hybrid vehicles (PHEVs) within the Department of Energy's FY'09 budget request. Specifically, Austin Energy supports the $103.3 million for Hybrid Electric Systems within the Vehicle Technologies account of the Energy Efficiency and Renewable Energy budget. Within the Hybrid Electric Systems sub-accounts, Austin Energy supports funding of: 1) $21.4 million for Vehicle and Systems Simulation and Testing; 2) $50.9 million for Energy Storage Research and Development; and 3) $16.1 million for Advanced Power Electrical and Electric Motors Research and Development. Austin Energy supports $2.0 million for Federal fleet activities within the Federal Energy Management Program. Austin Energy supports: (1) $75 million for the State Energy Program; and 2) $300 million for the Weatherization Assistance Program under the Weatherization and Intergovernmental Activities Program.

Austin Energy, the Nation's 10th largest community-owned electric utility, serves 360,000 customers within the City of Austin and Travis and Williamson Counties, Texas. Austin Energy provides electricity to the capital city of Texas through a diverse generation mix

of nuclear, coal, natural gas and renewable resources. Austin Energy has been nationally recognized for its Green Choice renewable electricity program, which has enabled Austin Energy to sell more renewable electricity than any other utility in the country over the last six years. By doubling its portfolio of wind-generated power in December 2009, Austin Energy will have a total of 450 MW of renewable energy. In December 2008, 11 percent of energy sold by Austin Energy will be green power. Austin Energy offers customers one of the country's best solar photovoltaic rebates, at $4.50 per watt. This pays between 45% and 75% of the cost of installing a solar system. For a typical residence, the cost of installing a one kilowatt (1,000 watts) solar photovoltaic system – the smallest consideration practical – is between $6,000 and $10,000. The Austin Energy rebate is $4,500 for 1,000 watt system.

Austin Energy has been a national leader in energy efficiency and Austin's Green Building program has been a national model in the use of sustainable building technologies. Austin Energy has one of the most comprehensive energy efficiency programs in the nation which offsets more than 50 megawatts (MW) peak demand capacity each year. Since 1982, Austin Energy's energy efficiency programs have saved more electricity than the annual output of a 500 megawatt power plant. A 500 megawatt power plant can power 50,000 homes. Austin Energy's current goal will save another 700 MW by 2012 by increased energy efficiency. This aggressive use of energy conservation has allowed Austin Energy to forego new plant construction, close one of our oldest plants in an historic neighborhood, and help keep consumer energy bills low. Austin Energy had the first utility green building program in nation and was the first to develop a rating system to determine efficiency of a building (both residential and commercial buildings). Our award winning Green Building Program has also reduced the need for new power plants by reducing peak energy demand at less than half the price of building a new power plant. In a typical year, our Green Building program reduces the same amount of CO2 from the air as planting 17,900 trees and the same amount of nitrous oxides (NOx) as removing 870 vehicles from the roadways.

The City of Austin and Austin Energy initiated and coordinated the national Plug-In Partners Campaign to demonstrate the market viability of plug in hybrids. Plug-In Partners has more than 500 partners including cities, counties, businesses, electric utilities, environmental groups, non profit groups, in 41 states. Austin Energy has committed $1 million for rebates to Austin Energy customers who purchase plug-in hybrids when they become available. Austin Energy is currently testing two Toyota Prius that have been converted to plug-in hybrids. Austin Energy and the local school district are partnering to test a plug in hybrid school bus. In the future, Austin Energy will be testing a PHEV utility trouble truck and a Capital Metro PHEV bus.

Austin Energy and the City of Austin look forward to working with the Department of Energy (DOE) to fully implement the City's aggressive Climate Protection Plan. This plan calls for aggressive utility GHG-reduction through increased conservation, efficiency and renewable energy, making all city facilities and fleets carbon- neutral by 2020, enhanced building codes for energy efficiency, and a community education and action plan on climate change. Fully funding the programs listed above will help Austin and other communities around the nation reach GHG reduction and energy efficiency goals. The City of Austin adopted Climate Protection Plan Spring 2007, which make all city facilities, fleets and operations carbon-neutral by 2020. Austin

Energy's aggressive utility GHG-reduction plan will increase conservation, efficiency and renewable energy programs. Under the plan, Austin Energy will achieve: 1) 700 MW savings through energy efficiency and conservation by 2020; 2) meeting 30% of all energy needs through renewable resources by 2020; 3) carbon neutrality on new generation units through lowest-emission technologies, carbon sequestration and carbon offsets; and 4) establish CO_2 cap and reduction plan for all utility emissions. The Homes and Buildings Plan will: 1) make all new single-family homes zero net-energy by 2015; 2) increase energy efficiency in all other new construction by 75% by 2015; 3) require disclosure of historic energy use; 4) require energy efficiency improvements in existing homes and buildings at point-of-sale; 5) enhance incentives and requirements for Green Building program; and 6) develop "carbon neural" certification system. Finally, the Community Plan will develop a "carbon footprint calculator" for individuals and small businesses and develop a menu of local GHG reduction strategies for citizens businesses and organizations to purchase "carbon offset" credits. Austin Energy has been achieving positive results for the environment while providing reliable electric service to its customers.

Although Austin Energy and the City of Austin are nationally recognized for energy efficiency and renewable energy programs, the newer technologies, applications, and programs necessary for improved energy efficiency and GHG reductions can only come about through vigorous partnerships between private industries, local governments, and federal agencies such as DOE. Congressional support of appropriations for the programs authorized under EISA will help our nation and our local governments modernize our transportation and electric utility sector to meet the challenges of the 21st Century.

The Congress, by funding DOE programs and initiatives in renewable energy, energy efficiency, plug-in hybrid vehicles, greenhouse gas reduction, and other clean energy programs will be taking a significant step in helping our nation become energy independent and address global warming.

Testimony of Dr. Vinod K. Duggal

Director – Strategic Planning and Advance Engineering
Cummins Inc.

March 11, 2008

Energy and Water Development Appropriations Subcommittee

Fiscal Year 2009

Cummins Inc., headquartered in Columbus, Indiana, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. The funding requests outlined below are critically important to Cummins' research and development efforts and 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 in the Department of Energy's Office of Energy Efficiency and Renewable Energy – Offices of Vehicle Technologies, Vehicle Technologies/Fuel Technologies, Vehicle Technologies/Materials Technologies, Hydrogen Technology, and Industrial Technologies Program.

DEPARTMENT OF ENERGY FY2009 BUDGET – ENERGY CONSERVATION

OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

1. **Office of Vehicle Technologies:**

Advanced Combustion Engine R&D: Increase the Administration's request of $33.6M by $19.4M to bring the program total to $53.0M in FY2009. $44.6M was authorized in FY2008. This program includes three important research areas of diesel engine – the Heavy Truck Engine, the Waste Heat Recovery and Light duty diesel engine. The Heavy Truck Engine Program should be removed from under this umbrella and separated out as a separate line item in the bill. These diesel engine programs can be sizeable contributors to Administrations "20 in 10" initiative but are significantly under-funded in the FY2009 request. Formerly separate programs, Heavy duty engine and Waste Heat Recovery research areas were folded into the umbrella Advanced Combustion Engine R&D program in the FY2008 request. The Heavy Truck Engine portion of the Administration's request was reduced to $8.0M for FY2009, down from $15M in FY2008. The requested increase for FY2009 would allow for funding of heavy truck and light duty passenger vehicle (light truck, SUV) engines research of $17.4M and Waste Heat Recovery projects $2.0M. These programs are critically important to the diesel engine industry efforts to reduce petroleum fuel use, meet stringent emissions requirements, and reduce greenhouse gases through better understanding of combustion technologies. Heavy truck engines consume nearly 25% of all surface transportation fuels used in the United States, and the combustion research is critical to engine manufacturers' efforts to increase on-highway fuel efficiency while meeting EPA's near zero 2010 emissions regulations. Light duty trucks are the fastest growing segment of surface transportation. Application of diesel engine in light duty trucks and SUV's can reduce fuel use in this sector by 30-40 percent. The most promising method to reduce petroleum consumption is though engine system efficiency improvements. High risk technologies, such as low temperature combustion, can lower engine out emissions while maintaining or improving fuel efficiency, require strong public-private partnership. This funding increase will help address significant technology hurdles in the areas of engine efficiency improvements, use of renewable fuels, on-board diagnostics, aftertreatment requirements, minimizing fuel penalty due to the use of aftertreatment and subsystem durability. The Waste Heat Recovery program is critical because over 50% of fuel energy is lost in diesel engines through wasted heat in exhaust, lubricants and coolants. This program is focused on identifying and developing innovative energy recovery technologies, such as Rankine cycle and seeks to improve truck energy efficiency by 10% through waste heat recovery technologies. Due to high cost of imported petroleum, hybrid technologies are also becoming attractive for heavy duty engine applications, warranting additional research.

2. **Office of Vehicle Technologies/Fuel Technologies:**

Non-Petroleum Based Fuels and Lubricants: Increase the Administration's request of $9.8M by $2.0M to bring the program total to $11.8M in FY2009. $10.9 M was authorized in FY 2008. This program funds research to better understand non petroleum based fuels, renewables (such as biodiesel) and synthetic fuel properties and their effect on diesel 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, now applied to all on road diesel engines. Current fuel filters are less effective for separating emulsified water in biodiesel blends and are likely to cause problems in the field. The increase in funding will help develop efficient techniques to remove water from biodiesel fuel blends, better understand biodiesel fuel effects on particulate filters and adhesion of abrasive particles in fibrous media and fuel system component surfaces.

Advanced Petroleum Based Fuels (APBF): Increase the Administration's request of $5.8M by $1.0M for a program total of $6.8M for FY2009. $6.4M was appropriated in FY 2008. This requested increase is to support heavy duty diesel engine fuels research which would allow additional study of fuel properties to enable heavy duty diesel engines to operate in the most efficient mode while meeting future emissions standards. Low temperature combustion technologies being developed require unique and different fuel component properties. The incremental funding will support engine industry efforts which are required to prove emissions compliance for over 435,000 miles of useful engine life. The goal of this program is to study the impacts of fuel and lube oil sulfur content on durability and reliability of particulate aftertreatment systems.

3. **Office of Vehicle Technologies/Materials Technologies:**

Propulsion Materials Technology: Increase the Administration's request of $10.7M by $1.0M to bring the program total to $11.7M in FY2009 to support heavy vehicle propulsion materials. $9.6M was authorized in FY 2008. In FY2008, heavy vehicle propulsion materials were integrated into propulsion materials subprogram. 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). High pressure injection fuel systems are needed to support these combustion technologies. Smaller hole size and clearance in emerging fuel systems requires 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. Increased 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, lightweight high strength materials for engine components, composites, catalysts and soot oxidation.

4. **Office of Hydrogen Technology:**

Transportation Fuel Cell Systems: Increase the Administration's request of $6.6M by $1.4M to bring the program total to $8.0M for FY2009. $7.9M was authorized in FY 2008. The program provides support for R&D and system integration of energy efficient auxiliary power unit (APU) technologies for mobile or off-road applications. The goal of this effort is to demonstrate solid oxide fuel cell (SOFC) based APU for Class 7/8 on-highway diesel trucks and provide clean and efficient power for hotel load. Reduction of diesel fuel consumed in the idling of large diesel trucks is widely recognized as an important element in reducing energy consumption, exhaust and greenhouse gas emissions from heavy trucks. It would reduce our nation's overall dependence on foreign sources of oil. It is estimated that a potential reduction of up to 700 million gallons of diesel fuel use is possible annually if SOFC systems can be used to provide the heating, cooling and electrical needs of truck fleets in lieu of idling. A number of technical challenges still need to be addressed including lower cost and robust balance of plant systems, competitive diesel reforming technology, sulfur tolerance of practical SOFC systems. Increased funding in FY2009 would allow the demonstration of a practical SOFC prototype that is integrated on a typical truck platform.

5. **Office of Industrial Technologies Program (ITP):**

Industrial Distributed Energy – Advanced Reciprocating Engine Systems (ARES): Increase the Administration's request of $1.5M by $10M to bring the program total to $11.5M in FY2009. $14.5M was appropriated in 2008, $10M of which was specified for the ARES project. The objective of this program is to develop high efficiency, low emissions and cost effective technologies for stationary engine systems (500-6500 kW) by 2010 that can use natural gas or "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 with characteristics including low Btu, lower methane number and varying composition. Their use reduces the dependence on high quality natural gas. Technologies sponsored by the ARES program have demonstrated 44% engine efficiency (an increase from the 32-37% baseline) and higher power densities than current products, with an expected reduction in life cycle costs and carbon dioxide (CO_2) emissions. Improved combustion, air handling and controls developments have been successfully implemented in a field test engine and genset. Further technical challenges include combustion development for system efficiency with low BTU and methane gases, nitrogen oxides (NOx) reductions, advanced sensors and controls, hardware durability and lower life cycle costs. The development of distributed power generation supports national energy security needs, improves protection of critical infrastructure to address homeland security concerns, and decreases dependence on the national electrical grid system through point of use energy production.

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March 4, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 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

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February 25, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

Denver Water is requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

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I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/HJ Barry
Manager

CONSERVE

HEALTH PHYSICS SOCIETY

Specialists in Radiation Safety

PUBLIC WITNESS TESTIMONY by the HEALTH PHYSICS SOCIETY and HEALTH PHYSICS PROGRAM DIRECTORS ORGANIZATION for the HOUSE APPROPRIATIONS SUBCOMMITTEE on ENERGY and WATER DEVELOPMENT, and RELATED AGENCIES regarding the NUCLEAR REGULATORY COMMISSION

This written testimony for the record for Fiscal Year 2009 requests reinstatement of funding for the Nuclear Education program appropriated to the Nuclear Regulatory Commission (NRC) in fiscal year 2008 to include at least $1,500,000 for support of health physics programs, students, and faculty. This support is necessary to address the shortage of health physicists, which is an issue of extreme importance to the safety of our nation's workers, members of the public, and our environment. As explained below, justification by the Office of Management and Budget (OMB) to rescind the NRC Nuclear Education program is not applicable to the health physics academic programs.

Health Physics is the profession that specializes in radiation safety, which is necessary for the safe and successful operation of the nation's **energy, healthcare, homeland security, defense,** and **environmental protection** programs. Although radiation safety is fundamental to each of these vital national programs, there is no single federal agency that serves as a home and champion for the health physics profession as this profession cuts across all these sectors. However, health physics is ***necessary*** for all these sectors to exist as it supports the principle disciplines in these programs that are championed by multiple federal agencies, such as engineers, medical professionals, law enforcement professionals, military personnel, and environmental scientists.

As the nation's development and use of radioactive materials grew following the end of World War II, the nation's demand for health physicists increased in the areas of energy, defense, public health, and environmental protection. This need was largely supported by student fellowships and scholarships largely from the Atomic Energy Agency (energy and defense) and Public Health Service (public health and environmental protection). However, over the years agencies and their missions changed, the nuclear power industry faltered and the Department of Energy (DOE) nuclear weapons complex downsized following the end of the cold war. This resulted in the academic program support from federal agencies dwindling until the last remaining support from DOE was terminated in FY99. With this dwindling support, the supply of new health physicists declined and the age of the existing health physics workforce increased despite the continued need for health physicists in energy, defense, public health, and environmental protection programs as well as an exponential growth in the medical and academic community. This resulted in a human capital crisis in health physics.

As the health physics human capital crisis grew and loomed in the early years of the

21st century, Congress and the DOE took action to add support to the nuclear engineering academic programs through DOE programs in the Office of Nuclear Energy (NE) and eventually agreed that this was an appropriate support mechanism for the health physics academic program. In Fiscal Year 2005, just 4 years ago, Congress appropriated money to DOE-NE for a health physics fellowship and scholarship program as part of the *University Reactor Fuel Assistance and Support* budget item. Shortly thereafter, Congress reinforced its position that DOE needed to support the health physics academic programs in provisions of Section 954 of the Energy Policy Act of 2005. Despite the need for an increased supply of health physics professionals continued to exist, the DOE ceased funding the Congressionally authorized DOE-NE health physics fellowship and scholarship program after only two fiscal years of funding the programs at minimal levels.

In Fiscal Year 2008, Congress, led by the House Subcommittee on Energy and Water Development, and Related Agencies, transferred appropriations for a Nuclear Education program, including health physics programs, to the NRC. The Health Physics Society (HPS) applauds this insightful action. The NRC does have a vested interest in the radiation safety associated with most of the sectors covered by the health physics profession. Although the NRC quickly addressed the demands of starting a new education support program by opening two grant opportunities for student and faculty support, the Administration has not included continuation of the program in their budget for Fiscal Year 2009.

The OMB has provided a justification for rescission of the Nuclear Education program. This OMB assessment is patently wrong with regards to health physics programs.

The OMB states ". . . target levels for the undergraduate enrollment have been met ..." and "Since the 1990s, enrollment levels in nuclear education programs have tripled ..."

Specific to "target levels," since DOE has only funded health physics programs for 2 years, they have never established "target levels" for health physics program enrollments nor has there been time to assess the effect of those 2 years of funding on health physics program enrollments. The DOE-NE HP fellowship and scholarship program thus far has **provided 3 graduate fellowships** in FY06 and **0 undergraduate scholarships.** In 2004, the Health Physics Program Directors Organization (HPPDO) developed a plan for revitalizing the academic programs to a level that could meet the projected shortfall of health physicists. The HPPDO plan calls for an initial target of **20 graduate fellowships** and **20 undergraduate scholarships, i.e.,** target levels well above the actual performance of the Nuclear Education Programs.

In addition, the HPS does not feel that undergraduate levels are an appropriate metric to measure the success of an academic program. Undergraduate levels are not viewed significantly by university Deans looking to justify graduate programs at the Masters and Doctorate level. Furthermore, university administrators will not commit to replacing an increasingly large number of retiring health physics faculty unless the federal government demonstrates its commitment to investing in the research and academic health physics infrastructure necessary to support new faculty hires in this

vital profession.

The OMB justification also-states "...and the number of universities offering nuclear-related programs also has increased." Actually, the number of health physics programs graduating at least 5 students annually decreased from 20 programs in 1995 to less than half that number in 2005, which belies the OMB statement.

We find the OMB justification ignores the value of federal long-term investment in academic infrastructure and ignores the value of professional radiation safety professionals to the successful protection of workers, members of the public, and the environment while benefiting from the use of nuclear technologies.

We consider it would take approximately $1,000,000 to get to the HPPDO plan of 20 fellowships and 20 scholarships in health physics. In addition, funding of $500,000 should allow for up two young faculty members in health physics academic programs to receive grant support at the level offered by the NRC FY08 grant opportunities. Considering the DOE budgets for the HP Fellowship and Scholarship programs for FY05 and FY06 combined have totaled $500,000 and only produced 3 fellowships, we feel this request is very modest and we recognize it will not begin to provide the long term support that will eventually be required if we are to have enough safety professionals for our **energy, healthcare, homeland security, defense,** and **environmental protection** programs. However, it will go a long way to help building the student and faculty infrastructure needed to reach this goal.

The Committee's favorable consideration of this request will help meet our nation's radiation safety needs of the future.

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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 2009 APPROPRIATIONS FOR THE BUREAU OF RECLAMATION
AND THE WESTERN AREA POWER ADMINISTRATION

The Irrigation & Electrical Districts Association of Arizona (IEDA) is pleased to present written testimony regarding the fiscal year 2009 (FY 2009) proposed budgets for the Bureau of Reclamation (Reclamation) and the Western Area Power Administration (Western).

IEDA is an Arizona nonprofit association whose 25 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 their consumers.

Bureau of Reclamation

IEDA has reviewed the testimony submitted by Susan Bitter Smith, the President of the Board of Directors of the Central Arizona Water Conservation District (CAWCD), the Arizona three-county special district charged with operation of the CAP. We support that testimony and urge the Subcommittee to actively consider the suggestions made by President Smith. We are especially mindful that the Yuma Desalting Plant continues to remain underfunded and therefore not able to conduct the water conservation, water quality and water supply mission for which it was designed. The Yuma Desalting Plant is an integral 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 impaired as long as the plant remains idle.

We also wish to call to the Subcommittee's attention the issue concerning increased security costs at Reclamation facilities post-9/11. Legislation is pending before Congress addressing that issue and a budget approved for Reclamation for FY 2009 should reflect the possibility that this legislation will become law and affect Reclamation operations in the next fiscal year.

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, as did Administrator Meeks, over the $74 million shortfall in construction funding proposed for FY 2009. 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 yet the region is projected, by all utilities operating in the region, to be short of available generation in the ten-year planning window utilities, including Western, use.

Moreover, the $1,881,000 proposed for appropriation 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, over $20 million in 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 has been stuck in bureaucratic red tape at the Department of Energy for over two years. There is no way that Western customers can develop contracts, have them reviewed, gain approval of these contracts from Western and their governing bodies, find financing on Wall Street and have monies available for the next fiscal year. It is just impossible.

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. But dropping this bomb on us nine months before the beginning of the fiscal year, when there just is not the time necessary to develop alternative capital formation, is bad public policy and should not be countenanced. We urge the Subcommittee to restore a reasonable amount of 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 OF MR. BRAD OBERG
CHIEF TECHNOLOGY OFFICER - IBACOS, INC.
SUBMITTED TO THE SUBCOMMITTEE ON ENERGY AND WATER
HOUSE COMMITTEE ON APPROPRIATIONS
MARCH 19, 2008

DOE's Building America Program: Leading the Way to Zero Energy Homes

IBACOS (Integrated Building And Construction Solutions) urges the Subcommittee on Energy and Water to provide $30 million for the Department of Energy's (DOE) Fiscal Year 2009 Residential Buildings Integration Program (formally Building America). 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, $20 million shall be provided for the research activities of the competitively selected Building America research teams and 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. Each year, more than 1.5 million new homes are constructed and over a million 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 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 US 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 builder 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 Department of Energy's (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.

While the Teams have been working on improving efficiency in housing since 1992, with successes being embodied in Energy Star Home programs and many improvements in home design, they are now focused on the more difficult goal of creating strategies to

achieve Zero Energy Homes (ZEH) - homes that produce as much energy as they use on an annual basis.

A New Frontier in Research – Zero Energy Homes

The research needed to develop systems and strategies to achieve the long term goal of ZEH is not simply applying lessons learned; rather, fundamental research is still required. This R&D, performed by the Building America Teams is truly high-risk, high-payoff research.

The research required to meet the goal of 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 not going to 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 lower than average financial commitment to investing in research.
- Mechanisms do not currently exist within the homebuilding industry to integrate new technologies and strategies effectively.

The research required to meet the goal of 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.

Building America Competitive Teams: Research and Implementation 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 partners have shown that homes with improved efficiency levels can have equal or lower purchase prices than conventional homes, in addition to much lower energy bills and operating costs, and increased building durability as well as occupant safety, health, and comfort. In addition to performing the fundamental research needed to advance the energy efficiency of our nation's housing stock, the Building America Teams 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, many industry associations and universities, and national, regional and local green building programs such as the US Green Building Council's LEED for Homes and the National Association of Homebuilders Green Guidelines. States and local governments are signing on to carbon reduction initiatives such as Architecture 2030, and Governors are creating regional initiatives to combat climate change. Building America is one of the few Federal

programs that can provide housing related energy saving and carbon reduction solutions to help meet these challenges. Furthermore, the Teams are perhaps the best resource for DOE to educate the builder community on technology and integration breakthroughs. This education has been, in part, demonstrated through successful projects, where high efficiency housing is being built and bought, such as Summerset at Frick Park (Pittsburgh, Pennsylvania); Noisette (North Charleston, South Carolina); Civano (Tucson, Arizona); Pulte Home Sciences in Virginia; Forest Glen development in (Carol Stream, Illinois); Hunters Point Shipyard (San Francisco, CA); Stapleton (Denver, Colorado); Habitat for Humanity (Georgia, Colorado, Tennessee, Florida, Michigan, Texas and throughout the U.S.); Summerfield (San Antonio, Texas); Sun City (Las Vegas, Nevada); and others throughout the nation as documented on www.buildingamerica.gov. 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 are provided by DOE's private sector partners.

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 by the year 2020, 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 builders, who produce approximately 50% of the nation's new housing stock. Additionally, the program has been tasked with providing the research and development basis for the President's Partnership for Housing Energy Efficiency (PHEE) as well as many other initiatives including the highly successful Energy Star Homes program. However, since 2004, the program has been underfunded and is now in jeopardy of falling behind on the important and aggressive milestone targets leading to ZEHs by 2020. Achieving 50% savings by 2015 and ZEH by 2020 will only come from

advances in new technology and approaches, not application of current "state of the art" technologies. Without the additional funding, ZEHs in 2020 will not be achievable. Increased funding is needed to address new program requirements including increased energy efficiency goals, increased need for technical support of lead builders, contractors, and suppliers for effective participation in the program, expansion of applications in existing building stock, expansion to multi-family housing stock, and design for integration of on-site and renewable power. Specifically, the incorporation of the ZEH goals into Building America research and development activities must be done in an integrated fashion via the existing competitively selected Building America teams, which have begun to include renewable energy technologies and on-site energy into some projects. The stated DOE goals of the program are unreachable without significant Team funding.

Recommendation for FY09 Funding:
Provide $30 million, for the Building America Program at the DOE's Office of Building Technologies in Fiscal Year 2009 Appropriations (under the Office of Building Technologies, Residential Building Integration). Additionally, include language as follows to ensure that the competitive teams are funded at a percentage comparable to their historic funding:

> "Of these funds, $20 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"

Testimony of the Izaak Walton League of America
Subcommittee on Energy and Water

March 19, 2008

Submitted by Scott Kovarovics, Conservation Director

The Izaak Walton League of America appreciates the opportunity to submit testimony concerning appropriations for fiscal year 2009 for various agencies and programs under the jurisdiction of the Subcommittee. The League is a national, nonprofit organization founded in 1922. We have more than 36,000 members and nearly 300 community-based 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 Izaak Walton League supports the Corps' request for $50 million in FY 2009 for the Upper Mississippi Navigation and Ecosystem Sustainability Program (NESP) as authorized by the Water Resources Development Act of 2007. This is a request for initial program funding. We support this request provided the equitable distribution of funds between navigation and ecosystem restoration projects is maintained.

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.

The Water Resources Development Act of 2007 authorizes the Navigation and Ecosystem Sustainability Program (NESP) for the Upper Mississippi River. NESP allocates $1.9 billion for new lock construction and $1.7 billion for ecosystem restoration over an initial 15-year project phase. This authorization is accompanied by a "comparable progress" clause, which mandates that navigation and ecosystem components progress at comparable rates.

In the FY 2009 budget, the Corps requests $50 million for NESP with $24.25 million allocated to ecosystem restoration and $25.75 million for navigation projects. The League strongly supports the comparable progress clause and endorses the equitable division of the requested funds. We further note that comparable progress must be maintained and assured in the future and be accompanied by annual increases in appropriations. In assembling the UMR-IWW navigation study, the Corps encouraged Congress to invest approximately $130 million annually in Upper Mississippi River habitat restoration efforts.

Corps of Engineers, Operations and Maintenance, Missouri River

The League fully supports the request for $85 million for recovery and restoration work along the Missouri River. In FY 2008, Congress appropriated $50 million.

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. IWLA members, especially those in Iowa, Nebraska and South Dakota, want to see the recovery efforts continue and expand.

The Corps, U.S. Fish and Wildlife Service 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 last year near Lisbon Bottoms in Missouri showed that over twice as many fish species were utilizing the created Shallow Water Habitat (SWH) areas as the main channelized section of the river. 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.

The League is pleased to support the request for recovery and restoration efforts along the Missouri River. Benchmarks have been set by the Biological Opinion establishing goals for habitat restoration. With full funding and a lot of hard work on the ground, we can meet these goals and restore critical segments of America's longest river.

Corps of Engineers, Construction, Great Lakes Fishery and Ecosystem Restoration Program

We join the Healing Our Waters Coalition in urging the Subcommittee to provide $10 million for fish and wildlife restoration projects under the Great Lakes Fishery and Ecosystem Restoration program. In FY 2008, Congress appropriated nearly $1 million for these projects. Unfortunately, the Administration has not requested funds for FY 2009.

The Great Lakes sustain a nationally and internationally significant fishery that has been degraded by habitat losses, contamination and invasive species. Under this program, the Corps will coordinate with other federal, state and local agencies and the Great Lakes Fishery Commission to plan, implement and evaluate projects supporting fishery and ecosystem restoration throughout the region. Projects funded under this program, including river and wetland habitat restoration, dam removal, construction of fish passage over existing structures, improvements to spawning and nursery habitat, and erosion and sedimentation control, are vital to sustaining and improving essential fisheries. This program is an important component of the Great Lakes Regional Collaboration Strategy, which provides a blueprint for the restoration, protection and sustainable use of the Great Lakes. The League encourages the Subcommittee to continue to support Great Lakes recovery by funding this program in FY 2009.

Name: **Levi Pesata**
Title: **President**
Institution: **Jicarilla Apache Nation**
Contact: **Tel. (505) 795-3242, Fax (505) 795-3005; or contact Noelle Graney, Esq.**
Tel. (505) 982-3622, Fax (505) 982-1827, Email ngraney@nordhauslaw.com

March 1, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

On behalf of the Jicarilla Apache Nation, I am requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation sought includes the following: $782,000 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 San Juan River Basin Recovery Implementation Plan is a highly successful, cooperative program among the States of New Mexico and Colorado, the Jicarilla Apache Nation, the Navajo Nation, the Southern Ute Indian Tribe, the Ute Mountain Ute Tribe, federal agencies and water, power and environmental interests. The Program's objectives are to recover endangered fish species while water use and development proceeds in compliance with the Endangered Species Act.

The Jicarilla Apache Nation appreciates the Subcommittee's past support and requests the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in this vitally important program.

Sincerely,

/s/ Levi Pesata
President

STATEMENT OF
DR. CHRISTOPH LEEMANN ON BEHALF OF
JEFFERSON SCIENCE ASSOCIATES, LLC
A PARTNERSHIP BETWEEN SOUTHEASTERN UNIVERSITIES RESEARCH ASSOCIATION &
COMPUTER SCIENCES CORPORATION

BEFORE THE
HOUSE APPROPRIATIONS SUBCOMMITTEE FOR
ENERGY AND WATER DEVELOPMENT

CONGRESSMAN PETER VISCLOSKY
CHAIRMAN

March 17, 2008

Mr. Chairman, my name is Christoph Leemann, President of Jefferson Science Associates, LLC (JSA) and Director of the Thomas Jefferson National Accelerator Facility (Jefferson Lab) in Newport News, VA. JSA, LLC is a company created and owned by the Southeastern Universities Research Association (SURA) and Computer Sciences Corporation (CSC) specifically to manage and operate the Jefferson Lab under contract to the Department of Energy's Office of Science for the Nuclear Physics user community. JSA combines the strengths of SURA, the university consortium that propelled Jefferson Lab into the forefront of both nuclear/hadronic physics and superconducting radiofrequency (SRF) technologies and CSC, the corporation that has successfully managed the infrastructure and business operations at three DOE sites. The goal of this partnership is to enhance the cutting edge science conducted and planned at Jefferson Lab. JSA is successfully achieving Department of Energy science goals through a disciplined approach to laboratory operations and business management that will both transform and optimize the delivery of discovery-level science.

The purpose of my testimony today is to recognize the Subcommittee's commitment to supporting the physical science programs funded by the Department of Energy's Office of Science, specifically Nuclear Physics and to ask that you fully fund the President's FY 2009 budget request for the DOE's Office of Science ($4.7 billion) and the Nuclear Physics program ($510,080,000), which includes $ 28.6 million required to move from the engineering design phase to initial construction on the 12 GeV Upgrade at Jefferson Lab.

Mr. Chairman, we recognize that the FY 2009 appropriations cycle will be challenging and the subcommittee's spending ceiling will most likely present difficult choices among the many important programs within the jurisdiction of the Subcommittee. We believe, however, that without these investments in the Office of Science our nation will lose ground against countries who are aggressively investing in science and technology. These investments create an environment where those enterprises and the resulting high-paying jobs can flourish.

Two years ago, the National Academies published a study on U.S. competitiveness entitled 'Rising Above the Gathering Storm.' The study identified major shortcomings in U.S. investment in basic scientific research as well as in math and science education. The study made a huge impact on both Congressional leaders and the Administration. The Democratic House Leadership's competitiveness strategy and President Bush's American Competitiveness Initiative were introduced to address these shortcomings. Last year, legislation in the form of the America COMPETES Act was passed in the House and Senate and signed into law. It has become clear and well recognized that our nation's competitiveness in the 21st century is at stake and we need to act. Research in the physical sciences not only leads to breakthroughs in our fundamental understanding of the world around us; it results in new technologies and trains new generations of scientists and engineers needed to help us face the challenges of the future. Energy independence, homeland security, nanotechonology, national security or ensuring economic prosperity all require the basis and breakthroughs that research in the physical sciences, like nuclear physics provide.

Mr. Chairman, within the Office of Science the proposed increase in the Nuclear Physics budget will allow us to take advantage of the important scientific opportunities recommended in the Nuclear Science Advisory Committee (NSAC) Long Range Plan and reflected in the Office of Science 20-year plan - *Facilities for the Future of Science.* For Jefferson Lab, the President's Budget allows the Lab to increase operations, thereby increasing the pace of scientific discovery and provides $28.6 million to initiate construction on the Jefferson Lab 12 GeV Upgrade, designated a near-term priority in the 20-year Office of Science *Facilities* plan and the top priority in the latest Nuclear Science Advisory Committee (NSAC) Long Range Plan.

This increase is essential for the US to reap the benefits of its investment in this basic research facility - new insights into the structure of matter, young trained physicists and engineers equipped to meet future challenges, technologies that benefit our national and economic security, and outreach programs that improve the quality of math and science education and reach out to underrepresented children to open opportunities and enhance performance in math and science.

DOE-Supported Science is Essential to US Competitiveness

Mr. Chairman, as you and the other members of the Committee know, the Department of Energy's Office of Science is the largest sponsor of research in the physical sciences, providing the underpinning of many other scientific disciplines. The President's requested budget will allow an increase in basic research in the physical sciences that will have broad impacts on future energy technologies and environmental solutions. This funding will support the construction and operation of world-class scientific facilities providing opportunities for literally thousands of scientists and students. The scientific and technological discovery and innovation that come from this investment are indispensible to ensuring the growth, job creation and rising incomes for Americans in the technology driven 21st century.

The Office of Science manages fundamental research programs in basic energy sciences, biological and environmental sciences, and computational science. In addition, the Office of Science is the Federal Government's largest single funder of materials and chemical sciences, and it supports unique and vital parts of U.S. research in climate change, geophysics, genomics, life sciences, and science education. Breakthroughs are on the horizon that will offer stronger, more functional materials; advances in nuclear medicine to detect and treat cancer without invasive surgery; better sensors for homeland security and our troops in the field; and new forms of energy to foster energy independence.

Each year Office of Science facilities are used by more than 19,000 researchers from universities, other government agencies and private industry. The Office of Science is a principal supporter of graduate students and postdoctoral researchers early in their careers. Almost 50 percent of its research funding goes to support research at more than 300 colleges, universities, and institutes nationwide.

The Office of Science is supporting discoveries in essential new fields—biotechnology, nanotechnology, and supercomputing. In the absence of breakthroughs in fundamental science, current technologies will simply not be able to meet our nation's need for an innovation-driven economy.

It is our hope that through your continued leadership, an increase in funding for Nuclear Physics in FY 2009 will allow us to maintain our world leadership position in this critical field and continue the much needed output of Ph.D.s that provides the next generation of scientists and engineers for our nation.

The Thomas Jefferson National Accelerator Facility (Jefferson Lab) Advances DOE Mission

Mr. Chairman, the Jefferson Lab not only serves over 1200 active university researchers from the U.S. and abroad, it is the only facility of its kind in the world, uniquely equipped to understand nuclear matter in terms of the quarks and gluons from which it is composed. This challenge is analogous to efforts at the beginning of the 20th century to understand the structure of the atom, yielding many of the advances and technologies that are now part of our daily life. Jefferson Lab is a prime example of how a basic research facility can have far-reaching benefits for our nation – by increasing our fundamental understanding of the world around us, providing a pipeline for young scientists and engineers, developing technologies that advance science in other fields and strengthen our defense, providing spin-offs that enhance our quality of life, and increasing math and science literacy among our young people.

Experiments at Jefferson Lab use an electron beam to probe the nucleus to learn about its constituent parts – the quarks and gluons. Several new insights resulting from the Jefferson Lab experimental program include the shape of the proton and new understanding of how strange quarks contribute to the proton's electric and magnetic fields. Jefferson Lab research combines theory, experiment and computer simulation to bring new insight to our understanding of the fundamental building blocks of the universe.

Nuclear physics also provides a critical foundation for other Department of Energy missions such as defense and energy, and trains the next generation of nuclear physicists to meet the challenges facing our nation in the future. Jefferson Lab provides leadership in this area, producing one third of all Ph.D.s in nuclear physics in the United States (224 Ph.D.s with another 199 Ph.D.s in progress).

Beyond its unique and primary mission in nuclear physics research, Jefferson Lab is an international leader in accelerator physics and design. Its unique expertise and experience in superconducting technologies made Jefferson Lab instrumental in the construction of the Spallation Neutron Source at Oak Ridge, and planned future accelerator-based research facilities. This technology has also enabled the world's most powerful Free Electron Laser (FEL) at Jefferson Lab, funded by the Navy with potential uses for missile defense, materials science, nanotechnology, and bioscience. Additionally, detector technology and expertise at Jefferson Lab has resulted in the development of new non-invasive medical imaging tools and techniques that have impacted areas such as detecting breast cancers with better accuracy and assisting in the development of a new gene therapy for cystic fibrosis. Dilon Technologies, the first spin-off company to develop from Jefferson Lab's technologies, is currently producing

scintimammography cameras that will be used to more accurately detect breast cancers in clinical settings.

Jefferson Lab has also pioneered effective programs to enhance math and science education. Our Becoming Enthusiastic About Math and Science (BEAMS) program reaches middle school students in disadvantaged schools and exposes them to the research environment through hands on activities and mentoring at Jefferson Lab. This program is a model for the DOE and has made a positive impact on the Standards of Learning test scores of those who have participated. In addition, the DOE-sponsored Teacher Academy for Physical Sciences (TAPS) program enhances the classroom skills and techniques of science teachers by providing a challenging summer program at Jefferson Lab that couples learning with research experiences.

The Future of Jefferson Lab: the 12 GeV Upgrade

Mr. Chairman, the 12 GeV Upgrade to Jefferson Lab's main accelerator cost effectively doubles the energy of the existing machine, and provides the capability to study the structure of protons and neutrons in the atom with much greater precision than is currently possible. The Jefferson Lab 12 GeV Upgrade was designated as a near-term priority in the Office of Science *Facilities for the Future of Science* 20-year plan, and also is the highest priority in the latest Nuclear Science Advisory Committee (NSAC) Long-Range Plan. The 12 GeV Upgrade has received its first three critical milestones, CD-0, or Statement of Mission Need; CD-1, Approval of Preliminary Baseline Range; and CD-2, Approval of Performance Baseline. We request that the subcommittee continue its strong support for this project by maintaining the funding in its bill to move from the engineering design phase to construction of the 12 GeV Upgrade Project.

Conclusion

Mr. Chairman, in conclusion we thank the subcommittee for its past support and ask that you continue investing in the physical sciences and Nuclear Physics by fully funding the President's FY 2009 budget request for the DOE's Office of Science for $4.7 billion, or 748.8 million (+18.8%) above FY 2008 funding levels. This is consistent with the recommendations of the National Academy's "Rising Above the Gathering Storm" report. Furthermore, within the Office of Science, we support the Administration request that the Nuclear Physics budget be increased to $510,080,000 to take advantage of important scientific opportunities that exist in this field.

Consistent with the Department of Energy's *Facilities for the Future of Science*, and the NSAC Long Range Plan, the President has further requested that Congress provide $28.6 million for the start of construction of the 12 GeV Upgrade at Jefferson Lab. We fully support this increase as necessary for realizing the forefront science of the 12 GeV Upgrade and urge the Committee to grant the President's request.

Mr. Chairman, we appreciate the opportunity to submit this testimony.

March 10, 2008

Public Witness Testimony for the Record
House Committee on Appropriations Subcommittee on Energy and Water Development
EW.Approp@mail.house.gov

Dear Sirs:

As President of the Kansas Geological Society, I strongly support retaining 1) full funding ($3.75 million) in the FY 2009 budget of the Department of Energy to Small Producers Program of the RPSEA (Research Partnership to Secure Energy for America), and 2) renewal and full base funding (approximately $3 million) for the cooperative agreement between U.S. DOE and The Pennsylvania State University for the operation of the Stripper Well Consortium (SWC), a program directed at smaller independent producers. These programs are two of the remaining sources of federal funds that support research and technology demonstration used to enhance domestic oil and gas production from marginal assets owned and operated by small independent producers.

Domestic oil production from marginal wells (<10 barrels per day) is significant:

- >400,000 marginal wells produced over 335 million barrels in 2006.
- Kansas has 54,000 marginal wells, 2nd in the nation, that have produced 27 million barrels (in 2006), 4th in the nation (Marginal Oil Well Survey January 1, 2007).
- Marginal oil production in Kansas represents ~94% of its total crude oil produced.

Domestic gas production from marginal wells (<60 thousand cubic feet per day) is significant:

- Nearly 9% of domestic gas production came from marginal wells in 2006 totaling 1.7 trillion cubic feet.
- Kansas ranks 7th in nation in number of marginal gas wells, which number 13,900. These wells have produced 0.18 trillion cubic feet of natural gas (in 2006), 2nd in the nation for marginal production (Marginal Oil Well Survey January 1, 2007).
- Marginal gas production in Kansas represents ~56% of its total natural gas produced.

In the lower 48 states, small independent producers (<10 employees) drill 85% of the oil and gas wells while producing 65% of the natural gas and ~50% of the oil production. In Kansas 90% of the state's operators are independent producers who own and operate a majority of these marginal oil and gas wells. The Small Producer Program of RPSEA and the SWC provide financial support to enhanced recovery from assets held by these small producers. On their own these independent operators do not have the technical resources to address producibility problems. Neither do they have the financial resources to risk investing in

new unproven technologies tailored to their reservoirs and fields. This is where Small Producer Program of RPSEA and SWC fill a critical void by providing financial support to undertake field demonstration studies of new technology to enhance production from mature reservoirs.

Numerous field studies have been conducted by the Kansas Geological Survey and industry partners over the past 20 years funded by the DOE and others. The data and lessons learned from these projects have greatly benefited the independent industry. The loss of these funds would jeopardize this long standing collaboration and technology transfer activity in Kansas and other states with significant small independent producers.

We as an independent oil and gas industry are committed to do our part to provide dependable domestic energy. Programs like these that allow collaboration with a research partner and provide data and technology transfer that will keep the domestic industry efficient and effective. American Energy Corporation strongly recommends that the federal FY 09 funding for the SWC and RPSEA's Small Producer Program be retained.

Sincerely,

Ernie Morrison
President Kansas Geological Society

March 10, 2008

Public Witness Testimony for the Record
House Committee on Appropriations Subcommittee on Energy and Water Development
EW.Approp@mail.house.gov

Dear Sirs:

On behalf of the Kansas Geological Survey (KGS), I, W. Lynn Watney, Senior Scientific Fellow, strongly support retaining 1) full funding ($3.75 million) in the FY 2009 budget of the Department of Energy to Small Producers Program of the RPSEA (Research Partnership to Secure Energy for America), and 2) renewal and full base funding (approximately $3 million) for the cooperative agreement between U.S. DOE and The Pennsylvania State University for the operation of the Stripper Well Consortium (SWC), a program directed at smaller producers. These programs are two of the remaining sources of federal funds that support research and technology demonstration used to enhance domestic oil and gas production that is focused on small producers.

Domestic oil production from marginal wells (<10 barrels per day) is significant:

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- Marginal gas production in Kansas represents ~56% of its total natural gas produced.

Combined oil and gas production in Kansas is valued in excess of $4 billion in 2006.

In the lower 48 states, small independent producers (<10 employees) drill 85% of the oil and gas wells while producing 65% of the natural gas and ~50% of the oil production. In Kansas 90% of the state's operators are independent producers. The combined value of oil and gas production in Kansas is valued in excess of $4 billion. The Small Producer Program of RPSEA and the SWC provide financial support to enhanced recovery from assets held by these small producers. We at the Kansas Geological Survey has been the recipient of funding from

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KANSAS GEOLOGICAL SURVEY
The University of Kansas

both of these organizations and have used them to carry out successful field demonstration studies to apply state-of-the-art technologies to produce incremental oil and gas from small producer assets. On their own these independent operators do not have the technical resources to address producibility problems. Neither do they have the financial resources to risk investing in new unproven technologies tailored to their reservoirs and fields. This is where Small Producer Program of RPSEA and SWC fill a critical void by providing support to undertake field demonstration studies of new technology to enhance production from mature reservoirs.

One such example is a KGS project titled, "Enhancing oil recovery from mature reservoirs using radial-jetted laterals and high-volume progressive cavity pumps," addresses a fundamental problem in mature oil fields -- that of significantly increasing oil production from high water-cut reservoirs. This problem affects many independent oil and gas operators from across the country. Critical funding from RPSEA brings together our expertise in reservoir characterization and modeling with the small independent operator who has access and essential knowledge of operations of the oil field used in the demonstration project. This extended study, testing, modeling, and technology transfer can not be carried out by independent petroleum operator or the KGS without this external support provided by RPSEA. The funded project will provide decisive results from the field demonstration project in a short, one-year timeframe and convey results to the general industry through technology transfer workshops.

The KGS is also a recipient of funds from the SWC. The funded project entitled, "Demonstration of a low cost 2-tower micro scale N2 rejection system to upgrade low-BTU gas from stripper wells" is focused on enhancing domestic natural gas resources by tapping and upgrading low BTU gas using a new technology to separate noncombustible nitrogen from the natural gas. The gas resources that could be mobilized to the nation's gas grid is estimated to be over 1 trillion cubic feet. The data, lessons learned, and the plant blueprint would be provided to the independent operators through technology transfer workshops.

We from the Kansas Geological Survey strongly recommend that the federal FY 09 funding for the SWC and RPSEA's Small Producer Program be retained.

Sincerely,

W. Lynn Watney
Senior Scientific Fellow

Cc: William Harrison, Director and State Geologist

A Research and Service Division of the University of Kansas
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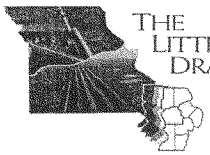

THE
LITTLE RIVER
DRAINAGE DISTRICT

FLOOD CONTROL & DRAINAGE
SINCE — 1907

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STATEMENT OF
THE LITTLE RIVER DRAINAGE DISTRICT
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
MARCH 19, 2008

Congressman Peter Visclosky, Chairman
Subcommittee on Energy and Water Development
2362 Rayburn House Office Building
Washington, D. C. 20515

Dear Congressman Visclosky:

My name is Dr. 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!!

Over fifty (50) percent of our locks and dams are fifty (50) to sixty (60) years old. These facilities have exceeded their life expectancy by ten (10) to twenty (20) years. In ten (10) years that percentage will have grown to almost sixty (60) percent unless improvements are made.

We are witnessing unscheduled lock outages now and to continue as we are that number will continue to grow if we do not step forward with a specific plan to restore, rebuild and reconstruct lock and dams on our waterway systems. We already have leaking gates, crumbling lock walls and frequent unscheduled closures occurring which hurt and curtail economic growth to our nation. Parts are actually having to be made for some repairs because manufactures no longer exist and such parts are not available.

Today our fuel needs alone are seventy (75) percent dependent upon foreign oil sources. Waterborne transportation is far more energy sufficient than truck or rail modes. Our nation, our consumers and our producers will all benefit from more use of our river navigation upgrades. Less fuel would be needed to move mass quantities of goods, lives would be saved due to the more safer means of transportation, the many miles of highways throughout our nation would not be adversely impacted, our environment would be enhanced because of less exhaust emissions and our farmers, manufacturers and other producers could compete with the world markets.

Our competing nations such as Brazil and China continue to commit more funds annually than our nation to improve its infrastructure. They understand the importance of flood control, drainage and waterborne transportation– evidently OMB and this administration do not. We appreciate very much Congress stepping forward as they did in 2008 and increasing the needed funds substantially. Congress should not be burdened with this task each year.

We believe Congress needs to intervene and reverse the trend of OMB, and of past and present 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 as well as local businesses who will provide needed materials. This would be a major boost to our economy.

We believe the improvement and modernization and the growth of our waterway infrastructure should be done, but we believe it needs to be done with a plan. We believe the Corps of Engineers has the capability and they should and must develop a plan for construction of any new projects. We also believe they need to complete projects that are already started before we begin new ones. We also believe the backlog of operations and maintenance of the existing system needs to be done before any new starts are authorized, however, there may be some emergency new starts which would be wise to commence provided the funds are available and provided a systematic modernization is ongoing. We must get away from "knee jerk" emergency type repairs and replacements.

We must prioritize projects and eliminate projects that are not returning benefits back to this nation. We must have our federal government live up to the commitments they have made to the citizens of this nation. Private interest have made many investments based upon faith in the federal government following through on what it promised and what they had been told would be provided to them within a reasonable period of time. If a project is to be funded entirely by the federal government as directed by Congress then we must fulfill that obligation. If local interest is to provide a portion of the cost then local interest must meet that mandate as well. However, we do not need to hold any projects up because local interests are not financially able to meet

their cost sharing needs provided that project returns a benefit back to this nation. Let us move forward with a plan and let us work that plan and rebuild and bring our waterway infrastructure into the 21st Century properly.

I will now turn my comments to one (1) specific project which the U. S. Army Corps of Engineers has been authorized by Congress to administer, namely, the Mississippi River and Tributaries Project (MR&T) and one (1) portion of that project which benefits the citizens of Southeast Missouri and Northeast Arkansas, namely, the St. Francis Basin Project.

The Corps of Engineers has a stated capability of $500,000,000 for Fiscal Year 2009 in the MR&T Project. We ask you to give consideration to provide funding levels at $500,000,000. This will provide some limited but needednew construction and some major maintenance. The President's budget contains only $240,000,000 which is far from adequate and is $20,000,000 less than what was in their budget last year.

The Mississippi River and Tributaries Project was authorized following a record flood in 1927 that inundated more than 26,000 square miles of the Mississippi River Valley. Over 700,000 people were left homeless and many lives were lost. Most, if not all, EastWest commerce was stopped and it adversely effected theeconomy and the environment of our nation. After that devastating event Congress in its infinite wisdom passed a bill and established the Mississippi River and Tributaries Project (MR&T) and authorized the U. S. Army Corps of Engineers to develop a plan to prevent such a disaster in the future. This project currently is a separate line item in the budget. To remove it will destroy the continuity of this much needed project.

Investing in our waterways is a great way to stimulate the economy, which urrently 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 expended. We petition you to give this vital industry of our nation a strong endorsement and do all you can to ensure our waterways systems stay competitive with our foreign competitors.

At a time when we need to stimulate our economy, at a time that safety from terrorist activities needs to be enhanced and at a time that many in our nation are concerned about cleaner air, cleaner water, etc., we have a great opportunity to meet those needs. We must make sound investments into our infrastructure which will give back more monies to the taxpayers of this country than was invested while at the same time we will increase our defense capabilities should our nation be attacked from an outside force.

Our District, as well as other Drainage and Levee Districts in Southeast Missouri and in Northeast Arkansas, is located within the St. Francis RiveBasin. This is a project item of the Mississippi River and Tributaries Project.

The St. Francis Basin Project was authorized by Congress in 1928 for improvements by the U. S. Army Corps of Engineers. The initial authorization was justified by a projected benefit cost ratio of 2.4:1. Today this ratio is 3.6:1 and the project is still not completed. As you can see this also has been a wise investment of our federal tax dollars. Few projects, such as this one (1), where funds are provided by the federal government return more than they cost. This one does and we need to complete it in a timely fashion.

Local interests have done their part in providing rights of way, roads, utilities and the like. Our government now needs to fulfill their obligatory part of the project and bring it to completion as quickly as possible.

The amount allocated for maintenance in the St. Francis Basin Project for Fiscal Year 2008 was $9,800,000. This is a funding level that permits adequate funding to maintain the features within that project on which the Corps of Engineers has made improvements and which it is the responsibility of the federal government to maintain. As a matter of information the Memphis District U. S. Army Corps of Engineers was able to execute ninetynine (99) percent of the available funds for maintenance within that project for Fiscal Year 2008.

The President's budget for F. Y. 2009 contains 6.888 million dollars for construction whereas the Corps of Engineers has the capability of 8.3 million dollars. We request 8.3 million dollars for construction for this project.

The President's budget has 4.445 million dollars for maintenance for the St. Francis Project. The Corps of Engineers has a stated capability of 19.515 million dollars. It seems ludicrous to think OMB would suggest less than 25% of what is needed.

We believe the Corps could adequately use 15 million dollars each year for maintenance within this basin. We realize there are budgetary restraints this as in the past years but we respectively request Congress to approve funding for maintenance in the St. Francis Basin Project for Fiscal Year 2009 in the amount of 19.515 million dollars. This will provide funds for adequate maintenance of the features within this basin which need attention annually.

Many positive changes have occurred to and within our sector of our nation because of this project. We who live there welcome these changes. We, local interest, in Southeast Missouri and Northeast Arkansas want this project brought to completion and adequately maintained. We have waited over seventy (70) years and we believe it is time to complete this wise investment for our nation.

A question that could and should be asked is where will we get the money? True, our nation is facing record deficits but surely some of the monies planned to be sent abroad to build, restore and improve other nations infrastructure could be reduced substantially and be used for the benefit of our taxpayers and nation. Please give thi proposal some thought.

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 for us in the past. We trust you will hear our pleas once more and act accordingly.

Dr. Sam M. Hunter, President
Little River Drainage District
Cape Girardeau, Missouri

TESTIMONY OF TROY LARSON, EXECUTIVE DIRECTOR OF THE LEWIS & CLARK REGIONAL WATER SYSTEM, BEFORE THE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE, UNITED STATES HOUSE COMMITTEE ON APPROPRIATIONS, DEPARTMENT OF THE INTERIOR – BUREAU OF RECLAMATION
March 19, 2008

Funding and Construction:

As the Executive Director of the Lewis & Clark Regional Water System, it is a pleasure to testify in support of $35 million for Lewis & Clark in the FY 2009 Energy and Water Appropriations bill, Department of the Interior, Bureau of Reclamation account. I would also like to take this opportunity to update you on the status of the water system. When completed, Lewis & Clark will be a wholesale supplier of treated water to 20 cities and rural water systems in northwest Iowa, southeast South Dakota and southwest Minnesota (an area the size of Connecticut). Over 300,000 people in the tri-state region will benefit from the project.

Lewis & Clark is governed by a 20 member board. The eleven South Dakota members include Sioux Falls, Madison, Centerville, Beresford, Lennox, Parker, Tea, Harrisburg, Lincoln County RWS, South Lincoln RWS and Minnehaha Community Water Corp. The five Iowa members are Hull, Rock Rapids, Sheldon, Sibley and Sioux Center. Lastly, the four Minnesota members are Worthington, Luverne, Lincoln-Pipestone RWS and Rock County RWD.

If $35 million in federal funding were received each year, it is estimated the project would be completed in late 2019, which is three and a half years later than the originally planned completion of 2016. The members have not skirted their responsibility to this project. I am proud to be here to tell you that 17 of the 20 members have pre-paid their share of the project.

To date, 65 miles of primarily 54" pipe have been constructed, with another 14 miles still under construction. This includes the completion last fall of a nine mile "emergency connection" between Sioux Center and Hull in Iowa (10" and 16" PVC pipe). In the short-term, Lewis & Clark will purchase water from Sioux Center and re-sell it to Hull. This connection will become operational on May 1, 2008.

In South Dakota, the "emergency connection" for Tea and Harrisburg will be completed by July 1, 2008. In the short-term, Lewis & Clark's infrastructure will be used to transport water from Sioux Falls to Tea and Harrisburg. Both communities are in critical need for more water, so this emergency connection is a way to buy time for those communities until Lewis & Clark's water arrives. In addition, seven wells have been drilled and bank stabilization work is underway along the Missouri River near Vermillion, South Dakota. The first phase of the water treatment plant will be bid this summer.

Thanks again for your efforts in helping to secure $26,568,000 in FY 2008. This funding was imperative to our continuing efforts. Looking forward, it is very important that federal funding

be increased above the FY2008 level. The longer it takes to construct the project, the more expensive it becomes due to inflation and the longer critical water needs go unmet. Assuming a conservative 4% rate of inflation, if Lewis & Clark were to receive $35 million each year, Lewis & Clark's engineers estimate the project would be completed at a cost of $524.5 million. If Lewis & Clark were to receive $15 million each year – the amount recommended in the President's FY08 budget – the project would be completed in 2045 at an estimated cost of $704,627,000.

As noted earlier, 17 of Lewis and Clark's 20 local members have pre-paid their 10% share of the project. The States of Iowa and Minnesota have pre-paid and South Dakota is accelerating its payments in order to pay its remaining $19 million over the next three years.

Lewis & Clark will have an immense impact on the quality of life and economic development of the tri-state region. The project is a unique cooperative agreement among the federal government, three states and 20 local governments. This type of cooperation and consolidation, which in Lewis & Clark's case involves 20 cities and rural water systems banding together to address common water needs, is a model of efficiency that this committee should be encouraging.

Lewis & Clark's funding is directed through the Bureau of Reclamation's Water and Related Resources Account. For Fiscal Year 2009, Lewis & Clark is again respectfully requesting $35 million, which is the amount needed to keep construction on schedule. In actuality, we could obligate an estimated $85 million if the funding was available. It is an honor to testify in support of our project and if you have any questions regarding this project please feel free to contact my office.

Background:

The Lewis and Clark Rural Water System Act became law in July 2000 (P.L. 106-246). When completed, the project will provide safe, reliable drinking water to over 300,000 people in South Dakota, Minnesota and Iowa. Lewis & Clark represents a unique regional approach by the three states and the 20 local sponsors to address common problems with area water resources in a more effective and cost-efficient way than each state, town or rural water system could do alone. Regional water problems include shallow wells and aquifers prone to contamination and drought, compliance with new federal drinking water standards, and increasing water demand due to population growth and economic expansion.

For its source of water, Lewis & Clark will utilize an aquifer adjacent to the Missouri River near Vermillion, South Dakota, and will distribute water to member towns and rural water systems in an area of approximately 5,000 square miles, roughly the size of Connecticut. The drinking water will pass through a well system, treatment plant and a non-looped distribution system.

Contact:

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STATEMENT OF
PAUL LATTURE, II, CHAIRMAN FOR ARKANSAS
To
THE CHAIRMAN
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
APPROPRIATIONS COMMITTEE
UNITED STATES SENATE
And
U.S. HOUSE OF REPRESENTATIVES

MARCH 19, 2008

Mr. Chairman and members of the committee, I am Paul Latture II, Arkansas Chairman of the Arkansas River Basin Interstate Committee, from Little Rock, Arkansas.

It is my privilege to present this statement on behalf of the Arkansas members of our committee in support of adequate funding for water resource development projects in our area of the Arkansas River Basin. Other members of the Committee are: Mr. Jack Long, Little Rock; Mr. Jeff Pipkin, Russellville; Mr. Scott McGeorge, Pine Bluff; and Mr. Marty Shell, Van Buren.

The public investment in the McClellan-Kerr has paid significant dividends over the life of the project. The most recent investment included the completion of the Montgomery Point Lock and Dam. Since the opening of Montgomery Point, there has been a 10% increase in total tonnage on the system. In 2005, there was an 8% increase in tonnage. This is a direct result of the increased reliability of the system. Without Montgomery Point Lock and Dam, the river system would have been closed 25% of the time, according to Corps of Engineers officials. We fully expect that tonnage will continue to increase and 2007 was a record year. But maintaining the high reliability of the system depends on protecting the investment by funding projects such as the significant backlog of Operations and Maintenance that has built up over the years and by fulfilling the wish of Congress in completing the 12-foot channel project.

The requests of the Arkansas contingent of the Arkansas River Basin Interstate Committee for FY 2009 are as follows:

1. $10,000,000 for the 12-foot Channel Project

Public Law 108-137 authorized a **12-foot channel on the McClellan-Kerr Arkansas River Navigation System.** A large portion of the system currently is adequate for a 12-foot channel. Deepening the remainder of the channel to 12 feet will allow carriers to place 43% more cargo on barges, which will reduce the amount of fuel consumed and emissions released. Funds in the amount of $7.0M were allocated in FY05. Those funds were used to complete the Feasibility Study and Environmental Impact Statement with the balance used on engineering, design, and construction activities. Environmental benefits include the creation of new aquatic habitat through new dike construction and the construction of Least Tern islands through beneficial use of dredged material. The Corps of Engineers has developed a comprehensive plan to execute the project in the states of Arkansas and Oklahoma to the best advantage of both states and the best use of the funds.

While the Corps capability for this project is $40,000,000 it is imperative that this project move forward with a **minimum of $10,000,000 in funding**.

This project is the highest priority for the members of the Arkansas River Basin Interstate Committee from both Arkansas and Oklahoma.

2. $34,000,000 for Operation and Maintenance of the Navigation System

In addition to the deepening of the navigation system from 9 to 12 feet, there is a backlog of maintenance items that has been deferred due to insufficient budgets to allow proper maintenance. These maintenance items are required even to support navigation at the 9' depth in order to not jeopardize the reliability of the system. Therefore, we request **funding for the Little Rock District of the Corps of Engineers to be at least $34 million for the upcoming fiscal year** for routine and deferred channel maintenance. These funds would be used for such things as repair of bank stabilization work, needed advance maintenance dredging, and other repairs needed on the system's components that have significantly deteriorated over the past three decades. The top priorities include investigation of the status of the Hardin Dam and the rehabilitation of the Miter Gates at Murray Lock and Dam.

3. $7,600,000 at the Little Rock Port

As authorized in the 2007 WRDA legislation, filling of the available lands at the Slackwater Harbor in the Port of Little Rock is in the national interest. This project will fill 110 acres of prime industrial property, raise the south side of the Slackwater Harbor, and construct the necessary access road. The Slackwater Harbor has been used as the staging area for the 39th Arkansas National Guard. The Harbor is the prime spot needed to load and stage the pipes manufactured in the Port to help America's energy situation.

This project can be accomplished via Section 107 of the River and Harbors Act of 1960 (PL 86-645) in the Continuing Authorities Program which would allow the disposal of dredge disposal material to be utilized by the Little Rock Port for beneficial fill material. Or it can be accomplished via the WRDA authorization.

Therefore, $7,600,000 is requested for this project. This project will compliment the goal of Homeland Security by providing a safe, mid-America environment for shipping while complimenting other Federal investments, including the 12-foot channel project" by providing completion of a major economic development engine in Central Arkansas.

Louisiana Department of Transportation and Development (LADOTD)
Edmond J. Preau, Jr., Asst. Sec., Public Works, Hurricane Flood Prot. & Intermodal Transp.

Statement Presented To: **Subcommittee on Energy and Water Development**
U.S. Army Corps of Engineers, Civil Works
Fiscal Year 2009

On behalf of LADOTD and the Association of Levee Boards of Louisiana (ALBL), we present recommendations for FY 2009 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. When combined with the other interstate rivers flowing through the state, almost 50% of the contiguous land mass of this nation drains through Louisiana. 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 these protected areas and produces more than 90% of the State's disposable personal income. Approximately 60% of the State's agricultural products are produced in these protected areas. But Louisiana is not the only beneficiary of this civil works investment. 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. Unfortunately, the Administration's budget proposals in recent years indicate a lack of concern for the preservation and efficient operation of this system. 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. But the system is rapidly deteriorating due to lack of maintenance and is in desperate need of renovation and modernization. Failure to do so will wreak havoc on the economies of all the communities located on these waterways.

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. The Administration's proposed budget of $240 Million for FY 09 is totally unacceptable. We strongly support the Mississippi Valley Flood Control Association's request for $500 Million for the MR&T Project and urge your support of this level of funding.

In making the following funding recommendations for Louisiana projects regarding specific construction, studies, and operation and maintenance items, we would hope that Congress and the Administration will honor their prior commitments to infrastructure development and continue to fund our requests. We believe these types of water resources projects are the most cost effective projects in the federal budget, having to meet stringent economic criteria not required by other programs.

Please note that the required additional funds to provide the Greater New Orleans Area a 100 year level of hurricane protection are not included in this appropriations request. We believe it is proper that the funds for repairing and improving the hurricane protection systems continue to be provided through emergency supplemental appropriations so as not to detract from projects that must go through the normal appropriations process. We solicit your continued support in providing the supplemental funding necessary to complete the work.

LADOTD & ALBL requests funding for the following projects that differs from what is in the FY 2009 Administration Budget or is a project of particular importance for the State. Those items that have been appropriately funded have not been included.

SUMMARY OF RECOMMENDED APPROPRIATIONS FY 2009 FOR LOUISIANA FLOOD CONTROL, NAVIGATION, HURRICANE PROTECTION & WATER RESOURCES PROJECTS

LOUISIANA PROJECTS	ADMINISTRATION BUDGET	LOUISIANA REQUEST
GENERAL INVESTIGATIONS		
STUDIES		
Amite River-Ecosystem Restoration, LA	$0	$1,000,000
Amite River & Tributaries, LA Bayou Manchac	$0	$1,000,000
Calcasieu Lock, LA	$53,000	$2,500,000
Calcasieu River & Pass Navigation, LA	$0	$500,000
Plaquemines Parish, LA	$0	$1,500,000
South Louisiana Hurricane Protection/LACPR	$0	$3,000,000
Southwest Coastal LA Hurricane Protection, LA	$0	$2,400,000
St. Charles Parish Urban Flood Control, LA	$500,000	$500,000
St. John the Baptist Parish, LA	$0	$500,000
West Shore – Lake Pontchartrain, LA	$0	$880,000
Bossier Parish Levee & FC	$0	$350,000
Cross Lake Water Supply	$0	$250,000
PED		
Bayou Sorrel Lock, LA	$1,599,000	$2,500,000
Calcasieu River Basin, LA	$67,000	$2,700,000
Port of Iberia, LA	$0	$2,500,000
West Shore – Lake Pontchartrain, LA	$0	$3,300,000
NEW STUDIES		
Red River Waterway, LA – 12' Channel (JBJWW)	$0	$100,000
CAP		
Port Fourchon Enlargement, LA	$0	$195,000

SUMMARY OF RECOMMENDED APPROPRIATIONS FY 2009 FOR LOUISIANA – CONTINUED

LOUISIANA PROJECTS	ADMINISTRATION BUDGET	LOUISIANA REQUEST
CONSTRUCTION GENERAL		
Comite River, LA	$0	$18,000,000
East Baton Rouge Parish, LA	$0	$25,000,000
Inner Harbor Navigation Canal Lock, LA	$0	$10,000,000
Larose to Golden Meadow	$0	$40,000,000
Red River Below Den Dam (AR, LA)	$0	$8,000,000
Red River Emergency (AR, LA)	$0	$12,000,000
J Bennett Johnston WW, Miss. R. to Shreveport	$1,500,000	$20,000,000
OPERATIONS & MAINTENANCE GENERAL		
Atchafalaya River, Bayous Chene, Boeuf & Black	$8,992,000	$47,600,000
Barataria Bay Waterway	$926,000	$3,000,000
Bayou Lacombe	$0	$900,000
Bayou Lafourche	$724,000	$2,400,000
Bayou Segnette	$321,000	$4,300,000
Bayou Teche	$209,000	$8,300,000
Bayou Teche & Vermilion	$14,000	$420,000
Calcasieu River & Pass	$14,968,000	$27,000,000
Calcasieu River Dredge Disposal Plan	$0	$100,000
(T)Chefuncte River	$0	$825,000
Freshwater Bayou	$1,848,000	$13,300,000
Gulf Intracoastal Waterway	$17,769,000	$43,000,000
Houma Navigation Canal	$662,000	$2,500,000
Mermentau River	$1,969,000	$16,900,000
Mississippi River, Baton Rouge to the Gulf	$55,325,000	$112,700,000
Mississippi River Gulf Outlet at Venice	$3,136,000	$13,100,000
Tangipahoa River	$0	$1,300,000
Waterway Empire to the Gulf	$32,000	$2,000,000
WW. IWW to Bayou Dulac	$239,000	$239,000
Ouachita & Black Rivers (AR, LA)	$8,509,000	$17,200,000
Bayou Bodcau	$809,000	$2,919,000
Caddo Lake	$181,000	$400,000
Wallace Lake	$200,000	$419,000
Bayou Pierre	$18,000	$36,000
J Bennett Johnston Waterway	$10,555,000	$20,339,000
Lake Providence Harbor	$17,000	$440,000
Madison Parish Port	$5,000	$85,000
Federal Levee Certifications (LA)	$0	$10,000,000

SUMMARY OF RECOMMENDED APPROPRIATIONS FY 2009 FOR LOUISIANA
MISSISSIPPI RIVER AND TRIBUTARIES

LOUISIANA PROJECTS	ADMINISTRATION BUDGET	LOUISIANA REQUEST
FC, MR&T GENERAL INVESTIGATIONS		
Alexandria to the Gulf	$790,000	$790,000
Donaldsonville to the Gulf	$0	$540,000
Houma Navigation Canal	$0	$2,000,000
Morganza to the Gulf, PED	$0	$8,000,000
Spring Bayou Area, LA	$0	$300,000
Atchafalaya Basin Floodway System Land Study, LA	$100,000	$300,000
FC, MR&T CONSTRUCTION		
Atchafalaya Basin	$6,300,000	$25,500,000
Atchafalaya Basin Floodway System	$2,025,000	$10,900,000
Channel Improvement (N.O. Dist.)	$10,800,000	$10,800,000
Mississippi Delta Region	$2,259,000	$3,933,000
Mississippi River Levees, LA (N.O. Dist.)	$5,550,000	$18,150,000
Morganza to the Gulf, (Constr.)	$0	$10,000,000
Mississippi River Levees (AR, LA, MS) (V. Dist.)	$11,500,000	$54,100,000
Channel Improvement (AR, LA, MS) (V. Dist.)	$21,889,000	$28,859,000
Red-Ouachita Basin Levees	$0	$6,831,000
FC, MR&T MAINTENANCE		
Atchafalaya Basin	$8,618,000	$32,000,000
Atchafalaya Basin Floodway System	2,116,000	$2,400,000
Baton Rouge Harbor (Devil's Swamp)	$162,000	$3,300,000
Bayou Cocodrie and Tributaries	$42,000	$42,000
Bonnet Carre Spillway	$2,346,000	$5,500,000
Channel Improvement (N.O. Dist.)	$18,200,000	$18,200,000
Dredging (N.O. Dist.)	$720,000	$720,000
MS Delta Region	$578,000	$578,000
Old River	$13,882,000	$24,000,000
Mississippi River Levees (LA) (N. Dist.)	$3,702,000	$3,774,000
Mississippi River Levees (AR, LA, MS) (V. Dist.)	$2,211,000	$3,211,000
Revetments & Dikes (AR, LA, MS) (V. Dist.)	$11,490,000	$18,090,000
Dredging (AR, LA, MS) (V. Dist.)	$5,149,000	$5,149,000
Boeuf & Tensas Rivers	$1,880,000	$7,130,000
Red River Backwater	$2,501,000	$8,112,000
Lower Red River	$53,000	$53,000
Red-Ouachita Basin Levees	$0	$6,000,000
MR&T Levee Certifications (LA)	$0	$10,000,000

TO: UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS
THE HONORABLE PETER VISCLOSKY, CHAIRMAN

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

STATEMENT REGARDING FISCAL YEAR 2009
ARMY CORPS OF ENGINEERS APPROPRIATIONS REQUESTS BEFORE THE SUBCOMMITTEE

PROJECT REQUESTS

McCOOK AND THORNTON RESERVOIR PROJECT (Construction General)	$34,000,000

Respectfully Submitted,

Terrence J. O'Brien
President
Metropolitan Water Reclamation
District of Greater Chicago

March 2008

On behalf of the Metropolitan Water Reclamation District of Greater Chicago (District), I want to thank the Subcommittee for this opportunity to present our priority for Fiscal Year 2009 and, at the same time, express our appreciation for your support of the District's projects in the years past. The District is the local sponsor for the Corps of Engineers priority projects of the Chicagoland Underflow Plan: the O'Hare, McCook and Thornton Reservoirs. We are requesting the Subcommittee's full support of the President's FY 09 budget request for McCook and Thornton Reservoirs, as the O'Hare Reservoir has been completed. Specifically, we request the Subcommittee to support the President's FY 2009 budget request of **$34,000,000 from the Army Corps of Engineers Construction, General account in the FY 2009 Energy and Water appropriations bill**. The following text outlines these projects and the need for the requested funding.

The Chicagoland Underflow Plan

The Chicagoland Underflow Plan (CUP) consists of three reservoirs: the O'Hare, McCook and Thornton Reservoirs. These reservoirs are a part of the Tunnel and Reservoir Plan (TARP). The O' Hare Reservoir Project was fully authorized for construction in the Water Resources Development Act of 1986 (P.L. 99-662) and completed by the Corps in FY 1999. This reservoir is connected to the existing O'Hare segment of the TARP. Adopted in 1972, TARP was the result of a multi-agency effort, which included officials of the State of Illinois, County of Cook, City of Chicago, and the District.

TARP was designed to address the overwhelming water pollution and flooding problems of the Chicagoland combined sewer areas. These problems stem from the fact that the capacity of the area's waterways has been overburdened over the years and has become woefully inadequate in both hydraulic and assimilative capacities. These waterways are no longer able to carry away the combined sewer overflow (CSO) discharges nor are they able to assimilate the pollution associated with these discharges. Severe basement flooding and polluted waterways (including Lake Michigan, which is the source of drinking water for millions of people) are the inevitable result. We point with pride to the fact that TARP was found to be the most cost-effective and socially and environmentally acceptable way for reducing these flooding and water pollution problems. Experience to date has reinforced such findings with respect to economics and efficiency.

The TARP plan called for the construction of the new "underground rivers" beneath the area's waterways, connected to large CSO storage reservoirs. The "underground rivers" are tunnels up to 33 feet in diameter and 350 feet below the surface. All 109.4 miles of the tunnels have been completed and are in operation. The tunnels capture the majority of the pollution load by capturing all of the small storms and the first flush of the large storms.

The completed O'Hare CUP Reservoir provides an additional 350 million gallons of storage. This Reservoir has a service area of 11.2 square miles and provides flood relief to 21,535 homes in Arlington Heights, Des Plaines and Mount Prospect. The Thornton and McCook Reservoirs

are currently under construction, but until and unless they are completed, significant areas will remain unprotected. Without these reservoirs as outlets, the local drainage has nowhere to go when large storms hit the area and the tunnels fill.

Since its inception, TARP has not only abated flooding and pollution in the Chicagoland area, but has helped to preserve the integrity of Lake Michigan. In the years prior to TARP, a major storm in the area would cause local sewers and interceptors to surcharge resulting in CSO spills into the Chicagoland waterways and during major storms into Lake Michigan, the source of drinking water for the region. Since these waterways have a limited capacity, major storms have caused them to reach dangerously high levels resulting in massive sewer backups into basements and causing multi-million dollar damage to property.

Since implementation of TARP, over 900 billion gallons of CSOs have been captured by TARP, that otherwise would have reached waterways. Area waterways are once again abundant with many species of aquatic life and the riverfront has been reclaimed as a natural resource for recreation and development. Closure of Lake Michigan beaches due to pollution has become a rarity. After the completion of both phases of TARP, 99% of the CSO pollution will be eliminated. The elimination of CSOs will reduce the quantity of discretionary dilution water needed to keep the area waterways fresh. This water can be used instead for increasing the drinking water allocation for communities in Cook, Lake, Will and DuPage counties that are now on a waiting list to receive such water. Already, these counties have received millions of gallons of additional Lake Michigan water per day, partially as a result of the reduction in the District's discretionary diversion since 1980. Additional allotments of Lake Michigan water will be made to these communities, as more water becomes available from reduced discretionary diversion.

With new allocations of lake water, many communities that previously did not get lake water are in the process of building, or have already built, water mains to accommodate their new source of drinking water. The new source of drinking water will be a substitute for the poorer quality well water previously used by these communities. Partly due to TARP, it is estimated by IDOT that between 1981 and 2020, 283 million gallons per day of Lake Michigan water would be added to domestic consumption. This translates into approximately 2 million additional people that would be able to enjoy Lake Michigan water. This new source of water supply will not only benefit its immediate receivers but will also result in an economic stimulus to the entire Chicagoland area by providing a reliable source of good quality water supply.

The McCook and Thornton Reservoirs

The McCook and Thornton Reservoirs of the Chicagoland Underflow Plan (CUP) were fully authorized for construction in the Water Resources Development Act of 1988 (P.L. 100-676). These CUP reservoirs, as previously discussed, are a part of TARP, a flood protection plan that is designed to reduce basement flooding due to combined sewer back-ups and inadequate hydraulic capacity of the urban waterways.

These reservoirs will provide annual benefits of $130 million. The total expected annual benefits of these projects are approximately twice as much as their total annual costs. The District, as the

local sponsor, has acquired the land necessary for these projects, and will meet its cost sharing obligations under P.L. 99-662.

These projects are a very sound investment with a high rate of return. The remaining benefit/cost ratio for these two reservoirs together is over 3.2. They will enhance the quality of life, safety and the peace of mind of the residents of this region. The State of Illinois has endorsed these projects and has urged their implementation. In professional circles, these projects are hailed for their farsightedness, innovation, and benefits.

Based on two successive Presidentially-declared flood disasters in our area in 1986 and again in 1987, and severe flooding in the last several years, we believe the probability of this type of flood emergency occurring before implementation of the critical flood prevention measure is quite high.

We have been very pleased that over the years the Subcommittee has seen fit to include critical levels of funds for these important projects. In FY 2009, funding will be used to continue ongoing design and construction of the McCook Reservoir. The McCook Reservoir is currently under construction, and when completed will have a total capacity of 7 billion gallons, provide more than $90 million per year in benefits to 3.1 million people in 37 communities, protecting 1,240,000 million structures.

The District is proceeding with planning, design and ultimately construction of the Thornton Reservoir under the Section 211 provision of the 2007 WRDA. This provision will allow the District to complete the project, seek reimbursement for the federal share, and bring the flood protection and CSO storage benefits to 556,000 people in 15 communities by 2014.

Completing the McCook and Thornton Reservoirs and bringing them fully on-line is crucial to local communities, the health of Lake Michigan and its tributaries, and to the economic development of the region. Without timely completion of the project, communities will not be able to benefit from increased drinking water allocations and improvements in water quality, and thousands of homes will continue to be vulnerable to flooding. In fact, this project will provide more than $130 million per year in benefits to over 3 million Illinois residents and once complete will protect over 1.3 million structures from flooding.

Summary

To emphasize the areas plight, I would like to relate a flooding event that occurred in 2002 when just under four inches of rain fell on the greater Chicagoland area. Due to the frozen ground, almost all of the rainfall entered our combined sewers, causing sewerage back-ups throughout the area. When the existing TARP tunnels filled with approximately 1.2 billion gallons of sewage and runoff, the only remaining outlets for the sewers were our waterways. Between 9:00 p.m. and 3:00 a.m., the Chicago and Calumet Rivers rose six feet. For the first time since 1981 we had to open the locks at all three of the waterway control points; these include Wilmette, downtown Chicago, and Calumet. Approximately 4.2 billion gallons of combined sewage and stormwater had to be released directly into Lake Michigan. More recently, in August of 2007, a

series of storms inundated the Chicago area, again requiring the opening of the locks and causing the release of 224 million gallons of polluted water into the lake.

Given our large regional jurisdiction and the severity and regularity of flooding in our area, the Corps was compelled to develop a plan that would complete the uniqueness of TARP and be large enough to accommodate the area we serve. With a combined sewer area of 375 square miles, consisting of the city of Chicago and 51 contiguous suburbs, there are 1,443,000 structures within our jurisdiction, which are subject to flooding at any given time. The annual damages sustained exceed $150 million. With the TARP CUP Reservoirs in place, these damages could be eliminated. We must consider the safety and peace of mind of the two million people who are affected as well as the disaster relief funds that will be saved when these projects are in place. As the public agency in the greater Chicagoland area responsible for water pollution control, and stormwater management in Cook County, we have an obligation to protect the health and safety of our citizens. We are asking your support in helping us achieve this necessary and important goal. It is absolutely critical that the Corps' work, which has been proceeding for a number of years, now proceeds on schedule through construction.

Therefore, we urgently request that a total of $34,000,000 in construction funds be made available in the FY 2009 Energy and Water Development Appropriations Act to continue construction of the McCook and Thornton Reservoir Projects.

Again, we thank the Subcommittee for its support of this important project over the years, and we thank you in advance for your consideration of our request this year.

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 2009

March 19, 2008

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 $500 Million for FY 2009 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, 23.2 miles of work has been completed, 12.2 miles are currently under contract, and another 4.4 miles will be awarded in FY2009. We are requesting $98.55 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 2009 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. No project authorized and funded by the Congress should be indiscriminately terminated without the benefit of having the opportunity to complete the study process and subsequent construction after complying with the Corps Policy and Guidelines.

The Final Report for the Yazoo Backwater Project was released November 16, 2007. The Yazoo Backwater Project will provide economic and environmental benefits to parts of six counties in the south Mississippi Delta. This project will build a pump that will evacuate floodwater that is generated over 4,093 square miles in the Mississippi Delta. The pump 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. Reforestation easements will 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. The recommended plan for the Yazoo Backwater Project will balance economics with the environment. This is a model project that should be the standard for future public works projects in the United States. We are requesting this project be funded by the Congress in the amount of $17 Million. These funds will allow the Corps to begin acquisition of the reforestation easements and initiate the award of the pump supply contract.

The Draft Supplemental Environmental Impact Statement for the Big Sunflower River Maintenance Project will be released next year. This maintenance project will restore flood control capacities to 130 miles of channels by removing sediment that has built up over the past 40 years since the channels were originally improved. Our request for $4.191 Million will allow right-of-way acquisition to continue and for the award of the first dredging contract. The residents in the Mississippi Delta continue to suffer damages from flooding while they wait for this maintenance project to reach their area.

Work on the Delta Headwaters Project has proven effective in reducing sediments to downstream channels. To discontinue this project will only increase sediment in downstream channels diminishing water quality, reducing the level of protection to the citizens of the Delta and increasing required maintenance. We are requesting $25 Million to continue this project.

The Upper Yazoo Project is critical to the Delta. The Corps of Engineers operates 4 major flood control reservoirs on the bluff hills overlooking the Mississippi Delta. These reservoirs hold back heavy spring rains and must have adequate outlet channel capacity to pass this excess runoff during the summer and fall months. Without completion of the Upper Yazoo Project, the Corps is forced to hold flood water from the previous spring, thereby reducing the ability to provide protection from the current year's flood water. We urge the Congress to provide $26 Million allowing construction to continue and the award of additional channel enlargement items.

Maintenance of completed works can not be over looked. The four flood control reservoirs over looking 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 $11.991 Million for Arkabutla Lake, $11.342 Million for Enid Lake, $11.084 Million for Grenada Lake, and $14.556 Million for Sardis Lake.

We are requesting $34.511 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 Conference Report for Energy & Water Development Appropriations Act, 2006 included detrimental language that has crippled the Corps ability to get the MR&T Project done in a timely, efficient, and economically feasible way. The Conference Report eliminated the Continuing Contracts Clause that allowed the Corps to bid projects without all the funding in place before the project starts. **The Corps of Engineers must be able to utilize Continuing Contracts on the MR&T Project.** The Conference Report also included Reprogramming Authorities restrictions which is limiting the Corps of Engineers ability to shift monies within the MR&T Project. Reprogramming Authorities allow money to move from one project that is behind schedule to another project that is ahead of schedule. The reprogramming authority is now very limited. **The Reprogramming Authority restrictions must be relaxed for the MR&T Project in order for the Corps of Engineers to make maximum use of appropriations that Congress provides.**

The Conference Report for 2006 was a record year for funding levels for the MR&T Project. The inclusion of the detrimental language of Reprogramming Authority restrictions and the elimination of Continuing Contracts Clause has crippled the Corps of Engineers ability to wisely spend money that Congress has appropriated. The Water Resources Development Act (WRDA) 2007 became law on November 8, 2007 and allowed the Corps to once again reprogram project funds and use continuing contracts. Unfortunately, the Omnibus Bill was passed on December 18, 2007 and once again eliminated continuing contracts and restricted Reprogramming Authority. **We must remove this detrimental language in the FY 2009 Appropriations.** The President's FY 2009 Budget for the MR&T Project provides only $240M

which is terribly inadequate and will not allow the Corps to proceed in the most economical manner.

The U.S. Senate is working on a Flood Insurance Reform Bill (S.2284). The current version of the bill states that any area behind a levee is required to obtain flood insurance. The MR&T Project has been designed, constructed and maintained to protect against the "maximum flood predicted as possible." We request that wording of section 7(b)(2) of S.2284 be modified to exempt those areas protected by structures that were constructed as part of the MR&T Project.

The Corps of Engineers has a Congressionally directed mission of flood control. The Corps has recently opted to stop using "flood control" in correspondence and now refers to it as "flood damage reduction" or "flood risk management." We request that the Corps of Engineers return to using "flood control" in correspondence when referring to their Congressionally mandated mission.

The Environmental Protection Agency (EPA) is given too much power in Section 404(c) of the Clean Water Act (CWA). 404(c) allows EPA to veto a project that has been authorized by Congress. EPA has evoked this veto power on the Yazoo Backwater Project. EPA is basically saying that if you lower the water level with a flood control project, the damage to the environment is too great to overcome with mitigation! By killing this project by utilizing its 404(c) veto authority, EPA is drawing a line in the sand over the future of flood control in our great nation. During the early 1990's, due to abuse of the 404(c) power by EPA, Congress considered removing this authority from EPA. **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.**

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 considerations of our requests for fiscal year 2009.

MNI WICONI PROJECT
PUBLIC WITNESS TESTIMONY FOR THE RECORD

United States House of Representatives
Energy and Water Development Subcommittee on Appropriations
Honorable Peter J. Visclosky, Chairman
March 19, 2008

Mni Wiconi Project (PL 100-516, as amended), testimony submitted by
Oglala Sioux Rural Water Supply System, Frank Means, Director
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 – Water and Related Resources

1. FY 2009 Request

The Mni Wiconi Project beneficiaries respectfully request appropriations of $38.378 million for construction ($28.196 million) and operation and maintenance (OMR) activities ($10.182 million) for FY 2009:

FY 2009 Request		
Construction	OMR	Total
$28.196	$10.182	$38.378

2. Construction Funds

Construction funds would be utilized as follows:

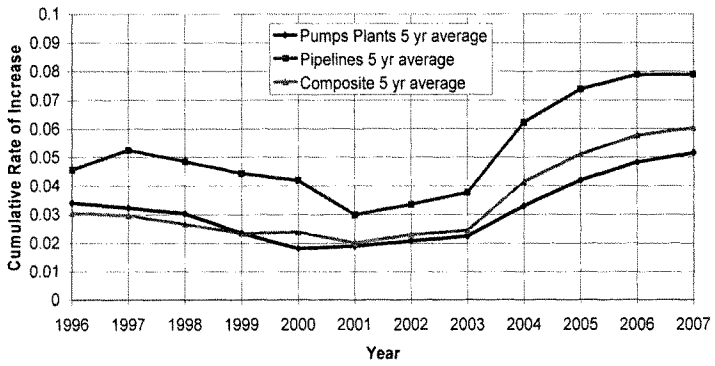
Project Area	$
Oglala Sioux Rural Water Supply System	
Core	$1,115,000
Distribution	$14,775,000
West River/Lyman-Jones RWS	$5,133,000
Rosebud RWS	$7,173,000
Total	$28,196,000

As shown in the table below, the project will be 81% complete at the end of FY 2008. Construction funds remaining to be spent after FY 2008 will total $87.691 million within the current authorization (in October 2007 dollars). Extension of the project authorization from FY 2008 through FY 2013 was accomplished by PL 110-161. Additional administrative and overhead costs of extending the project, additional construction costs, and accelerated inflation over the next 5 years are expected to increase project costs to $137.167 million after FY 2008.

Total Federal Construction Funding (Oct 2007 $)	$ 451,707,000
Estimated Federal Spent Through FY 2008	$ 364,016,000
% Spent Through FY 2008	80.59%
Amount Remaining after 2008	
Total Authorized (Oct 2007 $)	$ 87,691,000
Overhead Adjustment for Extension to FY 2013 and Other	$ 109,851,000
Adjusted for Annual Inflation	$ 137,167,000
Completion Fiscal Year (Statutory FY 2013; PL 110-161)	2,013
Years to Complete	5
Average Annual Required for Finish	$ 27,433,000

Cost indexing over the last five years has averaged 7.89% for pipelines. Pipelines are the principal components yet to be completed (see chart below). Assuming an average 7.89% inflation in construction costs in the remaining five years to complete the project, average funding of $27.433 million is required. The President's budget of $16.24 million is grossly inadequate, departs significantly from recent budgets and threatens an undetermined delay in completing the project by 2013, the new date established by Congress in PL 110-161 last year.

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 funding request will provide $1,115,000 for the OSRWSS core system. These funds will complete the project's transmission system that serves all sub-projects managed by separate entities, including the Pine Ridge Indian Reservation, Rosebud Indian Reservation, Lower Brule Indian Reservation and the 8-county service area of West River/Lyman-Jones. Funds will be used to connect the northern portion with the southern portion of the transmission system and permit water delivery in either direction to accommodate a shutdown in the western part of the water transmission system.

The completion of the OSRWSS core system is an historic milestone and permits greater focus in the remaining years of the project authorization on completion of the distribution systems.

Distribution System

The Pine Ridge Indian Reservation has not received water from the OSRWSS core system prior to FY 2008. Over 40% of the project's population resides on the Pine Ridge Indian Reservation. The Reservation public has awaited delivery of project water from the Missouri River since 1994. Project funds in FY 2009 will permit the completion of the on-Reservation transmission system between the connection with the OSRWSS core system (see discussion above) and the community of Kyle in the central portion of the Pine Ridge Indian Reservation. Delivery of Missouri River water at this location will allow distribution to OSRWSS project pipelines built earlier 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.

The FY 2009 request also funds additional on-Reservation transmission system that will advance the delivery of Missouri River water toward the largest community on the Reservation, Pine Ridge Village. Connection to Pine Ridge Village is scheduled in FY 2010. The request will connect the transmission system from Porcupine Butte to the community of Wounded Knee and serve rural homes south of Manderson. The request will fund additional transmission system beyond Pine Ridge Village toward the community of Oglala and will connect with OSRWSS pipelines built in the early years of the project.

As set forth above, the focus on the Pine Ridge Indian Reservation in FY 2009 is to construct the transmission system that serves as the "backbone" of the project on the Reservation. This distribution system is now reliant upon groundwater exclusively. Groundwater will be retained where adequate and safe. Missouri River water will serve as a backup to groundwater supplies and as the sole supply in areas where groundwater is deficient.

The Oglala Sioux Tribe is supportive of the funding request of other sponsors.

4. West River/Lyman-Jones Rural Water System

Priority projects for the WR/LJ system include the Powell Area Project, service to new members within the system and distribution system storage. The Powell area, from Midland to Philip and from the Bad River to the Elbon service area, continues to be impacted by drought conditions that have persisted since 2001. Powell area users have patiently waited as the OSRWSS North Core pipeline was constructed through their area. With its completion their project area has a supply source from which distribution lines can be constructed.

Projects in the Reliance area and Eastern Mellette County were constructed with emphasis on pipeline. Needed storage structures were deferred until additional funds were made available. Water use has increased each year since completion of these projects. Providing storage within those service areas increases system capability to meet peak demands and improves system reliability.

The WR/LJ system receives new requests for service in completed project areas as stock ponds and wells go dry and as people move into those areas. Further additions are required as existing members request added connections to serve livestock in other locations. These additions are a demonstration of the need for this important project.

5. Rosebud Rural Water System (Sicangu Mni Wiconi)

In FY 2009 the Rosebud Sioux Tribe will complete the necessary infrastructure to supply surface water to portions of Todd County, which will reduce the need for summertime water restrictions that have resulted from overextending the interim groundwater supply. Work began on this series of projects in the summer of 2007 and the primary pipeline and pump stations will be completed in the summer of 2008. The receiving reservoir at the end of this pipeline is partially funded with FY 2008 funds as is the large diameter pipeline that will connect the town of Mission and eastern Todd County to the surface water supply. However, both of these projects require FY 2009 funding for completion.

Two additional projects are also scheduled for 2009. Phase I of the Old Rosebud project will replace corroded iron pipelines in the older portion of the Rosebud community with modern plastic pipe. This project is designed and ready to bid; however, to reduce costs and improve effectiveness, it is being bid and managed in conjunction with a Bureau of Indian Affairs street replacement project and an Indian Health Service sewer replacement project. Rural Development is also assisting with funding for the sewer work. By completing water, sewer and street improvements at the same time, the cost of excavation and reclamation for the water portion of the work is significantly reduced. Upgrading water and sewer lines concurrently with the paving project also prolongs the useful life of the new streets because the new pavement will not need to be disturbed (and then patched) to repair water main breaks.

The other major project scheduled for 2009 will serve the rapidly growing Sicangu Village area. The existing wells and aquifer in this area are not capable of supplying the growing demands. A pipeline will connect the community to the existing well field several miles south of the town of

Mission. Adequate capacity will be available in that well field after the Mission area is connected to the surface water supply.

Other projects include a new well for the well field near St. Francis and the ongoing service line and connections installed by the Tribal construction crew. The new well near St. Francis is needed because two of the existing wells currently run 24 hours a day during periods of peak demand in summer months. The third existing well does not have sufficient capacity to allow either of the two primary wells to recover. The St. Francis well field also supplies the Spring Creek and Grass Mountain areas.

6. Operation, Maintenance and Replacement Budget

The sponsors have and 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 in a manner ensuring 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. 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 73% completion. The OMR budget must be adequate to keep pace with the system that is placed in operation. The Administration's request for FY 2009 is $9.374 million less than the Administration's FY 2008 request of $9.526 million despite the acknowledged increasing need for OMR funds.

The supporting documentation for the Great Plains Region budget request prioritizes the OMR of the Tribal features of Mni Wiconi. However, it should be noted that the Tribal features of Mni Wiconi do not participate in Reclamation's Replacement, Additions and Extraordinary (RAX) program for which $9.8 million has been requested by Reclamation for their non-tribal projects in the Great Plains Region. The Tribal systems also have RAX needs.

The Mni Wiconi Project tribal beneficiaries (as listed below) respectfully request appropriations for OMR in FY 2009 in the amount of $10,182,000:

Project Area	OMR $
Oglala Sioux Rural Water Supply System	
Core	2,376,000
Distribution	2,808,000
Lower Brule	1,485,000
Rosebud RWS	2,121,000
Reclamation	1,392,000
Total	10,182,000

STATEMENT FOR THE RECORD
NATIONAL MINING ASSOCIATION (NMA)
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
March 19, 2008
FISCAL YEAR (FY) 2009 BUDGET

NMA Recommendations

DEPARTMENT OF ENERGY (DOE)

- $156 million for the FutureGen project at Mattoon, Illinois; $382.7 million for base coal research and development programs; $200 million for the Clean Coal Power Initiative (CCPI); $38.5 billion for the loan guarantee office to support deployment of advanced coal technologies; and $7.5 million for DOE's participation in the Asia-Pacific Partnership on Clean Development and Climate.

U.S. ARMY CORPS OF ENGINEERS

- Civil Works Program: $180 million for the Regulatory Program. See the table below for NMA's list of priority lock and dam projects and recommendations for levels of funding required for their completion. NMA opposes the Corps' proposed concept of a new inland waterways "lockage fee/tax" to fund improvements to the nation's inland waterways system.

Background

Office of Fossil Energy
NMA strongly supports: $156 million for the FutureGen project at Mattoon, Ill., and opposes the administration's proposal to cancel the project and use the funding for smaller carbon, capture and sequestration projects. In addition, NMA supports the $382.7 million in the administration's budget request for base coal research and development programs. However, NMA recommends that CCPI be funded at a level of $200 million, which would enable DOE to conduct a third solicitation targeting advanced technology systems that capture carbon dioxide for sequestration.

While NMA applauds the administration's commitment to accelerating research, development and deployment of technologies that will allow the management of carbon emissions at coal-fueled power plants, NMA questions the efficacy of DOE's proposal to cancel the FutureGen project as originally configured. Tremendous progress has been made since the FutureGen project was announced in 2003 and NMA urges the committee to reject the administration's proposal and to fund the FutureGen project as originally configured with the $156 million requested.

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 currently configured. NMA believes these programs should be funded at a level of at least the president's request of $382.7 million. In addition, the advanced turbine program should be funded at $55 million instead of the requested level of $28 million. The increase in funding for these and other programs will ensure 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.*"

The Coal Utilization Research Council and the Electric Power Research Institute estimate that by 2025, combustion and gasification-based power generation options can be available commercially – with the ability to capture and sequester carbon dioxide (CO2) – at a cost of electricity comparable to the cost of new power generation (with CO2 capture) today. This includes the current work on FutureGen. In order to achieve this goal, a federal investment of $10 billion through 2025 is necessary, while the industry investment is expected to be $7 billion over that same time.

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, while some of them have crosscutting 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 (ACCT) and reduce CO2 emissions. Research in Advanced Separations is mandated by the 2005 Energy Policy Act, Section 962.

Asia-Pacific Partnership on Clean Development and Climate (APP)

NMA supports the administration's request of $7.5 million to fund DOE's participation in this partnership.

The APP will spur development of cutting edge technologies and practices that support economic growth while reducing emissions, including greenhouse gas emissions. It will result in expansion of market opportunities for U.S. mining and equipment companies and other U.S. businesses.

The APP, involving the United States, Australia, Canada, China, India, Japan and South Korea, is important for a number of reasons:

- *It will result in real emissions reductions*: With the participation by China and India, APP is the <u>only</u> international agreement addressing rapid emissions growth in the developing world, which is forecast to surpass emissions of industrialized nations in 2010. APP is a voluntary, technology-based approach to emissions reduction geared towards future economic growth and energy security and will be more effective than unrealistic mandates or treaties.

- *It builds on Methane-to-Markets and other successful programs that reduce greenhouse gas emissions*: The U.S. coal industry has captured and re-used more than 308 billion cubic feet of coal mine methane – the equivalent of removing 40 million automobiles per year from the roads. APP, working with the U.S. EPA's Methane-to-Markets program will use U.S. experience and expertise to accelerate large-scale capture and recycling of methane in China and India.

- *It helps preserve coal as an important energy source*: The U.S., China and India will be at the center of a significant rise in population, economic activity and energy use in the next 50 years. Coal is essential to sustaining America's competitiveness and vitality in a changing world, as it is in China and India. APP supports improvements in efficiency in both coal mining and use through the acceleration of clean coal technologies, industrial technology strategic planning and energy efficiency best practices.

- *It creates new markets for U.S. companies* in the emerging economies of China and India.

U.S. ARMY CORPS of ENGINEERS

Regulatory Program. NMA supports the administration's request of $180 million for administering the Corps' Clean Water Act (CWA) Section 404 permit program and for implementing the Memorandum of Understanding (MOU).

The Corps' Regulatory Branch plays a key role in the U.S. economy since the Corps currently annually authorizes approximately $200 billion of economic activity through its regulatory program. NMA recommends that a portion of the Corps' regulatory program funding be used for implementing the MOU issued on February 10, 2005, by the Corps, the U.S. Office of Surface Mining (OSM), EPA and the U.S. Fish and Wildlife Service. The MOU encourages a coordinated review and processing of surface coal mining applications requiring CWA Section 404 permits.

The ability to plan and finance mining operations depends on the ability to obtain CWA Section 404 permits issued by the Corps within a predictable timeframe. In this regard, NMA appreciates the committee including language in the FY 2008 Omnibus appropriations bill directing the Corps to work with OSM to develop a more efficient process for expediting permit decisions associated with surface coal mining operations; in addition to directing the Corps to dedicate sufficient personnel and financial resources needed to support an efficient permit review process.

Civil Works Programs. NMA understands that the Corps intends to provide Congress with a legislative proposal to replace the diesel fuel tax, which has been in place since 1986, with a "lockage fee/tax" that 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 increase in this 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 and maintain the current diesel fuel tax. Below is a table indicating NMA's FY 2009 priority navigation projects.

NMA FY 2009 Priority Navigation Projects

Construction	FY 2008 Enacted	FY 2009 Request	NMA Recommendations
Robert C. Byrd Lock and Dams Ohio River, OH/WV	$905,000	$1,000,000	$1,000,000
Kentucky River Lock Addition, Tennessee River, KY	51,168,000	$22,330,000	$34,500,000
Marmet Lock and Dam, Kanawha River, WV	$29,520,000	$9,000,000	$9,000,000
McAlpine Locks and Dams, Ohio River, IN/KY	$44,280,000	$6,270,000	$6,270,000
Locks and Dams 2, 3, 4, Monongahela River, PA	$69,175,000	$40,806,000	$40,806,000
J.T. Myers Locks and Dams, Ohio River, IN/KY	984,000	0	$14,624,000
Olmsted Locks and Dams, Ohio River, IL/KY	$102,336,000	$114,000,000	$114,000,000
Emsworth Dam, Ohio River, PA	$42,312,000	$25,800,000	$25,800,000
Greenup Lock and Dam, Ohio River, KY/OH	0	0	$12,100,000

The National Mining Association (NMA) represents producers of over 80 percent of the coal mined in the United States. Coal continues to be the most reliable and affordable domestic fuel used to generate over 50 percent of the nation's electricity. NMA members also include producers of uranium – the basis for 20 percent of U.S. electricity supply. NMA represents producers of metals and minerals that are critical to a modern economy and our national security. Finally, NMA includes manufacturers of processing equipment, mining machinery and supplies, transporters, and engineering, consulting, and financial institutions serving the mining industry.

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Written Statement
Supporting FY 2009 HyperCAST R&D Funding
For Vehicle Energy Efficiency
Through Cast Metal Auto-Combustion Synthesis

Submitted for the Record by
Daniel Twarog, President
North American Die Casting Association
Before the
House Energy & Water Appropriations Subcommittee

As President of the North American Die Casting Association (NADCA), I respectfully submit this testimony in support of the Fiscal Year 2009 HyperCAST funding request for $3.0 million in the U.S. Department of Energy, Energy Efficiency and Renewable Energy, Vehicle Technologies Program filed with the Subcommittee by Representatives Jim McGovern and Ed Perlmutter.

NADCA is the nation's leading not-for-profit technical organization representing all facets of the U.S. die casting industry. NADCA exists to support our domestic industry and to maintain our global competitiveness through the continued development of cutting edge technology.

NADCA has decades of successful experience coordinating research and development activities between various U.S. funding agencies (DOE and DOD), government laboratories, universities, and metalcasting companies. The technology and processes developed through these programs is rapidly transferred by NADCA to small, medium, and large casting companies nationwide. Past programs have earned strong bi-partisan support from Congress.

Overview

Congress has long recognized the overwhelming need to dramatically curtail wasteful automotive and vehicle energy consumption in our nation. Maximizing energy efficiency in our domestic transportation system is a matter of economic security and environmental necessity. The North American Die Casting Association is collaborating with the U.S. Department of Energy, Vehicle Technologies Office in an effort to rapidly and dramatically advance these goals. This innovative and dynamic initiative is the **HyperCAST cast metal auto-combustion synthesis** research and development program.

In fact, last year, Congress authorized the HyperCAST technology program in Public Law 110-140, the *Energy Independence and Security Act*. Section 651 of the law specifically directs the DOE to include cast metal auto-combustion synthesis (i.e. HyperCAST) in the $80 million

authorized for lightweight materials research over the next four years. The HyperCAST program will require only $20 million of that funding over four years to achieve successful results, transform our industry's technology, and advance our nation's energy needs.

This unique program stands out in several significant ways:

- It is truly a "national" program with research to be conducted at five premier universities across the country.
- The vast majority of the funding will be devoted to research conducted by graduate students in metallurgy and engineering who will move into careers in our domestic metalcasting industry.
- Our nation's die casting industry will commit a dollar-for-dollar match to the federal funds to advance this technology.

National Energy Efficiency Benefits

The HyperCAST program will develop a new metal matrix composite alloy and process development to support our nation's transportation energy efficiency goals by developing technology for high performance, light weight, cast metal components for energy savings in commercial and military vehicles and trucks. Whatever alternative energy source is used for vehicle propulsion, whether it be hybrid, fuel cell, ethanol, or petroleum, light weight materials will play a key role in fuel efficiency. That is precisely why the DOE Vehicle Technologies Program has a specific role for light weight materials development.

There is no doubt that enhanced fuel efficiency and alternative fuel vehicles contribute to our nation's energy security. High performance light weight components are necessary in making petroleum fueled cars and trucks more energy efficient. In addition, advanced high strength light weight materials and processes for the design of components offer the greatest opportunities for the development of new vehicles that do not require petroleum fuels.

The HyperCAST research is specifically targeted at the development of light weight aluminum and magnesium frame, body, chassis and powertrain components for fuel efficient passenger cars and both commercial and military trucks. Therefore, the project is cross-cutting as it serves to meet goals of the FreedomCAR and 21st Century Truck programs.

The advanced materials and processes developed will have a focus on cost effectiveness and offer the potential for 60% weight reduction and related improvement in energy efficiency. NADCA and university researchers are confident that these goals can be met without compromising vehicle performance, cost, safety or recyclability.

The following examples are offered to describe the energy saving opportunities offered by the HyperCAST Program.

Example 1: A cast aluminum engine block with cast iron sleeves currently weighs 85 pounds. Moving to a magnesium composite material would result in about the same productivity improvement but would yield a casting weight of 49 pounds – a savings of 36 pounds or 42%.

Example 2: An aluminum transmission case casting currently weighs 31 pounds. Casting this component with a new aluminum composite material and considering a 20% strength increase would yield a casting weight of 27 pounds. Produced as a magnesium composite material, the casting would weigh 22 pounds - a savings of 9 pounds or 29%.

The HyperCAST numbers show a dramatic potential for improvement in our nation's fuel efficiency and a reduction in carbon emissions. For example, there is an average of 280 pounds of aluminum in a car. It is estimated that the HyperCAST technology can reduce that weight by 100 to 120 pounds without compromising strength, safety or performance. In addition, for every pound reduced automakers can cut two more pounds or 200 to 240 more pounds from the drive train. Finally, for every pound reduced in the car's weight, estimated at almost 360 pounds, an environmental benefit will be realized through an annual reduction in carbon monoxide of 2 pounds for every one reduced. That would be 720 pounds of carbon monoxide reduced annually for every car manufactured with the HyperCAST technology.

This project will utilize researchers from the premier universities (Purdue University, Ohio State University, Case Western Reserve University, Worcester Polytechnic Institute, and the Colorado School of Mines) and government laboratories with experience in cast materials and processes for the R&D activities, premier casting companies for demonstration of the research results, and the industry associations for coordination of efforts and technology transfer. The request is supported by the following:

- Dr. Diran Apelian, Director of Metals Processing Institute at Worcester Polytechnic Institute;
- Dr. Keith Bowman, Head and Professor, School of Materials Engineering at Purdue University;
- Dr. Allen Miller, Professor in College of Engineering at Ohio State University;
- Dr. John Moore, Head of the Metallurgy Department at the Colorado School of Mines;
- Dr. David Schwam, Director of the Metal Casting Laboratory at Case Western Reserve University;
- Michael Gaby, Vice President of Rimrock Corporation in Columbus, OH;
- Paul Head, Vice President of Operations at Empire Die Casting., Inc.;
- David Hodgson, Vice President of DCD Technologies in Cleveland, OH;
- Robert Hopkins, Vice President of Administration at Empire Die Casting., Inc.;
- Wesley Jetter, President of Fort Recovery Industries in Fort Recovery, OH;
- James R. Knirsch, President of RSD Tooling, Inc. in Solon, OH;
- James Mathias, CEO of General Die Casters Inc. in Twinsburg, OH;
- Klaus-Markus Peters, General Manager of Fireline TCON Inc. in Youngstown, OH;
- Richard Rogel, President and CEO of Empire Die Casting., Inc in Macedonia, OH;
- Tim Stewart, President and CEO of Yoder Industries in Dayton, OH; and,
- Robert Stuhldreher, Director of Casting Operations at Metaldyne in Twinsburg, OH.

Finally, the technology developed will be distributed by NADCA solely to North American metalcasters in order to provide the North American industry with a globally competitive advantage and assist in maintaining the viability of metalcasting in North America.

We hope we can depend on your support to fund this valuable and important program.

For further information please contact:
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TO: UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS
THE HONORABLE PETER VISCLOSKY, CHAIRMAN

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

STATEMENT REGARDING FISCAL YEAR 2009
ARMY CORPS OF ENGINEERS APPROPRIATIONS REQUESTS BEFORE THE SUBCOMMITTEE

PROJECT REQUESTS

NAPA RIVER FLOOD CONTROL PROJECT (Construction General)	$22,800,000
NAPA RIVER DREDGING (Operations and Maintenance)	$3,600,000

Respectfully Submitted,

Brad Wagenknecht
Chairman of the Board
Napa County Flood Control and
Water Conservation District
March 2008

On behalf of the Napa County Flood Control and Water Conservation District (District), I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 2009 and, at the same time, express our appreciation for your support of the District's projects in the years past. The District is the local sponsor for the Corps of Engineers award-winning Napa River Flood Control project and we are requesting the Subcommittee's full support of this project to ensure that it stays on schedule. Specifically, we request the Subcommittee support our request of $22.8 million from the Army Corps of Engineers Construction General account for the Napa River Flood Control Project. We are also seeking $3.6 million for the maintenance dredging of the Napa River from the Army Corps of Engineers (Operation and Maintenance, General account). The following text outlines these projects and the need for the requested funding.

NAPA RIVER FLOOD CONTROL PROJECT

BACKGROUND

In the last 50 years, 19 floods have struck the Valley region, exacting a heavy toll in loss of life and property.

The most recent flooding event, the New Years flood of 2006, to hit our area is estimated to have caused some $70 million in damage within the City of Napa – with the vast majority of that damage in areas that will be protected by the Project that is currently under construction.

The flood in 1986 killed three people and caused more than $100 million in damage in 1986 dollars. Damages throughout Napa County totaled about $85 million from the January and March 1995 floods. The floods resulted in 27 businesses and 843 residences damaged countrywide. Almost all of the damages from the 1986, 1995, and 1997 floods were within the Project area.

Congress had authorized a flood control project in 1965, but due to expense, lack of public consensus on the design and concern about environment impacts, a project had never been realized. In mid-1995, federal and state resource agencies reviewed the plan and gave notice to the Corps that this plan had significant regulatory hurdles to face.

The project is located in the city and county of Napa, California. The population in the city of Napa, approximately, 67,000 in 1994, is expected to exceed 77,000 this year. Excluding public facilities, the present value of damageable property within the project flood plain is well over $500 million. The Napa River Basin, comprising 426 square miles, ranging from tidal marshes to mountainous terrain, is subject to severe winter storms and frequent flooding. In the lower reaches of the river, flood conditions are aggravated by local runoff. Floods in the Napa area have occurred in 1955, 1958, 1963, 1965, 1986 (flood of record), 1995, 1997 and 2005. In 1998, the river rose just above flood stage on three occasions, but subsided before major property damage occurred. In December of 2002, flooding occurred from the Napa Creek at the transition to the Napa River, resulting in damage to numerous residents and several businesses.

APPROVED PLAN - PROJECT OVERVIEW

In an effort to identify a meaningful and successful plan, a new approach emerged that looked at flood control from a broader, more comprehensive perspective. Citizens for Napa River Flood Management was formed, bringing together a diverse group of local engineers, architects, aquatic ecologists, business and agricultural leasers, environmentalists, government officials, homeowners and renters and numerous community organizations.

Through a series of public meetings and intensive debate over every aspect of Napa's flooding problems, the Citizens for Napa River Flood Management crafted a flood management plan offering a range of benefits for the entire Napa region. The Corps of Engineers served as a partner and a resource for the group, helping to evaluate their approach to flood management. The final plan produced by the Citizens for Napa River Flood Management was successfully evaluated through the research, experience and state-of-the-art simulation tools developed by the Corps and numerous international experts in the field of hydrology and other related disciplines. The success of this collaboration serves as a model for the nation.

Acknowledging the river's natural state, the project utilizes a set of living river strategies that minimize the disruption and alteration of the river habitat, and maximizes the opportunities for environmental restoration and enhancement throughout the watershed.

The Corps has developed the revised plan, which provides 100-year protection, with the assistance of the community and its consultants into the Supplemental General Design Memorandum (SGDM) and its accompanying draft Environmental Impact Statement/Environmental Impact Report (SEIS/EIR). Construction of the project began three years ago. The coalition plan now memorialized in the Corps final documents includes the following engineered components: lowering of old dikes, marsh plain and flood plain terraces, oxbow dry bypass, Napa Creek flood plain terrace, upstream and downstream dry culverts along Napa Creek, new dikes, levees and flood walls, bank stabilization, pump stations and detention facilities, and bridge replacements. The benefits of the plan include reducing or elimination of loss of life, property damage, cleanup costs, community disruption due to unemployment and lost business revenue, and the need for flood insurance. In fact, the project has created an economic renaissance in Napa with new investment, schools and housing coming into a livable community on a living river. As a key feature, the plan will improve water quality, create urban wetlands and enhance wildlife habitats.

The plan will protect over 7,000 people and over 3,000 residential/commercial units from the 100-year flood event on the Napa River and its main tributary, the Napa Creek, and the project has a positive benefit-to-cost ratio under the Corps calculation. One billion dollars in damages will be saved over the useful life of the project. The Napa County Flood Control District is meeting its local cost-sharing responsibilities for the project. A countywide sales tax, along with a number of other funding options, was approved four years ago by a two-thirds majority of the county's voters for the local share. Napa is California's highest repetitive loss community. This plan is demonstrative of the disaster resistant community initiative, as well, as the sustainable development initiatives of FEMA and EPA.

NAPA RIVER DREDGING PROJECT

The Napa River navigation project was authorized by the Rivers and Harbors Acts of 1888, 1935, and 1946.

The Napa River is a shallow draft navigation channel which serves light commercial and recreational traffic. The project is normally dredged by the Corps of Engineers on a 6-year cycle, with the most recent dredging being completed in 1998. This dredging is four years overdue and is causing not only impediment to commercial activity but posing major obstacles for construction of the project from the river. Maintenance dredging is required to restore depths required for existing traffic and in anticipation of the additional boat traffic resulting from replacement of Maxwell Bridge. The Napa County Flood Control and Water Conservation District is responsible for providing a suitable disposal site for the dredged material.

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

February 14, 2008

Statement of the NGVAmerica

Regarding FY2009 Department of Energy Appropriations

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

Statement of the NGVAmerica
Regarding FY2009 Department of Energy Appropriations

Introduction

NGVAmerica appreciates the opportunity to provide the subcommittee the following statement concerning the FY 2009 appropriations for the U.S. Department of Energy (DOE). NGVAmerica is a national organization of over 100 member companies, including: vehicle manufacturers; natural gas vehicle (NGV) component manufacturers; natural gas distribution, transmission, and production companies; environmental and non-profit advocacy organizations; state and local government agencies; and fleet operators. NGVAmerica is dedicated to developing markets for NGVs and building an NGV infrastructure, including the installation of fueling stations, the manufacture of NGVs, the development of industry standards, and the provision of training.

Summary of Appropriations Requests

1. Fund the NGV RD&D Program at DOE/EERE at $20 Million for FY2009
2. Fund the Clean Cities Program at DOE.EERE at $25 million for FY2009
3. Fund Sections 222 and 227 of Energy Independence and Security Act of 2007 (HR 6; PL 110-140)
4. Clarify that Biogas-to-Biomethane Production Projects Qualify Under Existing DOE-funded Programs

Statement in Support of Appropriations Request

Increasing the use of natural gas vehicles (NGVs) can: (1) reduce America's dependence on foreign oil, (2) improve air quality in urban areas, (3) reduce the production of greenhouse gases, and (4) pave the way for the more rapid introduction of hydrogen transportation technologies. However, to achieve all these benefits, more NGV RD&D is urgently needed.

DOE funding has been instrumental in supporting the development and introduction of alternative fueled technologies. In the past, DOE funding has supported the development and refinement of natural gas engines, fueling infrastructure, codes and standards, and fleet demonstration projects. DOE emission testing programs and fleet case studies also have been critical to demonstrating the real-world air quality and economic benefits of using natural gas vehicles. DOE has also been a key player in integrating new natural gas engines into new vehicle

platforms. As such, DOE has been an instrumental partner with industry in developing new and better products. As a result of these efforts, natural gas use for transportation displaced over 250 million gallons of petroleum in 2007. Most of this fuel is consumed by high fuel-use fleets (e.g., transit, refuse, and short-haul trucking) located in major urban areas. Many NGVAmerica members have focused their marketing efforts on heavy-duty truck and bus applications. Fleets operating these vehicles provide an excellent opportunity for increased petroleum displacement as well as reduced emissions of harmful pollutants and green house gases.

Some of the major successes to date for our industry include full-commercialization of several of the cleanest internal combustion engines in the world, a growing share of the U.S. transit bus fleet, the use of hydrogen-blended fuels, installation of stations that simultaneously dispense CNG, LNG, hydrogen blends, and hydrogen, and the production and use of biomethane fuel produced from landfills. Many of our member companies also are experiencing a robust and growing export market for NGV products as a result of increasing interest in overseas markets. However, the U.S. market continues to represent a challenge, particularly due to the lack of long-term governmental support and a lack of vehicle product offerings.

DOE's efforts have led to some impressive developments over the years. Many of the products developed or supported by DOE funding will continue to provide benefits for many years. The heavy-duty vehicles that DOE help demonstrate and deploy often continue in service for 10 – 15 years or more. And because these applications mostly involve high fuel use fleets, the continued use of these vehicles will displace a large amount of petroleum. A single heavy-duty natural gas urban transit bus, for instance, over its lifetime will displace between 175,000 – 200,000 gallons. That is a far greater amount of petroleum than even the most fuel-efficient light duty vehicle will ever replace. The point is not to discourage efforts to increase light duty fuel efficiency but rather to highlight the potential petroleum displacement of continuing to develop more heavy-duty natural gas applications.

The tax incentives enacted as part of the Energy Policy Act of 2005 and SAFETEA-LU are helping to support the market for NGVs and other alternative fuels. These incentives significantly improve the economics for users of alternative fuels. Unfortunately, a compelling economic case alone is not sufficient to commercialize new technologies, particularly not when developing new products costs millions of dollars and is fraught with risks. In transportation, this problem is particularly acute because of the economic problems facing U.S. manufacturers and the cost these manufacturers already must incur to ensure their petroleum fueled products meet increasingly stringent emission standards.

The NGV industry's RD&D efforts are directed at bringing to market advanced NGV technology that will extend NGV use into more applications and lower the cost of purchasing and operating NGVs in all markets. Significant NGV RD&D is needed to (1) improve engine efficiency, (2) further reduce engine emissions, (3) reduce the cost and improve the reliability of fueling infrastructure and (4) demonstrate alternative fuel systems in new applications – including natural gas/hybrid electric applications. In order to achieve these objectives and deliver the benefits provided by NGVs, our industry needs DOE to be a ready and willing partner. Given the importance of this continued effort, we request funding for the following specific activities:

Fund the NGV RD&D Program at DOE/EERE at $20 Million for FY2009
At one time, the Department of Energy had a robust on-road NGV RD&D program based on a joint public/private sector plan. Several years ago, DOE's Office of Energy Efficiency and Renewable Energy shifted emphasis to long-term, high-risk R&D (e.g., hydrogen vehicles). Since then, the Administration has requested no funding for NGV RD&D. That is unfortunate since such a program is even more necessary today. For NGVs to achieve their market potential, federally funded RD&D is needed to expand product offerings of engines to meet a wider range of applications. In addition, the process of integrating those natural gas engines into additional medium- and heavy-duty vehicle platforms must be accelerated. Those platforms include school buses, transit buses, trash trucks, delivery trucks and over-the-road trucks. Natural gas hybrid-electric platforms must be expedited, too. In addition, the cost and weight of compressed and liquefied natural gas on-board storage systems must be reduced. Finally, work must continue on improving NGV and NGV fueling safety codes and standards. Given the current priority to move America away from reliance on foreign oil and the potential of NGVs to play a significant role, Congress should appropriate funding for such an RD&D program again.

Fund the Clean Cities Program at DOE/EERE at $25 million for FY2009
The Clean Cities program, which includes 89 public-private partnerships operating in 39 states, is one of the most effective means available for (1) educating the public about non-petroleum alternative fuels, (2) accelerating the market penetration of those fuels and vehicles and (3) laying the groundwork for public acceptance of hydrogen-based transportation. Given the goal of moving America away from dependence on petroleum-based fuels as fast as possible, increased funding for the Clean Cities program is a prudent and necessary investment. The Administration's request of $10.1 million for Clean Cities in FY2009 is inadequate given the role that Clean Cities can play in reducing U.S. oil dependence, which is an Administration and Congressional priority. We recommend increasing the funding level to $25 million.

Fund Sections 222 and 227 of Energy Independence and Security Act of 2007 (HR 6; PL 110-140)
The Energy Independence and Security Act of 2007 (HR 6; PL 110-140) includes two studies on biogas. Section 222 instructs DOE to issue a report to Congress on the research and development challenges to increasing the amount of transportation fuel that is biogas or biogas blended with natural gas. This report is due within 6 months of passage of the Energy Independence and Security Act of 2007. Section 227 instructs DOE to study how Natural Gas Vehicles can be optimized to use biogas and to evaluate ways in which hybrid electric vehicles and plug-in electric vehicles can use natural gas from biogas. This report also is due within 6 months of passage of the Energy Independence and Security Act of 2007. We recommend that both studies be funded at the appropriate level so that they may be completed.

Clarify that Biogas-to-Biomethane Production Projects Qualify Under Existing DOE-funded Programs
Biomethane is a biofuel with huge potential to offset petroleum reliance and reduce

greenhouse gas emissions. An analysis previously conducted for DOE estimated that an feasible annual production capacity in the U.S. is about 1.25 quadrillion Btu or 10 billion gasoline-gallon-equivalent – from landfill gas, sewage and animal waste alone. However, biomethane use has been overshadowed by efforts to produce renewable electricity and the promotion of ethanol. These efforts should be viewed as complementary with the production of biomethane, and incentives to encourage greater use of renewable sources should be fuel neutral. As noted above, a huge potential exists in the U.S. to produce biomethane from landfill gas, animal and crop waste and sewage – and even cellulosic energy crops. In Europe, biomethane from cellulosic crops is being pursued as an extremely viable alternative transportation fuel. In fact, European studies have shown that producing biomethane from cellulosic materials is more energy and cost effective today than producing bio-liquids. A number of new funding programs (demonstrations, production grants, loan guarantees) were in included in subtitles C (Renewable Energy) and D (Agricultural Biomass Research and Development Programs) of the Energy Policy Act of 2005 (PL 109-58). These programs in some cases have been narrowly tailored to exclude applications that do not involve the production of electricity or in the case of transportation fuels, fuels that are not liquid or ethanol. Congress should continue to funds these programs and clarify that biomethane projects also qualify.

Conclusion

Mr. Chairman, natural gas vehicles help reduce America's use of foreign oil, improve the air quality in our urban areas, reduce the production of greenhouse gases, and pave the way for the more rapid introduction of hydrogen transportation technologies. We greatly appreciate your past support and consideration of these proposals.

State of New Mexico

Office of the Governor

Bill Richardson
Governor

March 3, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

As Governor of New Mexico, I write to request your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designations I seek are as follows: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

Substantial non-federal cost-sharing funding exceeding 50% is embodied in both of these successful programs. 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 federal Endangered Species Act. The Department of the Interior continues to recognize these programs as national models demonstrating that collaborative partnerships can successfully work to recover endangered species while addressing water needs to support growing western communities in a manner that fully respects state water law and interstate river compacts. These programs have provided ESA Section 7 compliance (without litigation) since 1988 for over 1,600 federal, tribal, state and privately managed water projects depleting more than 3 million acre-feet of water per year.

The requested FY 2009 appropriation for the San Juan River Recovery Program will be used for construction of a fish screen and fish passage in critical habitat on the San Juan River. The

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requested funding will allow the Upper Colorado River Endangered Fish Program to proceed with the construction of additional fish passage structures on the Colorado River, a fish screen on a major diversion on the Green River, and the construction financing of the Elkhead Project to provide low flow augmentation water on the Yampa River. The requested federal appropriations are critically important to these efforts moving forward. Substantial non-federal cost-sharing funding for capital construction activities demonstrates the strong commitment and effective partnerships embodied in both of these successful programs.

The requested federal appropriations are critically important to these efforts moving forward. The past support and assistance of your Subcommittee has greatly facilitated the success of these multi-state, multi-agency programs. On behalf of the citizens of New Mexico, I thank you for that support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Bill Richardson
Governor of New Mexico

BR/zw

cc: Representative Tom Udall
Representative Heather Wilson
Representative Steve Pearce
Governors Huntsman, Ritter and Freudenthal

Testimony from

Vaughn Clark, Director, Office of Community Development,
Oklahoma Department of Commerce and
Chair of the Board of Directors for the
National Association for State Community Services Programs
to the
United States House of Representatives, Committee on Appropriations,
Subcommittee on Energy and Water

As Chair of the Board of Directors for the National Association for State Community Services Programs (NASCSP), I am pleased to submit testimony in support of the Department of Energy's (DOE) Weatherization Assistance Program (WAP) and in support of DOE State Energy Programs (SEP). We are deeply concerned by the Administration's proposed elimination of the Weatherization Assistance Program and are seeking a FY2009 appropriations level of **$300 million for the WAP** and **$75 million for SEP**. NASCSP believes these funding levels are essential in continuing and improving these outstanding state grant programs for our citizens.

NASCSP is the member organization representing the states on issues related to the WAP and the Community Services Block Grant. Our organization would like to thank this Committee for its continued support of the WAP and SEP through the years. The $227.3 million in WAP funds provided by the Committee in 2008 is expected to result in:

- An additional 150,000 homes occupied by low-income families receiving energy efficiency services, thereby reducing the energy use and associated energy bills;
- Greenhouse gases and environmental pollutants being significantly reduced due to the decrease in energy use by these newly weatherized homes; and
- Nearly 20,000 full time, highly skilled, jobs being supported within the service delivery network and in related manufacturing and supplier businesses; and
- A significant reduction in foreign oil imports by as much as18 million barrels per year and this number continues rise.

The WAP is the largest residential energy conservation program in the nation and serves a vital function in helping low-income families reduce their energy use. Developed as a pilot project in 1975, the WAP was institutionalized in 1979 within DOE and is operated in all 50 states, the District of Columbia, and on several Native American reservations. The WAP funds are used to improve the energy efficiency of low-income dwellings using the most advanced technologies and testing protocols available in the housing industry. The energy use reduction resulting from these efforts helps our country reduce its carbon footprint, lower its dependency on foreign oil and decreases the cost of energy for families in need. With lower energy bills, these families can increase their usable income and buy other essentials like food, shelter, clothing, medicine, and health care.

The WAP provides an energy audit for each home to identify the most cost-effective measures, which typically includes adding insulation, reducing air infiltration, servicing the heating and

cooling systems, and providing health and safety diagnostic services. According to the Energy Information Administration's (EIA) Annual Energy Outlook, 2008, the first-year energy savings for households weatherized during this year are estimated to be more than $413. The services provided by Weatherization will continue to return savings for many years after installation. The estimated average energy benefit in 2006 dollars over the life of the measures is $5,274. For every dollar spent, the WAP returns $2.72 in energy and non-energy benefits over the life of the weatherized home, based on these same EIA long-term energy prices outlook and studies conducted by the Oak Ridge National Laboratory. Since the program's inception, **more than 5.8 million homes have been weatherized** using federal, state, utility and other monies.

These are troubling times facing our nation – war, budget deficits, homeland security needs, and a looming economic recession. These economic events create added financial burdens for all Americans, but especially for those who live at or below the poverty line. Low-income families have always spent a disproportionate share of their income for energy needs than their middle-income counterparts. For example, a typical middle class family pays about 4 percent of their annual income for energy costs (heat, lights, air conditioning, appliances and hot water). Low-income families pay nearly the same dollar amount each year for energy but this amount represents a significantly higher percentage of their total household income (16 to 20 percent). In times of energy shortages and escalating energy costs, the energy burden for these families can reach 25 to 40 percent or more of their available income.

When energy costs rise, like they have during the current heating season, even a nominal increase can have a dramatic negative impact on low-income families. The expected increase in this year's energy costs may amount to an additional $600 or more for most families. For middle-income families, this increase will amount to less than one half of one percent of the total household income. For many low-income families; however, this increase will result in a 4 to 5 percent reduction in their expendable income and will cause families to go without other important essentials like food, medicine, or clothing to meet this higher financial demand.

These families need long-term solutions to help them reduce their energy use both now and in the future – resulting in lower energy bills. That is the primary mission of the Weatherization Assistance Program – *"To reduce heating and cooling costs for low-income families, particularly for the elderly, people with disabilities, and children, by improving the energy efficiency of their homes while ensuring their health and safety."*

The Oak Ridge National Laboratory reports entitled State Level Evaluations of the Weatherization Program Conducted From 1990-2001 and subsequent Meta-Evaluations conducted in 2003, 2005 and 2006 found that the WAP significantly improved its energy savings results during those years. In 1996, the Program showed savings of 33.5 percent of gas used for space heating - up from 18.3 percent savings in 1989. The increase in savings was based in large part on the introduction and use of more sophisticated diagnostic tools and audits. Families receiving Weatherization services can reduce their heating energy use by an average of 22 percent, making the cost for heating their homes more affordable. The Evaluation report also concluded that the WAP possessed a favorable cost-benefit ratio. Simply stated, the federal funds provided to support the Program have a 140% return on investment.

The WAP has always served as a testing ground and provides a fertile field for the deployment of research conducted by national laboratories. For example, the Oak Ridge National Laboratory developed the National Energy Audit (NEAT) for use by local agencies in assessing cost effectiveness of service delivery. Oak Ridge is currently investigating the cost effectiveness of including certain base load measures (water heater replacement, lighting, small motor efficiency, refrigerator replacements) into the Program and continues to test other protocols and material installation techniques to help state and local agencies improve their field operations. The Florida Solar Energy Center and the state of Hawaii are working on the development of cost effective solar hot water heaters. Many of our states have implemented refrigerator replacement programs to decrease energy base-load for low-income families.

One of the major outcomes of WAP field deployment is that the private sector eventually adopts these new technologies. This pattern has been established through several advancements including blower door-directed air infiltration, duct system testing and sealing, furnace efficiency standards, and insulation and ventilation protocols. The acceptance of these standards and protocols by the private sector is enormously important as builders attempt to construct new properties or rehabilitate existing ones using a renewed energy efficiency philosophy.

Of equal importance to the technological and programmatic foundation are the WAP contributions in achieving overall national energy policies and social strategies. Some examples of how the Program helps achieve these goals include:

- Reducing harmful green house gas through reduced CO2 emissions by avoiding energy production. Each time a house is weatherized, the reduction in energy needs reduces the environmental impact associated with creating that energy reduction of sulfur dioxide, carbon, and other pollutants spilled into the atmosphere from the burning of fossil fuels like oil, coal, kerosene, wood, gas, and propane.
- Increasing jobs in communities throughout the country. For every one million dollars invested in the WAP, more than 40 full time jobs are created and supported in the states. Another 20 jobs are created in companies who provide goods and services to the Program.
- Investing money into communities through job creation, local purchasing of goods and services, and tax revenues. These investments result in many secondary benefits. These residual benefits, known as "economic benefit multipliers," are applied to local community investment to value the real worth of money used locally. This multiplier is 3.5 to 4 times the actual investment. This means that an investment of $300 million in the WAP could yield nearly $1.2 billion in economic benefits to local communities.
- Reducing consumption of imported fuels by reducing residential energy consumption. Our country currently imports nearly 60% of its oil from foreign countries. This figure is higher than the import percentage in the 1970s, when the oil embargo threatened our ability to operate as a nation. The conservation efforts of the WAP network will help reduce our country's dependency on foreign oil, thereby strengthening our country's national security.

Earlier this year, the Administration proposed eliminating the Weatherization Assistance Program in the President's Fiscal Year 2009 Budget. This cut was offered despite the will of Congress that authorized the Program at $900 million for 2009 up to $1.4 billion in 2012. The elimination of funding for the Program is a complete reversal of the President's long-standing

commitment to the WAP. These proposed cuts show a complete disregard for the continued success of the Program and the significant environmental and economic impact for the families receiving service and the communities where the Program operates.

The Department of Energy also failed to enact the WAP National Evaluation requested by the Office of Management and Budget and approved by Congress. The evaluation is essential to reestablish the metrics of the Program and identify areas where improvements can be made in operation and effectiveness. The states have supported the conducting of the Program review and are disheartened that the evaluation was summarily cancelled. A national evaluation would prove once again the effectiveness of the WAP in meeting the energy efficiency needs of low-income housing and eliminate any possible justification the Department is using to cut or dismantle this highly effective and productive public/private partnership.

NASCSP urges the Subcommittee to restore the Weatherization Assistance Program funding to the level of $300 million while providing $75 million for the State Energy Program. Weatherization is a clearly proven investment, which has helped over 5.8 million families live in safer, more comfortable living conditions. If the President's budget is upheld, the Program will cease to exist and nearly 150,000 low-income families will be denied critical energy efficiency services this year. These families will be required to pay an additional $800 million in energy costs that could have been avoided had their homes been weatherized. This money could have been used for essential needs such as food, clothing, and medicine. At a time when oil and natural gas prices remain high and low-income families are facing huge increases in their energy costs, it is irresponsible for the Administration to place added burdens on these families by choosing not to help them conserve energy. Congress can correct this by providing the necessary funding to continue the national Weatherization effort.

By the evidence provided herein, this Committee can be assured that the funding invested in WAP and SEP will provide essential services to thousands of low-income families, resulting in greater energy savings, more economic investments, increased leveraging of other funds, and less reliance on high-cost, foreign oil – outcomes that will benefit the nation. NASCSP looks forward to working with Committee members in the future as we attempt to create energy self-sufficiency for millions of American families through these invaluable national programs.

Respectfully submitted,

Vaughn Clark
Chair, NASCSP Board of Directors

TESTIMONY OF WILLIAM E. ("DUB") TAYLOR, DIRECTOR, TEXAS STATE ENERGY CONSERVATION OFFICE AND CHAIR, THE NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS, BEFORE THE HOUSE ENERGY AND WATER DEVELOPMENT APPROPRIATIONS SUBCOMMITTEE IN SUPPORT OF FY'09 DEPARTMENT OF ENERGY FUNDING
March 19, 2008

Mr. Chairman and members of the Subcommittee, I am Dub Taylor of Texas 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 $75 million for the State Energy Program (SEP). SEP is the most successful program operated by DOE in this area. Within a $75 million funding level for SEP we would support the Administration's proposed $10 million competitive program, but we do not support such an effort at the proposed funding level of $25 million for the core SEP activities and $25 million for the competitive program. 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 $120 million, including an increase of $600,000 for EIA's State Heating Oil and Propane Program, in order to cover the added costs of increasing the frequency of information collection (to weekly), the addition of natural gas, and increasing the number of state participants. EIA's new state-by-state data is very helpful. EIA funding is a critical piece of energy emergency preparedness and response. NASEO continues to support funding for a variety of critical deployment programs, including Building Codes Training and Assistance ($10 million), Rebuild America ($5 million), Energy Star ($10 million) and Clean Cities (Vehicle Technologies Deployment) ($12.5 million). NASEO supports funding for the Office of Electricity Delivery and Energy Reliability, at least at the FY'06 request of $161.9 million, with specific funding for the Division of Infrastructure Security and Energy Restoration of $18 million, which funds critical energy assurance activities. We also strongly support the R&D function and Operations and Analysis function. The industries program should be funded at a $74.8 million level, equal to the FY'05 levels, 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. Proposed cuts in these programs are counter-productive and are detrimental to a balanced national energy policy. The Energy Independence and Security Act of 2007 (EISA) also has a number of exemplary provisions which should also receive funding, including the new commercial buildings initiative. EISA also reauthorized SEP (Section 531) and Weatherization (Section 411) through FY'2012. We remain concerned that a number of programs authorized in the Energy Policy Act of 2005 (EPACT 2005) have received no direct funding. Of special interest are sections 124, 125, 126, 128 and 140 of EPACT 2005.

Over the past seven years, both oil and natural gas prices have been rising in response to expanded Chinese and Indian use, other international events, increased domestic use, the falling dollar and the result of the 2005 hurricanes. We expect $100 oil to continue for an extended period of time, with an expanded problem as summer approaches. Gasoline prices may spike to

$4/gallon. Diesel prices are even higher. In addition, we now have quantifiable evidence of the success of the SEP program, which demonstrates the unparalleled savings and return on investment to the federal taxpayer of SEP. Every state gets an SEP grant and all states, the District of Columbia and territories support the program.

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. The report done by DOE's Inspector General in April 2006 criticized DOE monitoring of SEP but affirmed that state actions were consistent with the applicable law and regulation. State monitoring and verification has confirmed SEP's effectiveness.

State Energy Program Special Projects and Other Deployment Programs: Through FY'05, SEP Special Projects provided matching grants to states to conduct innovative project development. It had been operated for ten years and has produced significant results in every state in the United States. We support funding of DOE's new, proposed SEP competitive program, but only above a minimum $55 million SEP appropriation for the base SEP program. The states with lower populations are disadvantaged by this program.

EISA authorized a new Energy Efficiency and Conservation Block Grants program (section 541-548). We look forward to working with Congress and the Administration to make this program a reality. We hope start-up funding can be provided in FY'09. However, we remain concerned that a structure that requires DOE to review and process thousands of local government grant applications each year will be unworkable. With the elimination of the DOE/EERE Regional Offices, DOE contracting processes have become slower. There is now a more attenuated connection between state and local governments with DOE. We look forward to working with Congress, local governments and DOE to correct this situation. Joint planning needs to occur immediately. State energy offices have partnered with local governments for decades. This program should allow us to supplement and enhance those activities.

Industrial Energy Program: A funding increase to a level of $74.8 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 should be included above these amounts.

Examples of Successful State Energy Program Activities: The states have implemented thousands of projects. Here are a few representative examples.

Arizona: The energy office is working closely with the Southwest Building Science Center on a variety of projects. Through the intervention of the state energy office and recent legislation, universities and other state facilities have reduced energy usage by 7 percent, with annual energy savings in the millions. A new $2.5 million schools energy efficiency program was instituted in 2007. The State also trains facility managers and municipal officials. Since 2000, the energy office has worked to have 2000 affordable housing units built to energy efficiency standards each year, including six housing projects in 2007 in Phoenix alone.

Arkansas: This energy office has focused on industrial energy strategies, a new LED traffic signals program, promotion of alternative fuels, Energy Star promotions, upgrades in the energy code and renewable energy technology development. The energy office began implementing a new $2.4 million energy efficiency effort with utilities on January 1, 2008.

California: The California Energy Commission has operated energy programs in virtually every sector of the economy. The State has upgraded residential and non-residential building codes (including major 2008 upgrades), developed a school energy efficiency financing program (including $100 million for high performance schools), and instituted a new replacement program for school buses utilizing the newest natural gas, advanced diesel and hybrid technologies. The buildings program has reduced consumption by enormous amounts over the past few years, through alternative financing programs and outreach. California's greenhouse gas mitigation plans and a new solar initiative are moving forward.

Idaho: A new program focus is on high performance commercial and institutional buildings. An aggressive energy efficiency financing program has produced more than 2,500 loans, totaling over $16 million, resulting in significant energy savings. The agricultural energy program has focused on reducing irrigation costs and usage to improve agricultural productivity and reduce operating costs. The State has initiated a new industrial program and conducted 36 assessments thus far.

Indiana: In 2007 and 2008, $2.7 million in energy-related grants have been issued, leveraged into $21 million in programs. Indiana has been focusing on a grant program for alternative energy systems, including energy efficiency, biofuels and renewable energy. An extensive loan program for energy efficiency in public schools has been very successful. The state energy office has also been working on energy and economic development programs. A new tax credit for Energy Star appliances has recently been established.

Massachusetts: Thus far, the State has provided over $8 million in loans to produce energy efficiency residential retrofits. The energy office has also instituted energy efficiency upgrades in public housing. The state recently negotiated a doubling of the natural gas utility energy

efficiency program to $25 million annually. A variety of new activities are being considered by the legislature.

Missouri: The energy office in Missouri has been operating a low-interest energy efficiency loan program for school districts, colleges, universities and local governments. Thus far, public entities have saved more than $93 million, with more than 400 projects. The state energy office has also worked with the Public Utility Commission and the utilities within the State to get $20 million invested in residential and commercial energy efficiency programs, with a significant incremental increase to $20 million in investments in 2008 alone. A new revolving loan for biodiesel has also been initiated. The energy office and the air agency have developed a program to set-aside NOx allowances for energy efficiency and renewable energy.

Montana: The State is now providing a $500 tax credit for Energy Star homes. A separate state energy conservation tax credit has been providing over $5 million annually. Expansion of state buildings energy efficiency programs have also been instituted.

New York: SEP has been utilized for a variety of purposes including: (1) the FlexTech program (helping businesses on reducing energy consumption and applying new technology), which has found that for $1 of federal funds, $17 in capital investment and $5 in annual energy savings has been achieved; (2) new agricultural energy program incentives ($1.7 million annually); and (3) $125 million in private financing for energy capital improvements that has achieved enormous savings. The state energy office has implemented a multi-family building energy efficiency program, $8 million in industrial energy efficiency improvements, has increased appliance standards and is promoting high performance lighting.

Ohio: The Ohio Office of Energy Efficiency has operated innovative building retrofit programs in colleges, universities, public housing and governmental facilities. Measures have been completed in over 19 million square feet, producing $15.5 million in annual energy savings and investments of $59 million. New programs have been instituted for biomass, landfill gas, solar and wind projects. The $1.3 million in DOE funds matched $26 million in non-federal funds for projects. The State has also provided builder/operator training certification, initiated smart energy building practices, installed solar energy on schools, promoted bio-energy programs, initiated a Fuel Cell Awareness program, promoted wind power and actively promoted Energy Star partnerships in the consumer, commercial and industrial sectors, etc. 26 industrial energy efficiency projects were implemented in 2007.

Pennsylvania: The state energy office has been supporting wind power development, with 179 megawatts of wind capacity installed. Since 2003, $5.1 million in SEP funds have supported energy projects in solar, wind, biomass, liquefied gas, etc., matching $66 million in private funds and $21 million in state funds. Since 2004, $32 million in grants and loans for 81 clean energy projects have been issued, leveraging $362 million in private investment and helping to provide 1930 temporary and permanent jobs.

Tennessee: A local government energy efficiency program provided $3.5 million for 36 schools and local governments in 2006-07. A small business energy efficiency loan program has provided $13.3 million, producing $26 million in energy savings with an economic impact of

$113 million. A new alternative fuels strategy has been instituted with $37 million in direct state funding.

Texas: The Texas Energy Office's Loan Star program has long produced great success by reducing building energy consumption and taxpayers' energy costs through efficient operation of public buildings. This saved taxpayers more than $224 million through energy efficiency projects. In another example, the State promoted the use of "sleep" software for computers, which is now used on 136,000 school computers, saving 42 million kWh and reducing energy costs by $3 million annually. This is part of a broader energy efficiency program that has helped 3500 schools and local governments thus far. The State has initiated the Texas Emissions Reduction Plan/Texas Energy Partnership in 41 urban counties to reduce emissions through cost-effective energy efficiency projects.

Wisconsin: The State created the new Office of Energy Independence. The statewide energy efficiency program provides $69 million each year. The energy office has also developed model wind energy ordinances to expand wind development. The State is expanding the use of alternative fuels, with a dramatic expansion in E85 and biodiesel infrastructure, and a new agreement with the other Midwestern Governors on an alternative fuels strategy.

Supporting Organizations:
Agricultural Retailers Association
American Farm Bureau Federation
American Soybean Association
National Association of Wheat Growers
National Corn Growers Association
Nation Council of Farmer Cooperatives
National Grain and Feed Association
National Oilseed Processors Association
Renewable Fuels Association
The Fertilizer Institute

Contact Information:
Chris Holdgreve
Director of Legislative Affairs
National Grain and Feed Association
(202) 289-0873
choldgreve@ngfa.org

March 14, 2008

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

The Honorable David Hobson, Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
1001 Longworth House Office Building
Washington, DC 20515

Dear Chairman Visclosky and Ranking Member Hobson:

We write to request that you support an important investment in America's transportation system by including $50 million in FY 2009 Energy & Water Appropriations bill for the U.S. Army Corps of Engineers, Department of Civil Works, Navigation and Ecosystem Sustainability Program (NESP).

With the passage of the 2007 Water Resources Development Act (WRDA), the Army Corps of Engineers is authorized to implement the Navigation and Ecosystem Sustainability Program (NESP) for the Upper Mississippi River System. This new dual-purpose authority will integrate restoration of the river's important habitats with modernization of the navigation system to reduce barge traffic delays.

Our country's inland navigation system plays a critical role in our economy, moving more than 1 billion tons of domestic commerce valued at more than $300 billion. More than 1 billion bushels of grain (approximately 60 percent of all grain exports) move to export markets via the inland waterways each year, accounting for $8.5 billion in exports.

For continued success, the U.S. agricultural industry needs efficient transportation networks, which is why we have been long-time advocates for improvements to our inland waterway system. NESP is crucial to farmers who depend on the inland waterway system to deliver their crops to the global marketplace and to businesses who rely on the system to move their raw materials and products. Specifically, the WRDA enacted in 2007 authorized a 15-year project that includes modernization of seven locks on the Upper Mississippi and Illinois Rivers. Additionally, it included a balanced, science-based environmental restoration program that recognizes the river's environmental value and potential.

Again, we strongly support funding for the NESP for the Upper Mississippi River System and hope that $50 million can be appropriated for these vital projects in FY 2009. Thank you for your consideration.

Sincerely,

Agricultural Retailers Association
American Farm Bureau Federation
American Soybean Association
National Association of Wheat Growers
National Corn Growers Association
Nation Council of Farmer Cooperatives
National Grain and Feed Association
National Oilseed Processors Association
Renewable Fuels Association
The Fertilizer Institute

Testimony from

Vaughn Clark, Director, Office of Community Development,
Oklahoma Department of Commerce and
Chair of the Board of Directors for the
National Association for State Community Services Programs
to the
United States House of Representatives, Committee on Appropriations,
Subcommittee on Energy and Water

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The WAP is the largest residential energy conservation program in the nation and serves a vital function in helping low-income families reduce their energy use. Developed as a pilot project in 1975, the WAP was institutionalized in 1979 within DOE and is operated in all 50 states, the District of Columbia, and on several Native American reservations. The WAP funds are used to improve the energy efficiency of low-income dwellings using the most advanced technologies and testing protocols available in the housing industry. The energy use reduction resulting from these efforts helps our country reduce its carbon footprint, lower its dependency on foreign oil and decreases the cost of energy for families in need. With lower energy bills, these families can increase their usable income and buy other essentials like food, shelter, clothing, medicine, and health care.

The WAP provides an energy audit for each home to identify the most cost-effective measures, which typically includes adding insulation, reducing air infiltration, servicing the heating and

cooling systems, and providing health and safety diagnostic services. According to the Energy Information Administration's (EIA) Annual Energy Outlook, 2008, the first-year energy savings for households weatherized during this year are estimated to be more than $413. The services provided by Weatherization will continue to return savings for many years after installation. The estimated average energy benefit in 2006 dollars over the life of the measures is $5,274. For every dollar spent, the WAP returns $2.72 in energy and non-energy benefits over the life of the weatherized home, based on these same EIA long-term energy prices outlook and studies conducted by the Oak Ridge National Laboratory. Since the program's inception, **more than 5.8 million homes have been weatherized** using federal, state, utility and other monies.

These are troubling times facing our nation – war, budget deficits, homeland security needs, and a looming economic recession. These economic events create added financial burdens for all Americans, but especially for those who live at or below the poverty line. Low-income families have always spent a disproportionate share of their income for energy needs than their middle-income counterparts. For example, a typical middle class family pays about 4 percent of their annual income for energy costs (heat, lights, air conditioning, appliances and hot water). Low-income families pay nearly the same dollar amount each year for energy but this amount represents a significantly higher percentage of their total household income (16 to 20 percent). In times of energy shortages and escalating energy costs, the energy burden for these families can reach 25 to 40 percent or more of their available income.

When energy costs rise, like they have during the current heating season, even a nominal increase can have a dramatic negative impact on low-income families. The expected increase in this year's energy costs may amount to an additional $600 or more for most families. For middle-income families, this increase will amount to less than one half of one percent of the total household income. For many low-income families; however, this increase will result in a 4 to 5 percent reduction in their expendable income and will cause families to go without other important essentials like food, medicine, or clothing to meet this higher financial demand.

These families need long-term solutions to help them reduce their energy use both now and in the future – resulting in lower energy bills. That is the primary mission of the Weatherization Assistance Program – *"To reduce heating and cooling costs for low-income families, particularly for the elderly, people with disabilities, and children, by improving the energy efficiency of their homes while ensuring their health and safety."*

The Oak Ridge National Laboratory reports entitled State Level Evaluations of the Weatherization Program Conducted From 1990-2001 and subsequent Meta-Evaluations conducted in 2003, 2005 and 2006 found that the WAP significantly improved its energy savings results during those years. In 1996, the Program showed savings of 33.5 percent of gas used for space heating - up from 18.3 percent savings in 1989. The increase in savings was based in large part on the introduction and use of more sophisticated diagnostic tools and audits. Families receiving Weatherization services can reduce their heating energy use by an average of 22 percent, making the cost for heating their homes more affordable. The Evaluation report also concluded that the WAP possessed a favorable cost-benefit ratio. Simply stated, the federal funds provided to support the Program have a 140% return on investment.

The WAP has always served as a testing ground and provides a fertile field for the deployment of research conducted by national laboratories. For example, the Oak Ridge National Laboratory developed the National Energy Audit (NEAT) for use by local agencies in assessing cost effectiveness of service delivery. Oak Ridge is currently investigating the cost effectiveness of including certain base load measures (water heater replacement, lighting, small motor efficiency, refrigerator replacements) into the Program and continues to test other protocols and material installation techniques to help state and local agencies improve their field operations. The Florida Solar Energy Center and the state of Hawaii are working on the development of cost effective solar hot water heaters. Many of our states have implemented refrigerator replacement programs to decrease energy base-load for low-income families.

One of the major outcomes of WAP field deployment is that the private sector eventually adopts these new technologies. This pattern has been established through several advancements including blower door-directed air infiltration, duct system testing and sealing, furnace efficiency standards, and insulation and ventilation protocols. The acceptance of these standards and protocols by the private sector is enormously important as builders attempt to construct new properties or rehabilitate existing ones using a renewed energy efficiency philosophy.

Of equal importance to the technological and programmatic foundation are the WAP contributions in achieving overall national energy policies and social strategies. Some examples of how the Program helps achieve these goals include:

- Reducing harmful green house gas through reduced CO2 emissions by avoiding energy production. Each time a house is weatherized, the reduction in energy needs reduces the environmental impact associated with creating that energy reduction of sulfur dioxide, carbon, and other pollutants spilled into the atmosphere from the burning of fossil fuels like oil, coal, kerosene, wood, gas, and propane.
- Increasing jobs in communities throughout the country. For every one million dollars invested in the WAP, more than 40 full time jobs are created and supported in the states. Another 20 jobs are created in companies who provide goods and services to the Program.
- Investing money into communities through job creation, local purchasing of goods and services, and tax revenues. These investments result in many secondary benefits. These residual benefits, known as "economic benefit multipliers," are applied to local community investment to value the real worth of money used locally. This multiplier is 3.5 to 4 times the actual investment. This means that an investment of $300 million in the WAP could yield nearly $1.2 billion in economic benefits to local communities.
- Reducing consumption of imported fuels by reducing residential energy consumption. Our country currently imports nearly 60% of its oil from foreign countries. This figure is higher than the import percentage in the 1970s, when the oil embargo threatened our ability to operate as a nation. The conservation efforts of the WAP network will help reduce our country's dependency on foreign oil, thereby strengthening our country's national security.

Earlier this year, the Administration proposed eliminating the Weatherization Assistance Program in the President's Fiscal Year 2009 Budget. This cut was offered despite the will of Congress that authorized the Program at $900 million for 2009 up to $1.4 billion in 2012. The elimination of funding for the Program is a complete reversal of the President's long-standing

commitment to the WAP. These proposed cuts show a complete disregard for the continued success of the Program and the significant environmental and economic impact for the families receiving service and the communities where the Program operates.

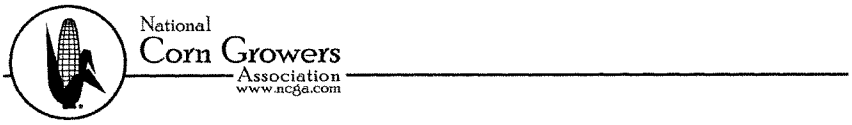
The Department of Energy also failed to enact the WAP National Evaluation requested by the Office of Management and Budget and approved by Congress. The evaluation is essential to reestablish the metrics of the Program and identify areas where improvements can be made in operation and effectiveness. The states have supported the conducting of the Program review and are disheartened that the evaluation was summarily cancelled. A national evaluation would prove once again the effectiveness of the WAP in meeting the energy efficiency needs of low-income housing and eliminate any possible justification the Department is using to cut or dismantle this highly effective and productive public/private partnership.

NASCSP urges the Subcommittee to restore the Weatherization Assistance Program funding to the level of $300 million while providing $75 million for the State Energy Program. Weatherization is a clearly proven investment, which has helped over 5.8 million families live in safer, more comfortable living conditions. If the President's budget is upheld, the Program will cease to exist and nearly 150,000 low-income families will be denied critical energy efficiency services this year. These families will be required to pay an additional $800 million in energy costs that could have been avoided had their homes been weatherized. This money could have been used for essential needs such as food, clothing, and medicine. At a time when oil and natural gas prices remain high and low-income families are facing huge increases in their energy costs, it is irresponsible for the Administration to place added burdens on these families by choosing not to help them conserve energy. Congress can correct this by providing the necessary funding to continue the national Weatherization effort.

By the evidence provided herein, this Committee can be assured that the funding invested in WAP and SEP will provide essential services to thousands of low-income families, resulting in greater energy savings, more economic investments, increased leveraging of other funds, and less reliance on high-cost, foreign oil – outcomes that will benefit the nation. NASCSP looks forward to working with Committee members in the future as we attempt to create energy self-sufficiency for millions of American families through these invaluable national programs.

Respectfully submitted,

Vaughn Clark
Chair, NASCSP Board of Directors



Official Written Testimony of
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To the
House Subcommittee on Energy and Water
Development Appropriations
2362 Rayburn House Office Building

Regarding
Fiscal Year 2009 Energy and Water Development Appropriations

SENT VIA EMAIL:
EW.Approp@mail.house.gov

March 19, 2008

The National Corn Growers Association (NCGA) appreciates the opportunity to share with the subcommittee our energy and water development appropriations priorities for Fiscal Year 2009. In general, our appropriations priorities include an overall increase in U.S. Army Corps of Engineers' funding to address the needs of our failing inland waterways system; securing $50 million in the FY 2009 Energy and Water Development Appropriations bill for the Upper Mississippi River System (UMRS) – Navigation Ecosystem Sustainability Program (NESP) authorized by H.R. 1495, the Water Resources Development Act 2007, Title VIII, Secs. 8001-8005; and continued support for the Department of Energy's Biomass Technologies Program.

NCGA's mission is to create and increase opportunities for corn growers. NCGA represents more than 33,000 members and 48 affiliated state organizations and hundreds of thousands of growers who contribute to state checkoff programs.

U.S. Army Corps of Engineers

Our country's inland navigation system plays a critical role in our nation's economy, moving more than a billion tons of domestic commerce valued at more than $300 billion. Each year, more than one billion bushels of grain (over 60 percent of all grain exports) move to export markets via the inland waterways system. Inland waterways relieve congestion on our already over-crowded highways and railways that run through cities. One jumbo barge has the same

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capacity as 58 trucks or 15 rail cars. A typical 15-barge tow on our Nation's rivers is equivalent to 870 trucks.

Additionally, navigation offers transportation with unparalleled environmental benefits. Barges operate at 10 percent of the cost of trucks and 40 percent of the cost of trains, while releasing 20 times less nitrous oxide, nine times less carbon monoxide, seven times less hydrocarbons, and burning 10 times less high-price fuel.

Unfortunately, investment in the inland waterways system has not kept pace with its needs and is deteriorating. In 2006, more than half of the 240 operational Corps-funded lock chambers in the U.S. – which handle over 625 million tons of freight each year – are over 50 years old and have exceeded their economic design lives. Many locks currently in use are too small for today's larger tows, susceptible to closures and long delays for repairs and unable to effectively deal with lines and wait times that result from their obsolescence. In recent years, several high-profile closures have raised reliability concerns among shippers, carriers, the U.S. Army Corps of Engineers, and ultimately consumers who pay increased costs for expensive transportation delays.

Funding (in constant dollars) for Operations and Maintenance (O&M) on America's inland navigation system has remained flat for more than two decades. During this period, an increasing amount of routine maintenance on waterways infrastructure has been deferred. This deferred maintenance has become unfunded maintenance, and the aging waterways infrastructure, combined with the growing O&M backlog, has created today's average of 30 unscheduled lock shutdowns per year.

Tight O&M funding and the resultant "fix-as-fail" policy have led to a self-defeating cycle where routine maintenance dollars are now needed for emergency repairs. As critical maintenance needs grow, they become candidates for major rehabilitation – a trend that is not good for the waterways industry or for the nation.

NCGA is appreciative of the successful efforts made by this Subcommittee in recent years to increase the budget for the U.S. Army Corps of Engineers. NCGA strongly supports continuing this trend with a significant increase over last year's funding levels to address the critically needed repairs and delayed construction schedules facing the Corps. It's important to get our inland waterways infrastructure back on track so we can meet the ever-increasing demands of the global marketplace.

Navigation Ecosystem Sustainability Program (NESP)

The Upper Mississippi River System (UMRS) includes the Upper Mississippi River and Illinois Waterway and tributary rivers, with 38 lock and dam sites stretching from Minneapolis, Minnesota, and Chicago, Illinois, to just south of St. Louis, Missouri. The Upper Mississippi has 29 locks and 858 miles of commercially navigable waterway, and the Illinois Waterway has eight locks and is navigable for 291 miles. Also part of the UMRS is the Missouri River, which has no locks along its 735 navigable miles from Sioux City, Iowa, to St. Louis. There is one lock along the 26 navigable miles of the Kaskaskia River in southern Illinois.

In 1986, Congress declared the UMRS "a nationally significant ecosystem and a nationally significant commercial navigation system." The same waters that transport more than 60 percent of America's corn and soybeans are home to 25 percent of North America's fish species and are globally important as a flyway for 60 percent of North America's bird species. However, both the river transportation system and the river ecosystem are deteriorating. The locks that help tows to navigate the river are antiquated—increasing cost, safety risks and lost market opportunities. And from an ecological perspective, the floodplain is degraded, islands eroded, backwaters filled in and the river's natural flows disrupted.

With enactment of the Water Resources Development Act 2007, Congress created a historic opportunity for the UMRS. Congress recognized the economic and ecological importance of what truly is America's River by giving the U.S. Army Corps of Engineers a new, dual-purpose authority to integrate management of the river's habitats and navigation system in an unprecedented way. Corn growers are asking Congress to invest in the future of the UMRS by funding implementation of this new program.

We request your support in securing $50 million in the FY 2009 Energy and Water Development Appropriations bill for the Upper Mississippi River System (UMRS) – Navigation Ecosystem Sustainability Program (NESP). Now is the time to build on the promise of the new authority for NESP by including funding for the program in the Corps' FY 2009 construction general account. Congress has authorized NESP at $2.2 billion for navigation improvements; half of which is funded by the Inland Waterway Trust Fund, and $1.72 billion for ecosystem restoration, with an additional $10 million per year for monitoring. This will permit the Corps to begin implementing specific projects. NESP is a long-term vision, with the current authority providing for the first increment of that vision.

Over approximately the next 15 years, NESP will improve navigation efficiency by constructing new 1,200-foot locks at Locks & Dams 20, 21, 22, 24, and 25 on the Upper Mississippi River, and at LaGrange and Peoria on the Illinois Waterway. The plan also includes small-scale measures such as mooring facilities and switchboats and mitigation for the environmental effects of the lock construction and increased river traffic.

Concurrently, NESP will also work to restore and preserve more than 100,000 acres of habitat in a manner that is entirely compatible with current navigation practices. Restoration projects will range in size and complexity but will focus on restoring system-wide natural processes vital to the river's health. Examples include mimicking natural flow regimes by drawing down pools in the summer and restoring floodplain habitat in cooperation with willing landowners. Because the UMRS is a vast and ecologically complex system, NESP includes an adaptive management strategy, in which sound science, learning and monitoring guide the most efficient and effective allocation of resources.

We appreciate this Committee's help in securing Pre-Construction Engineering and Design in years passed prior to authorization in the 2007 Water Resources Development Act. Congress has provided for $13.5 million in FY05, $10 million in FY06, $10 million in FY07 and $8.85 million in FY08. Capability levels for PED were identified as $24 million for each Fiscal Year to achieve a 3-4 year pre-construction engineering and design phase.

For continued success, U.S. farmers need efficient transportation networks, which is why we have been long-time advocates for improvements to our inland waterway system. Meeting future international demand for corn, soybean, and other grains will be impossible without a modernized river infrastructure.

You have an opportunity to impact economic growth in our nation. Your help in securing funds for NESP will allow the nation to achieve the benefits of river infrastructure and ecosystem improvements as soon as possible.

Biomass Technologies Program

The U.S. needs to displace imported petroleum with domestically produced ethanol. Grain ethanol is the only economically viable solution today to reduce our reliance on foreign sources of energy. In order to achieve energy independence, the US must capitalize on an abundance of domestic resources. Using starch from corn grain to produce ethanol is a proven, efficient way to reduce oil imports. Ethanol reduces green house gases, continues to spur economic development in rural communities, provides for a high-value co-product and stabilizes farm income. In 2007, strong commodity prices reduced government spending by $6 billion. Over the next decade, corn grain will continue to meet the growing demands from livestock feed, human food, export sectors, and ethanol fuel.

The current federal biomass technologies program is focused on long-term cellulose research. Cellulose research will not have any meaningful economic impact for a decade or more. A successful research and development (R&D) portfolio always balances near, mid and long-term goals, and biomass research should use a similar strategy.

In the near term, R&D investments in corn grain ethanol production technology could have a strongly positive economic impact while immediately decreasing dependence on imported oil. Examples of R&D investment opportunities include improving production and utilization of animal feed (DDGS), co-production of biobased chemicals, utilization of corn kernel fiber, repowering ethanol facilities with biomass, water utilization, and decreasing natural gas use in ethanol plants. A sufficient supply of affordable ethanol will ensure the markets and infrastructure will be poised for the larger impacts coming in the mid to long-term.

NCGA recommends the Committee commit at least 25% of the FY2009 allocation for the biomass technologies program towards near-term research of corn grain. A strong corn ethanol industry is the foundation for an expanding renewable fuels market. Agricultural residues, cobs, and fiber will serve as the bridge technologies to a second generation of renewable fuels.

Thank you for the support and assistance you have provided to corn growers over the years. Please feel free to contact Jon Doggett at 202-628-7001 if you need any additional information.

The National Hydropower Association Statement for the Public Record on

The FY 2009 Energy & Water Appropriations

Presented to the

House Energy & Water Appropriations Subcommittee

2362B Rayburn House Office Building

Washington, DC 20515

March 19, 2008

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NHA Statement by Jeffrey Leahey, Senior Manager of Governmental & Legal Affairs

The National Hydropower Association (NHA)[1] appreciates the opportunity to submit this statement regarding hydropower funding priorities for the FY 2009 appropriations budget cycle. **NHA requests $54 million in FY 2009 Energy & Water Appropriations** for the Department of Energy's Waterpower Program.

Hydropower's current and future potential as the nation's most robust, renewable energy resource.

Congress is currently examining the implications of climate change on the environment, economy, and energy security of the United States. Crucial to the climate debate is the need for policymakers to work together to promote the development, deployment and expanded use of existing renewable resources, as well as innovative new technologies, that can play a significant role in addressing climate issues while maintaining a reliable and affordable electricity supply system. Hydropower of today and new water power technologies of tomorrow can provide significant benefits to these national energy and environmental goals.

Currently, hydropower provides sizeable benefits. As the leading renewable energy resource in the country, it accounts for 7% of all of the nation's electricity in terms of actual generation and approximately 9% in terms of actual capacity. Overall, hydropower accounts for 77% of actual renewable electricity generation and 83% of the nation's renewable energy capacity.

As an important source of electricity, hydropower offers advantages over other generation options. Importantly, hydroelectric units are able to start, stop, and change output quickly, which provides important grid stability and reliability benefits. As such, hydro has the ability to firm intermittent resources such as wind and solar, a benefit which comes all the more important as the nation moves to incorporate more renewables in its energy portfolio. Finally, hydropower's non-power benefits include water supply, flood control, irrigation, navigation and recreation.

Hydropower's potential contribution is notable – from efficiency improvements and capacity upgrades at existing projects, to new development at existing non-powered dams, to significant new capacity gains from emerging waterpower technologies, such as ocean, tidal and instream hydrokinetic projects. According to a March 2007 Electric Power Research Institute (EPRI) report titled, "Assessment of Waterpower Potential and Development Needs," **the potential for increases in capacity, mostly without the need to build dams, is conservatively estimated at 23,000 MW by 2025, with an overall estimate of 85,000 to 95,000 MWs with appropriate public policy support.** This includes:

- 2,300 MW capacity gains at existing conventional hydropower facilities;
- 5,000 MW of new conventional hydropower at existing non-powered dams;
- 2,700 MW of new small and low head power conventional hydropower (<30 MW installed capacity);
- 10,000 MW from ocean wave energy technologies; and

[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 and instream hydrokinetic industries and the consumers they serve.

- 3,000 MW from hydrokinetic technologies (river-based).

Realization of these capacity gains will require continued and increased research, development, demonstration and deployment (RDD&D) support and other economic incentives as well as planning, testing and impact evaluation assistance. As stipulated in EPAct 2005, the Secretary of Energy is required to conduct R&D for conventional and new waterpower technologies.[2]

NHA's statement requests full funding of the suite of initiatives identified in the EPRI report under the Department of Energy's new Waterpower R&D program at a level of $54 million per fiscal year.

Waterpower Technology Development Needs

Through direct contact with NHA members, which include hydropower owners and operators, ocean, tidal and instream hydrokinetic technology developers, and the analysts and experts cited in the EPRI report, NHA analyzed the report's suite of development recommendations and concluded that the EPRI report provides a useful model, a roadmap from which to guide activities under the DOE Waterpower R&D program. As such, this statement highlights and summarizes the various R&D initiatives outlined in the report. These directives are intended to address the needs left unfunded by the previous RDD&D program for hydropower and would expand the Department's efforts.

I. Waterpower Realization Committee—to provide the initial guidance and future oversight to benchmark results of the RDD&D program in terms of real waterpower capacity and generation gains. This committee, made up of representatives from industry, government resource agencies and non-governmental organizations would guide RDD&D efforts and monitor progress to ensure the realization of the capacity gains. The Committee would measure on an annual basis the capacity gains from the various initiatives and make recommendations for refinement of the program, as necessary.

II. Waterpower Performance Initiatives. The suite of activities and programs available to meet the goals of the program are outlined below.

A. **Advanced Water Energy Science.**
Statement of Need: The industry has identified the need for advanced scientific techniques to support the following activities:
- Advance Water Energy Science
  - i. Work that would support the industry's need to better predict flow measurement. Accurate flow values are needed for a variety of operation and environmental performance topics.

[2] EPAct 2005, Title IX, Sec. 931 – "*Conduct a program of research, development, demonstration and commercial application for cost competitive technologies that enable the development of new and incremental hydropower capacity, adding diversity of the energy supply of the United States, including: (i) Fish-friendly large turbines. (ii) Advanced technologies to enhance environmental performance and yield greater energy efficiencies. (...) The Secretary shall conduct research, development, demonstration, and commercial application programs for – (i) ocean energy, including wave energy (...) and (iv) kinetic hydro turbines.*"

ii. Modeling work to improve hydraulic modeling techniques.
iii. Turbine research in order to develop better materials resistant to cavitation and erosion damage.
iv. Generator research in order to discover materials suitable for use as stator core; build one prototype stator core; and study it over a period of time.

- Meteorological Forecasting and Optimal Dispatch of Energy/Water Systems. Work in this area will examine and determine the benefits of integrating wind and other intermittent renewable energy resources with hydropower and pumped storage resources. Specific work could include:
  i. Near-term forecasting of meteorological conditions will help identify needs for improving meteorological data and instrumentation.
  ii. Long-term projections of global climate change and effects of other cycles and other factors on regional meteorological conditions and future regional electricity and water demand, energy and electricity supply mix, and fuel costs.
  iii. Research into the integration of meteorological information and load, energy price, and other forecasts with energy and water system operations.

- Integration and Control of Renewable Energy Technologies. Greater opportunities to adopt renewable energy technologies and their integration with water resources can be realized if research is provided to develop advanced integration and control mechanisms. Funding could be directed to the development and demonstration of hybrid control systems to include real time pricing, resource optimization and optimal economic value methodologies.

B. Hydropower Environmental Performance
Statement of Need: The following objectives will improve hydropower performance by maximizing hydroelectric generation and protecting fisheries resources.

- Complete RDD&D for Fish-Friendly Turbines. Continued work on fish-friendly turbine development offers the opportunity to address energy and environmental impacts and needs. Activities under this category include:
  i. Continue prototype Alden/Concepts NREC turbine development in preparation for commercialization. Additional fish survival testing.
  ii. Continue testing of the advanced turbines at Wanapum dam.
  iii. Perform power efficiency testing, and
  iv. Deploy and evaluate the Alden/Concepts NREC design at School Street Project, NY or other location.

- Bioengineering for Fish Passage and Entrainment Mitigation. Technologies are needed to solve the problem of fish mortality involving hydropower structures. Continued work activities include:
  i. Basic research on the effect of hydraulic process on fish movement.

ii. Utilize biocriteria in the development of new turbine and fish passage designs.
iii. Conduct demonstrations of new technology to determine effectiveness in real-world applications.

- Water Quality Mitigation Technology. New and more cost-effective and less water intensive solutions are need to address dissolved oxygen and water temperature issues involving water quality. Research is need to:
  i. Review state of the art techniques for addressing these issues.
  ii. Develop new technologies and target test sites for testing.
  iii. Conduct cost-shared demonstrations of new technologies.

- Advanced Weirs for Flow Re-regulation and Aeration. More work is needed to optimize the design of weirs and demonstrate how they can be used to improve the efficiency of existing projects. Research activities could include hydraulic design studies, coupled with model tests and prototype demonstrations.

C. Hydropower Operational Performance
Statement of Need: Improved forecast models and the implementation of advanced technologies can play a crucial role in enhancing the operational performance of hydropower facilities. The following objectives will improve operations at facilities.

- Hydropower Operation Decision Support Analysis. Need to understand various hydropower generation sensitivities to various processes. Research activities could include:
  i. Determination of sources of hydropower generating variability across spatial and temporal scales.
  ii. Develop improved climate/meteorological stream flow forecast models
  iii. Incorporate understanding and forecast models into optimization and decision support models.
  iv. Demonstrate benefits of using improved decisions support models.

- Demonstration Testing of the advanced hydropower turbine system (AHTS) to Increase Use of Efficient Designs. Demonstration activities will help potential users understand and overcome potential risks of using new technologies.

- Advanced Electrical Equipment for Renewable Integration. More research into these technologies would increase efficiency and reliability by providing ancillary services to the electric grid.

III. Waterpower Technology Development – This part of the program would use funds to advance hydrokinetic and ocean energy technology in four program areas:

Hydrokinetic Resource Assessment

Statement of Need: New generation technologies are on the threshold of implementation, but require additional site assessment and a mapping program to outline the criteria for development. A complete resource assessment and criteria protocol for hydrokinetic sites in the U.S. is required and should be available to potential developers, similar to the resource assessment for small hydropower completed by DOE.

Hydrokinetic Environmental Profiling

Statement of Need: Advanced technologies on the threshold of implementation often are stalled because prospective users cannot justify implementation risks and lack of knowledge among developers regarding the environmental and institutional barriers. Research to develop minimum time environmental data collection and analysis techniques for use in site evaluation of hydrokinetic machines is needed. This research would standardize monitoring techniques for evaluating the environmental impacts of hydrokinetic technologies and help expedite the deployment of these technologies.

Hydrokinetic Technology Improvement

Statement of Need: Instream kinetic, tidal/wave energy and kinetic hydropower and pressure systems for manmade conduit systems all require test support and demonstration funding to support development, deployment and realization of their potential. Research is needed to determine proof of concepts with single prototype units and demonstrate operational viability and environmental effects with pre-commercial multiple unit projects. Support is also needed to identify universities, labs, and other entities where proof of concepts and operational tests can be conducted and environmental effects assessed.

Advanced Ocean Energy

Statement of Need: Federal funding of ocean energy RDD&D and required regulatory activities would enable the U.S. to develop new domestic energy supplies, create jobs and capture an emerging global export market. Research is needed to develop ocean wave energy technology industry to commercial deployment level including research into marine resources and converters; energy conversion, delivery and storage; environmental and cost monitoring; and field deployment.

Conclusion:

Hydropower is already a major source of energy for the nation. The nascent ocean, tidal and instream hydrokinetic technologies are at the beginning stages of commercial deployment. Yet both technologies have a tremendous growth potential that could be realized through sustained federal RDD&D support. These renewable resources are clean, climate-friendly technologies that can provide significant base load power to the U.S. at a time when our demand for electricity continues to increase dramatically. By expanding the funding for the DOE Waterpower R&D program, the nation could soon realize the tremendous energy and environmental benefits of maximizing existing hydropower projects and infrastructure as well as the suite of emerging waterpower technologies.

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Statement of Jason Albritton
Senior Policy Advisor for Water Resources
Before the Subcommittee on Energy and Water Development
Committee on Appropriations
March 14, 2008

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to present The Nature Conservancy's recommendations for FY 2009 appropriations for the US Army Corps of Engineers (Corps) and Bureau of Reclamation. We understand that the Subcommittee's ability to fund programs within its jurisdiction is limited by tight budget constraints, but we appreciate your consideration of our recommendations for the following appropriations levels in the FY 2009 Energy and Water Development Appropriations bill.

Corps Construction General Priorities

Continuing Authority Programs: We applaud the subcommittee's continued support of the ***Section 1135: Project Modification for Improvement of the Environment*** and ***Section 206: Aquatic Ecosystem Restoration*** programs by appropriating $29.5 million for each in FY 2008. While the subcommittee has continuously appropriated at or above the authorized level for both programs, the programs' demand continues to be far greater than funding available. With the authorized level increased to $40 million for Section 1135 and $50 million for Section 206 in the recently-passed Water Resources Development Act (WRDA), we urge the subcommittee to help reduce the large backlog by providing funding at the newly authorized levels in FY 2009 -- $40 million for Section 1135, an increase over the President's $6.54 million request and $50 million for Section 206, an increase over the President's $10.29 million request.

The Conservancy is seeking funding and is the nonfederal cost share partner for three ecologically significant Section 1135 projects, including Spunky Bottoms (IL), a floodplain restoration/ reconnection project on the Illinois River that needs $300,000 to continue planning; Jim Woodruff Lock and Dam Fish Passage (FL), a river habitat restoration on the Apalachicola River that needs $100,000 to initiate the reconnaissance phase; and Village of Oyster Ecosystem Restoration (VA), a restoration of intertidal wetlands and upland habitat that needs $332,000 to complete design and $500,000 to complete construction.

The Conservancy is seeking funding and is the nonfederal cost-share partner on three Section 206 projects that restore important habitats, including Camp Creek (OR), a headwaters stream restoration project that needs $575,000 to sign a PCA and complete construction; Emiquon Preserve (IL), a floodplain reconnection and restoration project that needs $210,000 to continue planning; and the Upper Clinch River Bain (VA), a project to restore river habitat and water quality to protect endangered mussels, that needs $250,000 to complete reconnaissance and initial planning.

The Conservancy is concerned with the effects of the prioritization process for Continuing Authority Programs included in the committee report accompanying the FY 2008 Omnibus Appropriations bill. The implementation of the committee's guidance has stalled projects that are widely supported by local communities and important to biodiversity. In particular, a number of

Section 1135 and 206 projects that are in the planning or design phase, received little or no FY 2008 funding despite being listed as Congressional priorities in the committee report. Therefore, we urge the committees to re-evaluate this policy and provide more flexibility in FY 2009.

Estuary Restoration Program: The Estuary Restoration Act was approved by Congress in 2000 to develop a national strategic plan and multi-level partnerships to address problems plaguing our nation's estuaries. With a goal of restoring a million acres of estuary habitat by 2010 through the Estuary Habitat Restoration Program, projects funded under the Act's Estuary Restoration Program benefit fish, shellfish and wildlife; improve surface and groundwater resources; provide flood control; and enhance recreational opportunities. The Act was reauthorized in WRDA 2007 to improve implementation and coordination between the agencies. The Conservancy supports $10 million for the Estuary Restoration Program, an increase over the President's $5 million request, to take advantage of the new authorities provided in WRDA 2007.

Upper Mississippi River Navigation and Ecosystem Sustainability Program: With enactment of WRDA 2007, Congress established a new dual-purpose authority for navigation and ecosystem restoration on the Upper Mississippi River and Illinois Waterway known as the Navigation and Ecosystem Sustainability Program (NESP). Recognizing the economic and ecological importance of the river, this new authority creates a historic opportunity for long-term sustainability. NESP's ecosystem restoration activities will build upon and eventually replace the Environmental Management Program (EMP) – an important Corps program that has restored habitat and conducted long-term resource monitoring of the Upper Mississippi River system for over 20 years. While all activities implemented under EMP will soon be transitioned into NESP, it is critical to fund both programs until the transition is complete. The Conservancy supports $50 million for NESP in FY 2009 to begin construction of ecosystem restoration and navigation projects and continue planning for additional projects. The President did not request funding for this program. The Conservancy also supports the President's $20 million request for EMP in FY 2009.

Missouri River Fish and Wildlife Recovery: Under this program, the Corps has completed 30 projects in the lower four basin states (IA, KS, MO, NE) to recover five listed or candidate species, resulting in more than 40,000 acres of restored aquatic and floodplain 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. The Conservancy supports $85.0 million in FY 2009, including $15 million for the Yellowstone River Intake Dam project in Montana.

South Florida Everglades Ecosystem Restoration Program: For the last 60 years, the Corps built projects that shunted water away from the Everglades. These flood control projects coupled with agricultural and urban development have degraded one of the most diverse and ecologically rich wetlands ecosystems in the world. After years of planning, WRDA 2007 authorized construction of the first projects under the Comprehensive Everglades Restoration Plan (CERP). The Conservancy requests $261 million for the South Florida Ecosystem Restoration Program in FY 2009, an increase over the President's $185 million request.

Puget Sound and Adjacent Waters: Assessments of Puget Sound's nearshore habitat indicate that the ecological health of the ecosystem is in steep decline. The Puget Sound and Adjacent Waters Program provides funding for early action projects to restore the Puget Sound and its watershed. The Conservancy requests $5.0 million for Puget Sound and Adjacent Waters in FY 2009. Identification of these early action projects is informed by the Puget Sound Nearshore Ecosystem

Restoration General Investigation, for which the Conservancy requests $1.9 million in FY 2009, an increase over the President's $400,000 request.

Hamilton City Flood Damage Reduction and Ecosystem Restoration: This project will increase flood protection for Hamilton City, CA and surrounding agricultural lands and restore over 1,500 acres of riparian habitat. Currently, the town is only marginally protected by a degraded private levee. The PED phase for this project is nearly complete, and the project received construction authorization in WRDA 2007. The Conservancy supports $1 million in FY 2009 to complete PED and $15.7 million to complete the first phase of construction.

Sustainable Rivers Project

The Sustainable Rivers Project (SRP) is a partnership between the Conservancy and the Corps to improve the management of Corps reservoirs by balancing flood control, water supply, and recreation with providing more natural flows to downstream ecosystems. Currently, 36 federal dams in eight river basins are involved in this effort. The comprehensive studies and monitoring effort listed below are being pursued under the SRP to determine the best approaches for improving river management and implementing dam operation changes. In addition, the Conservancy requests $3 million for the Corps' Institute for Water Resources to support the scientific and engineering needs of other sites within the SRP as well as new sites that do not have ongoing studies in place.

Savannah Basin Comprehensive Water Resources Study: The Savanna River basin is experiencing tremendous growth, increasing demands on a limited resource. The reconnaissance phase of the study evaluated water management in the reservoirs based on current operations and indicated that future needs may not be met under current management practices. The feasibility phase will evaluate implementation of a new set of rules (e.g. hydropower contracts, recreation needs, ecological flows) that could meet future demands while protecting essential river habitat. The Conservancy supports $250,000 in FY 2009. This study is not included in the President's Budget.

Willamette River Floodplain Study: This study identifies floodplain restoration goals in the Willamette basin, including increasing floodplain connectivity and replanting riparian forests, which will contribute to the Corps' ability to reduce river temperatures and meet their obligations under the Clean Water Act. The study also informs management of the Corps dams in the Willamette basin in a way that complements floodplain restoration efforts. The Conservancy supports $436,000 in FY 2009, an increase over the President's $240,000 request.

Connecticut River Watershed Study: This project will restore 410 miles of river flow and thousands of acres of associated riparian, aquatic and floodplain natural communities in the Connecticut River Basin. The basin is a priority landscape for the Conservancy due to the 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 such as water supply, flood control and hydropower generation. The Conservancy supports $450,000 in FY 2009. This study is not included in the President's Budget.

Big Cypress Bayou/Caddo Lake Reconnaissance Study: The Big Cypress Bayou and Caddo Lake wetlands and lowland forests are dependent upon the natural flow regime that is regulated by water releases at Ferrell's Bridge Dam and influenced by a weir dam on Caddo Lake. This study will evaluate how Ferrell's Bridge dam could operate to meet additional ecosystem needs and the

feasibility of modifying the Caddo Lake weir dam to allow manipulation of lake levels. The Conservancy supports $100,000 in FY 2009. This study is not included in the President's Budget.

Bill Williams River – Alamo Dam: Numerous federal, state and private partners have already invested significant funding in determining the flow needs of downstream ecosystems and working with the Corps to change operations at Alamo Dam to provide these flows. This Operations and Maintenance request will provide additional baseline information about the River and continue long-term monitoring to guide future management actions. The Conservancy supports a $250,000 plus-up over the President's Operations and Maintenance request for Alamo Dam in FY 2009.

Other Corps General Investigation Priorities

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. The Conservancy supports $100,000 in FY 2009 to complete the reconnaissance phase. This study is not included in the President's Budget.

Upper Delaware Floodplain Reconnection Study: The Upper Delaware River has been plagued by floods in recent years, causing hundreds of millions of dollars in damage. This study will produce a web-based decision support system that will enable decision-makers to visualize the consequences and effectiveness of individual construction and restoration projects and maximize the flood control benefits of restoring connections between the river and floodplain. The Conservancy supports $400,000 in FY 2009. This study in not included in the President's Budget.

Middle Potomac River Watershed Comprehensive Study: The purpose of this study is to develop a comprehensive, multi-jurisdictional sustainable watershed management approach for the Middle Potomac River watershed, balancing the ecological functions and services provided by the river with the human demands placed upon it. The Conservancy support $350,000 in FY 2009. This study is not included in the President's Budget.

Bureau of Reclamation

Upper Colorado River Endangered Fish Recovery and San Juan River Basin Recovery Programs: There are four endangered fish that occur only in the Colorado River and its major tributaries. These programs take a balanced approach to restore these species while allowing water use to continue in the arid West. With the recent completion of the Elkhead Reservoir project on the Yampa River, full funding of this FY 2009 request is critical to repay the costs of the project, take full control of water dedicated to augmenting river flow and to avoid penalties. The Conservancy supports the President's Request of $7.61 million.

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 recover five endangered or threatened species in the Platte River basin. The Conservancy supports the President's Budget Request of $11.5 million for this recovery effort.

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 (jalbritton@tnc.org).

March 4, 2008

U. S. House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water Development—Outside Testimony
Department of Energy: Energy Efficiency and Renewable Energy, Fossil Energy

Statement of Jerome Hinkle, Vice President
National Hydrogen Association

Chairman Visclosky, Ranking Member Hobson and Honorable Members of the Committee: on behalf of the members of the National Hydrogen Association (NHA), I would like to thank you for the opportunity to offer outside testimony on the funding for hydrogen programs in the Department of Energy's F Y 2009 Congressional Budget Request. For nearly 20 years, we have been an association dedicated to pursuing the research, development and demonstration of hydrogen and fuel cell technologies. This establishes a firm basis for growing a commercial Hydrogen Economy that will dramatically reduce emissions, help solve our dependence on imported oil, and evolve substantial new industries.

Summary Our testimony makes the following points regarding DoE's Fiscal Year 2009 Budget Request for hydrogen and alternative fuel programs. Specifically,

- the dramatic 27% cut over FY 2008 for EERE, amounting to $467 million, damages future prospects for many worthy projects the Congress has valued in both P.L.s 109-58 and 110-140
- funding only 28% of the authorized levels for hydrogen in EPAct 05 impedes progress
- cutting over 50% in the critical Codes and Standards, Technology Validation and Education programs, as well as eliminating promising manufacturing and renewable hydrogen projects—continues to hamper readiness for market and curtails promising clean and diverse energy supplies
- proposed report language to implement a pilot H Prize program in DoE
- abandoning the design concepts for FutureGen has the long term effect of increasing US dependency on imported petroleum by doubling the SPR—sacrificing R&D progress on coproducing clean hydrogen and electricity from domestic coal simply eliminates the search for key strategic options for a prime supply substitute.

Weakening progress We clearly understand the need for tradeoffs in the budget process, but since the passage of the EPAct 05, there has been insufficient attention paid to the guidance Congress gave DoE with regard to the hydrogen program, which had several purposes:

- To broaden the Secretary's authority to accelerate the RD&D process toward commercialization based on the solid foundation of the President's Hydrogen Fuel Initiative
- Make government a reliable partner in more ambitious public/private partnerships with energy, automotive and supplier companies and the research community
- Give the program permanent authority beyond the five year span of the President's Hydrogen Fuel Initiative.

The EPAct 05 authorized funding levels for hydrogen in Titles VII and VIII at nearly quadruple the levels in the Hydrogen Fuel Initiative (HFI) through 2010. For the EERE and Science portions of the program (excluding nuclear hydrogen and hydrogen from coal), this amounts to $3.73 billion. For FY 09, the equivalent EERE + Science share of the Request (over 90% of the HFI budget) — $238 million— is less than 28% of EPAct's $872 million.

The funding profiles of HFI versus EPAct 05 illustrate entirely different visions: DOE consistently maintains that its role is principally R&D, yet has established significant industry cooperation through its "learning demonstration" projects that validate the technologies in a systems context. EPAct 05 clearly charges DoE with the responsibility of preparing these technologies for market. The results from these joint government/industry projects, in turn, help redefine the next stage of R&D. Shrinking them does extensive damage beyond just "saving" budget $.

More delay DoE has chosen, instead, to zero out or sharply reduce the very cooperative programs with industry that help the public investments in hydrogen RD&D pay off: technology validation, codes and standards, education and manufacturing. This effectively delays progress towards market readiness, stretching out the time line and establishing the DOE as another barrier to the very efforts they are charged with enabling. Further, they have failed again to request any funding for the market transition authorities in Secs. 782 and 783 of EPAct 05, and after 24 months have slowly begun to organize the interagency task force empowered to make Federal early adoption of advanced technologies work.

With this budget, DoE has retreated further into its R&D shell—a January 2008 GAO report for the House Committee on Science and Technology concludes that although DoE has made excellent progress in meeting technology cost and efficiency goals (we agree), it needs to slip its performance targets for 2015 for lack of progress due to funding limitations—exactly what the Congress was trying to avoid in EPAct.

With $102/barrel oil, a warming climate, and the National Petroleum Council and EIA projecting further domestic oil production declines along with continued growth in transportation demand, the U.S. will need all the energy alternatives it can develop. As a letter from the Senate to President Bush in December 2005 states:

"The Secretary's scope of action has been expanded in key areas, and the hydrogen and fuel cell program has acquired considerable stability by its permanent authorization. Renewed focus on research, development, demonstration and state and Federal purchase for early market transition will give the Secretary and industry higher quality technical options sooner." Further,

"Technology validations, the heart of the learning demonstration partnerships with industry, need to grow to include fleets of advanced vehicles, particularly light duty vehicles, transit buses, agricultural, industrial and heavy duty vehicles." And, "To achieve the acceleration of our efforts to build a hydrogen economy, we specifically recommend that the Fiscal Year 2007 budget request reflect the authorized levels of spending that have been approved by Congress in Titles VII and VIII of the Energy Policy Act of 2005." A similar letter was sent to Secretary Bodman and OMB Director Nussle in October 2007 regarding the FY 09 budget.

Technology Validation Program DoE has requested over a 50% cut, which endangers the success of worthwhile public investments already made. Secretary Abraham had announced in an April 27, 2004, DoE press release that these vehicle and infrastructure learning demonstrations (the Technology Validation program) would be funded by a five year, $190 million, 50% cost share from DoE, matched by its industry partners. Including the FY 08 request, DOE has asked for $102 million, only 54% of the original award.

Your Committee was clear in its Report on the FY 07 Budget Request that it was uncomfortable with DoE's administration of multiyear awards. It is not uncommon for DoE to considerably underfund the Federal share, yet expect full participation by the other partners. So far, DoE has yet to determine the funding impact of the cuts in FY 08 and 09, so it is unclear to the many participants just how to react or what to expect. We do not believe that the priorities that created the program have changed. In fact, EPAct 05 clearly expects a considerable expansion of these programs. Our many members who are part of these agreements remain committed to their original goals. These are premium public investments.

The validation program has ambitious and critical goals concerning durability, vehicle range, storage, attainable hydrogen fuel cost, data reporting, technology evolution, renewable hydrogen feedstock generation, codes and standards coordination and public outreach. Here is why DoE's validation program is so important:

- The team projects involved in these "Learning Demonstrations" include detailed concepts for **diverse and flexible approaches** to vehicles, supply and infrastructure.
- Unique, historic partnerships have been formed between fuel, auto, and research firms — critical to **reinventing new corporate relationships** and making new markets succeed.
- The operational relationship between **system components** (hydrogen supply, on board storage, vehicle, fuel cell, drive train) has to be learned in practice — it cannot be fully evaluated by simulations or bench testing. Successful integration of new components is difficult, and real problems must be solved in a commercial operating environment.
- **Evolution of new technology** is greatly assisted by bringing systems out of the lab, punishing them under real conditions, remedying the failures, and sending intractable problems back to the lab — while redesigning new demos. The quest toward commercialization will occur in many iterative steps.
- **If funding were to lag, the Federal Government would become a less reliable partner, key parts of the partnerships could soften, and the scale of U.S. activity could shrink toward marginal ideas. The centroid of hydrogen development may move away from the U.S.**

Zero renewable hydrogen As Congress showed in its FY 2008 E&W appropriations and in passage of the Energy Independence and Security Act of 2007 (P.L. 110-140) you place a high value on clean and renewable fuels. Unfortunately DoE has cancelled the renewable hydrogen program, which offers the promise of:

a. Diversity and sustainability of energy supply from domestic renewable energy sources (wind, solar, biomass)
b. Energy efficient use
c. Zero or near-zero net emissions of greenhouse gases and criteria pollutants
d. Energy storage to buffer variability of renewable energy sources, e.g., wind.

Hydrogen is best used in a complete system that includes the production of renewable hydrogen, its distribution and use in fuel cells. All system technologies (i.e., production, delivery, storage, fuel cells) are needed. Reducing the cost of producing hydrogen is one of three critical technology pathways (fuel storage and fuel cells are the other two) to realizing its full benefits.

Producing hydrogen from natural gas has always been considered a short-term, bridging technology; we do not believe that this is a sustainable long term means of production. Research teams across the country have been making significant advances in producing renewable hydrogen from water and biomass using electrochemical,

thermochemical and biological processes. This progress has been well documented in the DOE annual reviews of the Hydrogen Program's funded research. The teams are nearing critical milestones for focusing further research and development.

The FY 2009 DOE budget request calls for suspending applied research on renewable hydrogen. This would mean:

a. Removing renewable energy from the program eliminates a fundamental reason for pursuing hydrogen. Investment by industry in fuel cells, hydrogen storage and fuel cell vehicles has been based in part on the promise of renewable hydrogen as a fuel. Removing this critical aspect of the program will seriously harm the basis for hydrogen as a fuel and the rationale for sustained industrial investment.

b. Closing of laboratories that are dedicated to specific renewable hydrogen projects and assignment of researchers and laboratory space to other efforts—resulting in loss of momentum and decades of knowledge by leading researchers.

H Prize Sec. 654 of the *Energy Independence and Security Act of 2007* (P.L. 110-140) authorizes the Secretary of Energy to establish cash prizes for breakthroughs in hydrogen technologies. The earlier bill passed in the House 416-6 in 2006, and likewise 408-8 in 2007. DoE strongly supported this legislation, but has requested no funds for FY 09. A small amount for organizing the program during FY 08 was included in the omnibus appropriations act. We believe that a useful pilot effort should be funded in DoE during FY 09, and suggest the following report language.

"For necessary expenses in carrying out the creation of hydrogen technology prizes, under the authority of the *Energy Policy Act of 2005* (PL 109-58, Sec. 1008) and the *Energy Independence and Security Act f 2007* (P.L. 110-140, Sec. 654), to include advancements in components or systems related to hydrogen storage according to criteria determined by the Secretary with a prize value of $1,000,000, also to include development of prototypes of hydrogen-powered vehicles that best meet or exceed objective performance criteria, such as completion of a race over a certain distance or generation of energy at certain levels of efficiency with a prize value of $4,000,000, with no more than $1,000,000 spent to administer the prize competitions, in which the Secretary may enter into agreement with a private, nonprofit entity to administer the prize competitions, in which the entity may advertise prize competitions and their results, raise funds from private entities and individuals to pay for administrative costs and to contribute to cash prizes, and work with the Secretary to develop the criteria for selecting winners in prize competitions, based on goals provided by the Secretary, $6,000,000 to remain available until expended."

Delaying Market Transition For the third year, DoE has shown particular disinterest in implementing EPAct 05's Title VII's Sections 782 and 783: Federal and state procurement of fuel cell vehicles, hydrogen energy systems, and stationary, portable and micro systems. These sections intend to: "(1) stimulate acceptance by the market of fuel cell and hydrogen systems; (2) support development of technologies..., (3) require the federal government, which is the largest single user of energy..., to adopt these technologies...in conjunction with private industry partners." Mechanisms are provided to the Secretary through an interagency task force (finally formed in late 2007) to accomplish this.

We believe that, even under difficult funding constraints, DoE can gain headway on the early adoption aspects of these technologies. Secs. 782 and 783 should appeal to DoE's interests. Assistant Secretary Andy Karsner, however, is of two minds on this. In December 2006, he sent a letter to Senator Pete

Domenici, Chairman of the Senate Committee on Energy and Natural Resources, explaining why he would not implement Title VII's provisions. But in his February 5, 2007, budget rollout: "By questioning conventional wisdom and embracing ambitious timetables, EERE can help bring about positive commercialization opportunities for new energy technologies." That's what Title VII does, and we hope for more than empty rhetoric.

We strongly recommend that the Committee include ten million dollars in its appropriation for the EERE program to begin implementing Secs. 782 and 783 from EPAct 05, and direct DoE to coordinate at the Cabinet level. We urge DoE to utilize their authorities to work especially with the Department of Defense, which is both a developer and customer for advanced technologies and has a considerable interest in hydrogen and fuel cells within the Defense Logistics Agency.

Scrubbing FutureGen to double SPR cancels US ability to develop clean H2 from coal A hearing in the Senate Energy Committee from February 26, 2008, highlights the strategic and practical problems with greatly expanding the SPR. The most useful testimony is that of Frank Verrastro (CSIS) and Melanie Kinderdine (MIT)—confirming the shaky grounds for a massive increase in size when oil prices are at an all-time high.

A myopic quest for a short term strategic "benefit" to offset declining petroleum production would effectively cancel out gains in improving the ability of our abundant coal reserves to create substitutes for petroleum. **It would have the effect of further increasing our dependence on imported oil.** FutureGen's original design concept was to use IGCC and advanced CCS technology to cleanly coproduce hydrogen and electricity in a flexible process facility from a range of coals. Now, as the DoE slowly scrubs its websites of historical information, only electricity will be made from coal, and producing hydrogen seems a dim memory. The abrupt cancellation of the original concept has also alienated a useful coalition of industry and regional participants—these alliances would seem to be essential to future success. No convincing technical or financial reasons for this have been offered by DOE.

We urge that the Committee also explore the DOE's tradeoffs in the FE budget analysis, and restore R&D on coproducing clean electricity and hydrogen from domestic coal.

Conclusion We urge the Committee to restore the hydrogen program funding in the above key areas, and add to them to be more consistent with EPAct 05. Continued funding growth is designed into EPAct 05, whose purpose is to accelerate the programs' achievements, and create a far larger benefit pool than could be realized by R&D alone. Guided by clear visions of the critical public problems we are trying to solve, the job is to commercialize the results of RD&D, not simply spend more money on endless projects.

We thank you for the opportunity to submit this testimony. We look forward to continuing a fruitful working relationship with the Committee, its staff, and all our stakeholders in building a successful, timely Hydrogen Economy.

The Navajo Nation
DR. JOE SHIRLEY, JR. | President
BEN SHELLY | Vice President

Name: Dr. Joe Shirley, Jr.
Title: President
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February 27, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

On behalf of the Navajo Nation, I am requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation sought is as follows: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

The Navajo Nation appreciates the Subcommittee's past support and requests the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
THE NAVAJO NATION

/s/ signed electronically
Joe Shirley, Jr.
President

Office of the President and Vice President
Post Office Box 7440 / Window Rock, AZ / 86515 / Telephone: (928) 871-7000 / Fax: (928) 871-4025

Before the

United States House of Representatives
Subcommittee on Energy and Water Development
Committee on Appropriations

Testimony of

Paul D. Tonko
President
New York State Energy Research and Development Authority

And

Deborah VanAmerongen
Commissioner
New York State Division of Housing and Community Renewal

Regarding

FY2009 Appropriations for
United States Department of Energy
Non-defense Environmental Cleanup Program
and
State Energy Program

March 19, 2008

The New York State Energy Research and Development Authority (NYSERDA) and the New York State Division of Housing and Community Renewal (NYSDHCR) welcome the opportunity to present this Testimony to the Subcommittee on Energy and Water Development, and look forward to working with the Subcommittee to ensure the most appropriate and effective federal funding of essential programs and operations. This Testimony will address proposed funding of two Department of Energy programs which are issues of concern to NYSERDA, namely funding for the West Valley Demonstration Project (West Valley, Project), identified for funding from the Non-Defense Environmental Cleanup Program at $57 million, and the State Energy Program (SEP), identified for funding at $59 million. In addition, this Testimony addresses one program of particular importance to NYSDHCR, the Weatherization Assistance Program (WAP), funding for which was cut completely in the President's proposed FFY2009 budget proposal. NYSDHCR asks that funding for this program be restored to at least FFY2008 levels of $243 million.

West Valley

The State of New York and NYSERDA are extremely concerned about the proposed cut in federal funding to the West Valley Demonstration Project, a radioactive waste cleanup project

located near Buffalo, New York. The President's budget for Fiscal Year 2009 would provide only $57 million for activities of the Department of Energy at West Valley. The State strongly urges full funding of the West Valley Demonstration Project at the level of $95M.

Federal funding had been more than $100 million as recently as 2004, but had been reduced to $75 million in recent years. The proposed cuts will result in lengthening the term of the cleanup and ultimately only increase the total project costs. Moreover, as will be discussed below, important risk reduction work that has been agreed upon between the State and Federal governments will not be funded in 2009 and as many as 50 trained workers will have to be laid off.

The federal funding responsibility for this project was established in 1980, when Congress passed the West Valley Demonstration Project Act, Pub. L. 96-368. The West Valley Demonstration Project Act directed the U.S. Department of Energy to carry out a high-level radioactive waste (HLW) management demonstration project at the Western New York Nuclear Service Center in West Valley, New York The WVDP Act directs the Department of Energy to:

- Solidify the 600,000+ gallons of liquid high-level radioactive waste.
- Develop containers for permanent disposal of the solidified HLW.
- Transport the solidified HLW to a federal repository for permanent disposal.
- Decontaminate and decommission:
  - the tanks and other facilities in which the HLW were stored,
  - the facilities used in carrying out solidification, and
  - the material and hardware used in connection with the Project.
- Dispose of the low-level radioactive waste and transuranic waste produced in conducting the Project.

The West Valley Demonstration Project Act requires the Secretary of Energy to enter into an agreement with New York State for carrying out the Project. Under the requirements of the Act, New York State pays 10 percent of the Project costs and the federal government pays 90 percent, making New York the only state that has contributed to the cleanup of HLW. New York State has provided approximately $242 million toward completion of the Project to date.

Decontamination and decommissioning of the West Valley site is necessary to protect public health and safety. The Department of Energy has solidified the bulk of the liquid high-level nuclear waste that was stored in underground tanks. A total of 275 HLW glass-filled Canisters are in storage at West Valley awaiting disposal at the federal repository. However, much cleanup work remains to be done on the site's contaminated facilities and property, including the decommissioning of the four underground HLW storage tanks, the Main Plant Process Building, an unlined lagoon system, a radioactive groundwater contamination plume, and a radioactive waste disposal area. The Department of Energy must also dispose of the low-level waste, the transuranic waste, and the vitrified High-Level Waste.

Until recently, progress on significant aspects of the West Valley cleanup had stalled. The Department of Energy ceased efforts to contain a radioactive groundwater plume and refused to take steps to halt the spread of liquids leaking from a radioactive waste disposal area under its

control. The Environmental Impact Statement that is essential for decisions on the future of the cleanup was also stalled. In the past year, there have been some substantial and encouraging changes at West Valley. Agreements have been reached on steps to control the groundwater plume and disposal area leaks, and the involved federal and state agencies have agreed on an approach to complete the Environmental Impact Statement.

Unfortunately, this progress is threatened by the lack of adequate funding. For Fiscal Year 2009, federal funding at about $95M million is necessary to continue decontamination work on the highly radioactive Main Plant Process Building, remove liquid from the underground high-level radioactive waste tanks, mitigate radioactive groundwater contamination that is spreading toward the Project boundary, and ship waste for offsite disposal. In the absence of this level of funding, important work to reduce risk from radioactive materials at the site will not get done this year and up to 50 members of the highly trained workforce at the site will have to be laid off. For each year that work is delayed, the time until completion and the total cost of the Project are increased.

For the reasons stated above, New York State and NYSERDA request a restoration of funding for West Valley to $95 million to permit the important work at the Project to continue at an optimal pace.

State Energy Program

The State of New York and NYSERDA are concerned about the proposed level of federal funding for the State Energy Program, at $59 million, and request that a funding level of $75 million for FY 2009 is provided to support this essential program. This funding level request is made in support of the request of the Coalition of Northeastern Governors (CONEG), which is also submitted to the Subcommittee. The $75 million level will help to restore a funding level for SEP which has experienced significant cuts in program budgets in the past. As noted in both the CONEG testimony, and by the Department of Energy itself, every federal dollar invested by the SEP returns $7.23 in energy cost savings. In addition, every federal dollar invested by the SEP also leverages $10.71 in state, local and private resources, providing significant additional economic benefit.

In New York, SEP program dollars are used by NYSERDA to support the deployment of various energy efficiency programs and services. NYSERDA leverages SEP funds with the state ratepayer-supported System Benefits Charge and other private sector funds. Most importantly, SEP provides essential funding for programs which reach across the spectrum of fuel sectors, helps to fill program gaps, and expands the reach of critical energy efficiency activities to customer sectors which may otherwise be limited from full program participation. In addition to reducing overall energy use in New York, the SEP supports activities that improve productivity, stimulate private investment, retain and create jobs, displace petroleum use, reduce electric peak load, and improve air quality, among other benefits.

Activities supported by SEP dollars include:

- NYSERDA's award-wining Flexible Technical Assistance Program, which provides onsite energy engineering services through competitively retained energy service providers.
- Multifamily Residential energy efficiency program which provides energy audits, evaluations and access to loan fund dollars which reduces the cost to building owners to implement energy efficient technologies.
- Agricultural Initiatives.
- Green Building Projects.
- Alternative Fuel Vehicles and Alternative Fuel Infrastructure.
- Industrial Improvements.
- Expansion of the Home Energy Assistance Program heating oil purchasing program, providing participating low-income energy consumers with discounts on heating oil purchases.

Obtaining an optimal level of SEP funding will help to ensure the continuation of these critical program activities.

For the reasons stated above, New York State and NYSERDA request a restoration of funding for SEP to $75 million to permit the important energy efficiency programs in New York to continue and expand at a pace needed to meet energy consumer needs.

Weatherization Assistance Program

The Weatherization Assistance Program (WAP) improves the energy efficiency of low-income homes every year, helping to reduce the home energy bills of the nation's most vulnerable citizens by 25% or more. The New York State Division of Housing and Community Renewal (NYSDHCR) is very concerned about President Bush's decision to eliminate funding for the program for FFY2009. If the President's cut is sustained, the State program will lose $21.8 million. The State of New York relies on this funding to help assist its low-income families. With oil prices at record levels, and cuts to LIHEAP proposed, these cuts would be devastating to low-income families and seniors in New York. Currently, we have waiting lists for this assistance in excess of 18 months. NYSDHCR asks that Congress work toward funding this program at its fully authorized level.

In conclusion, and as stated herein, NYSERDA and NYSDHCR respectfully requests that the House of Representatives provide, for Fiscal Year 2009, $95 million for West Valley, $75 million for SEP, and at least $243 million for WAP. NYSERDA and NYSDHCR look forward to working with the Subcommittee to ensure that these program funding levels are provided to ensure that essential energy projects are maintained.

Northern Water
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February 15, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/
ERIC W. WILKINSON, GENERAL MANAGER

cps

Testimony for the Record

Frank L. Bowman
President and Chief Executive Officer
Nuclear Energy Institute
Appropriations Subcommittee on Energy and Water Development
U.S. House of Representatives
March 19, 2008

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI)[1] appreciates the opportunity to provide the subcommittee with its perspective on the nuclear energy-related programs under the subcommittee's jurisdiction, and on the President's proposed budget for those programs in Fiscal Year 2009 (FY09).

NEI supports FY09 funding for the following DOE programs: the Innovative Technology Loan Guarantee Program Office ($19.8 million), Nuclear Power 2010 Program ($241.6 million), Office of Radioactive Waste Management ($494.7 million), Advanced Fuel Cycle Initiative ($302 million), Generation IV Program ($220 million), Nuclear Hydrogen Initiative ($28 million), Research Reactor Infrastructure ($10 million), and the Advanced Test Reactor User Facility ($10 million). NEI also supports the Nuclear Regulatory Commission budget ($1.017 billion) but would encourage improved efficiency in processing new plant applications.

The 104 commercial reactors operating in 31 states provide more than 70 percent of all U.S. electricity that comes from sources that do not emit greenhouse gases or controlled pollutants covered by the Clean Air Act.

U.S. nuclear power plants in 2007 posted an all-time record high in electricity production according to preliminary data. U.S. nuclear plants generated approximately 807 billion kilowatt-hours (kWh) of electricity last year, exceeding by more than two percent the previous record-high of 788.5 billion kWh of electricity set in 2004. Nuclear energy generates nearly 20 percent of the total U.S. electricity supply, even though nuclear power plants constitute only 10 percent of installed generating capacity.

Nuclear plants also achieved a record-setting average capacity factor—a standard measure of a power plant's availability. The 2007 industry average of 91.8 percent surpassed the 2004 record of 90.1 percent, according to preliminary figures.

NEI's statement for the record addresses the industry's highest policy priorities. In several cases, NEI believes America's energy security and environmental imperatives justify increases in FY09 funding above the President's request.

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1 The Nuclear Energy Institute is responsible for developing policy for the U.S. nuclear energy industry. NEI's 308 corporate and other members represent a broad spectrum of interests, including every U.S. utility that operates a nuclear power plant. NEI's membership also includes nuclear fuel cycle companies, suppliers of equipment and services, engineering and consulting firms, national research laboratories, manufacturers of radiopharmaceuticals, universities, labor unions and law firms.

Innovative Technologies Loan Guarantee Program. Business conditions in the electric power sector are challenging. The power industry must invest approximately $1 trillion by 2020 to upgrade and expand the U.S. electricity infrastructure – new power plants, efficiency programs, transmission and distribution, environmental control technology – at a time when input costs are increasing dramatically.

A recent assessment by the Brattle Group found that, between 2004 and January 2007, the cost of power plants, transmission projects and distribution equipment rose by 25-35 percent, compared to an 8 percent increase in the GDP deflator. The cost of gas turbines was up by 17 percent in 2006 alone. Prices for wind turbines were up by more than $400/kWe between 2002 and 2006. The price of iron ore has gone up by 60 percent between 2003 and 2006, and for steel scrap by 150 percent. Aluminum prices doubled between 2003 and 2006, and copper prices almost quadrupled. These cost increases impact all new generating capacity – nuclear, coal-fired, gas-fired and renewables.

Corporate decisions to proceed with new electric generating projects – particularly the capital-intensive baseload nuclear and coal-fired power plants – are difficult, given the major challenges associated with bringing such a venture to completion on schedule and within budget. New nuclear plants, especially, are capital-intensive with total project costs of $5 billion to $7 billion, including interest during construction.[2] The size of this capital investment is very large relative to the size of the companies making the investments, and the loan guarantee program provides the credit support necessary to finance these new plants.

The clean energy loan guarantee program created by the 2005 Energy Policy Act is essential for companies planning investments in the electricity infrastructure. NEI supports the DOE proposal in the FY09 budget to extend the loan guarantee program authorization to 2010 for uranium enrichment, coal based power, advanced coal gasification, renewables and electricity delivery and to 2011 for nuclear power facilities with a total loan volume limitation for all of $38.5 billion. **Given the capital investment required in the electric sector, and the rising cost of new electric generating facilities, additional loan volume will be required in the coming years to support the number of new plants currently projected.** We urge Congress to support the Department of Energy's request for $19.8 million to cover the program's administrative costs in FY09, which will result in a net zero appropriation given offsetting collections from loan applicants. The loan guarantee program is designed to be self-financing, with project sponsors responsible for underwriting the cost to the federal government of providing the credit support. Properly implemented, there will be no cost to the taxpayer.

The nuclear industry firmly supported the subcommittee's conviction that DOE needed to define workable regulations, and select an experienced management team to organize, manage and operate the Loan Guarantee Office. We believe that has happened. DOE must now submit its implementation plan to Congress for the 45-day period required by law before it can issue a solicitation, which will specify the award levels and eligible technologies. We expect DOE to release its plan shortly so that companies may begin to apply for loan guarantees this year.

2 This represents NEI's estimate of total project cost, including interest during construction, in 2007 dollars, based on a range of capital costs.

Progress in the Nuclear Power 2010 Program. Five applications for combined construction permits and operating licenses (COLAs) were filed with the Nuclear Regulatory Commission (NRC) in 2007. Two additional COLAs have been filed so far in 2008 and the industry expects six additional applications this year, for a total of up to 15 new nuclear plant license applications by the end of the year.

The announcements include Dominion and the 10 utility members of NuStart, the industry consortium established to implement the Nuclear Power 2010 (NP2010) objectives. This progress does not suggest that the work of NP2010 is complete, but rather amplifies the need for its continued funding. Embedded in each announcement for either an AP1000 or ESBWR new plant is the assumption that the NP2010 work will be completed as planned.

The NP2010 program has two fundamental objectives: 1) to demonstrate the regulatory process for licensing new plants and 2) to complete the final design for the selected technologies – the Westinghouse AP1000 reactor and the GE-Hitachi ESBWR.

The reference COLAs for the two NP2010 technologies were submitted on schedule. The AP1000 application for the Tennessee Valley Authority Bellefonte site was submitted in October 2007, and the ESBWR application for the Dominion North Anna site was submitted in November 2007. In FY09, DOE-industry work under the NP2010 program will directly support timely NRC review of these two applications. Given the commitment to standardization by the industry, these reference reviews will also be applicable to the other companies that intend to use one of these two advanced reactor designs and will reduce the cost to consumers of electricity from those projects.

The NP2010 program funds all phases of design completion from design certification to the first-of-a-kind engineering. The AP1000 design has already received NRC design certification through the NP2010 program. In FY09, DOE plans to fund continued work with the NRC on issuance of the safety evaluation report for the design certification of the EBSWR. In addition, DOE plans to accelerate completion of the first-of-a-kind engineering for the AP1000 and EBSWR. The requested increase in NP2010 funding is needed to enable the reactor vendors to complete the selected designs. In FY09, DOE's work with industry will lead to final NRC review of these reference applications.

While the funding for the NP2010 program is shared equally by government and industry, the government investment in the program has been used to spur numerous additional new plant projects. Congressional support for DOE's FY09 NP2010 proposed budget of $241.6 million is the industry's highest priority for deliverable reactor development.

Ensuring Adequate Funding for the Nuclear Regulatory Commission and Oversight. The industry supports NRC's FY09 budget request of $1.017 billion to provide effective oversight of operating nuclear plants, timely processing of applications for license renewal and requests for power uprates.

Given the increase in the NRC's budget – over $300 million in the last two years – NEI urges the subcommittee to review regular progress reports from the agency on the status of its licensing

and other regulatory activities. The industry also urges the subcommittee to expect greater transparency in NRC budgeting by seeking full disclosure of planned staffing and resource needs in individual NRC divisions. This would demonstrate to Congress and the industry, which pays up to 90 percent of NRC's budget that more of the requested budget is being allocated toward licensee-specific charges rather than general license fees.

The nuclear energy industry fully supports NRC's $37.3 million request from the Nuclear Waste Fund for Yucca Mountain licensing review activities. The NRC, however, should complete the "acceptance review" of the Yucca Mountain application for a construction permit – and docket it if acceptable – no later than 90 days after it is received from DOE.

Supporting an Integrated Used Fuel Management Program. The repository program is a key component of industry's three-part integrated used fuel management strategy that includes:

1. interim storage at volunteer locations;
2. research, development and demonstration to close the nuclear fuel cycle to reduce the volume, heat and toxicity of byproducts placed in the repository and to reclaim some 90 percent of the energy that remains in the fuel after one use in a reactor; and,
3. development of a national geologic repository.

Continued, demonstrable progress on all three elements of this strategy is important to preserve public confidence in nuclear energy, and to support building new nuclear plants.

Regardless of what advanced technology is developed to close the nuclear fuel cycle, a national repository will be needed to dispose of the by-products. DOE expects to submit its license application for the repository to the NRC by June 2008. The nuclear industry supports the Administration's proposed FY09 budget of $494.5 million to support the NRC license application for the Yucca Mountain project and to continue to develop the disposal system.

The nuclear industry has consistently supported research and development of the advanced fuel cycle technologies incorporated in the Advanced Fuel Cycle Initiative (AFCI). Consistent with the integrated used fuel strategy, the industry supports the President's request of $302 million for the Advanced Fuel Cycle Initiative in FY09 to continue this technology research and development program, and supports private sector partnerships to achieve better definition of the program, which is critical to a long-term integrated strategy for used fuel management.

Deployment of Advanced Reactor Technologies. NEI supports funding of $248 million for deployment of Advanced Reactor Technologies of which $220 million in government funding would be appropriated for the Generation IV (GEN IV) program in FY09. Within GEN IV, $210 million would be allocated for the Next Generation Nuclear Plant (NGNP) and $10 million would be committed to a new initiative on metals science and addressing issues of materials performance in reactor systems including high-temperature reactors recommended by the Idaho National Laboratory (INL) –Electric Power Research Institute strategic plan.

The NGNP is a congressionally authorized program that entails the development, licensing and deployment of an advanced high-temperature gas reactor (HGTR) at INL and other U.S. laboratories in partnership with industry. The HTGR technology can displace the use of premium hydrocarbon fuels such as natural gas for producing process heat, thus providing enhanced

energy security, more stable energy prices and improved economics and improved use of finite hydrocarbon resources. Such a transition would also result in minimal greenhouse gas emissions throughout the nuclear energy system life cycle. Industry and the INL are working together to have the prototype nuclear energy system operational around the end of the next decade. This involves a development, design, licensing and construction schedule that is more aggressive than envisioned in the Energy Policy Act of 2005 and would require an increase in DOE funding of $150 million for FY09 above the President's request of $60 million.

NEI also recommends funding for the Nuclear Hydrogen Initiative (NHI) – $28 million in FY09. The NGNP potential for hydrogen generation and the potential to couple hydrogen generation with advanced light water reactors is being coordinated and optimized under this program.

Workforce and Infrastructure. Investment in people and infrastructure needed for new nuclear plants is as important as investment in the technology itself. The FY08 Omnibus Appropriations Act included $15 million for a university program at the NRC. Although the industry strongly supports similar government funding for FY09, it believes that this fellowship and scholarship program for the nation's most promising engineering students – many of which will find jobs in government and the national labs – should be included in DOE's Office of Science for administration and oversight, thereby allowing NRC to remain a pure regulatory agency. If this program remains in the NRC, the funding should be appropriated and **not** included as part of the NRC budget that is paid for by industry user fees. NEI also encourages the subcommittee to support an additional program within the Office of Science authorized by the America Competes Act for undergraduate and graduate programs in radiochemistry, health physics and other disciplines important to medical, energy and other applications of commercial nuclear technology.

The nuclear industry also urges the subcommittee to support DOE's request to designate up to 20 percent of funds appropriated to its nuclear energy R&D programs AFCI and NHI for research work at universities.

NEI recommends increasing FY09 funds for the Research Reactor Infrastructure program from $3.7 million to $10 million for new fuel and shipping containers, reactor instrumentation and upgrades, and used fuel services. Industry also supports providing the Advanced Test Reactor User Facility at INL an increase from $2.5 million to $10 million in FY09 to improve the capability of the facility for research on the behavior nuclear fuels and materials by users from DOE, industry and universities.

Legacy Management. There is a growing body of evidence that suggests increased near-term investment will be needed to create a sustainable energy infrastructure that meets our national needs. This funding will be needed for DOE programs for clean up at DOE sites and former uranium enrichment facilities, non-proliferation programs including MOX, and national lab facilities. Within the Office of Nuclear Energy, DOE has requested $487 million for the MOX program and another $260 million for research infrastructure and safe operation of lab facilities. NEI urges Congress to support these important initiatives in FY09.

Testimony by
Farzad Rahnema, Chair
Nuclear Engineering Department Heads Organization (NEDHO)
and
John Bernard, Chair
National Organization of Test, Research, and
Training Reactors (TRTR)

Before the House Appropriations Committee, Energy and Water Subcommittee
On the FY 2009 Energy and Water Development Appropriations Bill

We are appreciative of the opportunity to submit this testimony to the Subcommittee on behalf of the Nuclear Engineering Department Heads Organization (NEDHO) and the National Organization of Test, Research and Training Reactors (TRTR). These two organizations together represent the entire US academic nuclear engineering community on issues related to federal policy and funding.

We are very supportive of the Department of Energy's nuclear R&D program and pleased that, in its FY 2009 budget submission, DOE is expanding its stewardship of US nuclear engineering education. This expansion is a significant step toward providing a stable and healthy investment in nuclear education.

The federal government has a vested interest in ensuring the vitality and health of the nation's nuclear engineering programs as it is perhaps the largest single employer of talent in nuclear science and engineering. Further, there seems to be an increasing need for talent in this field due to the anticipated growing need for electricity and secure energy in general. Given our recent experience with instability in the funding provided by the DOE Nuclear Energy Office for the university program we strongly believe that investment in nuclear science and engineering education should be diversified across different federal agencies such as DOE, NRC, NNSA, DHS, DOD, DTRA and national laboratories. Such diversification will greatly improve the ability of academic departments to seek funding for people, research, and infrastructure despite unanticipated cuts in one agency's program. Given this background we believe that the stewardship of the nuclear science and engineering discipline should be shared by both NRC and DOE. Our recommendations for university funding in FY 2009 are found below:

1. **Increase the NRC university program budget to $20 million:** Congress chose to move the university program from DOE to the Nuclear Regulatory Commission (NRC) in the FY 2008 Consolidated Appropriations Act. This shift was perhaps due to the administration's refusal to include funding for the university program in its DOE budget request. We believe that Congress should retain this line item in the FY 2009 NRC budget. This ensures some continuity in the management of the university program in light of fluctuations in the level of funding the academic programs have encountered in recent years. NRC has shown tremendous interest in working with universities to provide stewardship funding for their nuclear engineering programs. We recommend giving NRC the opportunity to fully implement this stewardship program. We also recommend increasing FY 2009 funding for the NRC university program to $20 million.

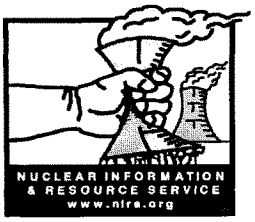
The proposed increase of $5 million is to replace some of the highly successful programs sponsored by DOE. For example, NRC can use the additional funding to strategically invest in helping universities create new graduate and undergraduate programs and developing partnerships and curricula. The remaining $15 million will let NRC continue sponsoring the original programs outlined in the FY 2008 budget. These are the scholarships, fellowships, and young faculty assistance programs.

It is our understanding that the funding for FY 2008 program comes from the user fee paid by the nuclear industry. We strongly believe it is entirely appropriate for the FY 2009 funding to come from the general treasury instead. This is because the university programs are designed to benefit the entire nuclear sector that includes the federal government and not just the NRC licensees.

2. Support DOE commitment to allocate 20% of NE's R&D budget for university-based funding: DOE has proposed to set aside 20 percent of its total nuclear R&D budget for university based project. In particular, per DOE's budget documents, "*These funds will support investigator-initiated basic research and mission-specific applied R&D activities; human capital development activities such as fellowships and young faculty awards; and, infrastructure and equipment upgrades for University-based research reactors in laboratories. This mutually beneficial arrangement will help University and research institutions bolster their R&D capabilities and help strengthen the US educational infrastructure necessary to support the nuclear Renaissance envisioned by this budget request.*"

We strongly support the above proposed activities and are extremely pleased with DOE's renewed interest in taking stewardship of our nation's nuclear science and education enterprise. We recommend for Congress to solidify the DOE's intent to invest 20 percent of its nuclear energy R&D budget in university programs as stated above. We also recommend increasing the "Research Reactor Infrastructure" funding from the requested $3.7 million to an appropriated level of $10 million within the "Radiological Facilities Management" program. This increase is needed to meet the need for new university reactor fuel, shipping casks (for both fresh and spent fuel) that comply with current quality assurance standards, returns of spent fuel other than those covered through the low enriched uranium (LEU) conversion program, as well as targeted assistance for reactor instrumentation and equipment upgrades. We also recommend allocating $5 million from the R&D budget of the Nuclear Energy Office to fund mission relevant basic research in nuclear science and engineering. We believe that the combination of the above funding with the DOE's plan for involving universities in applied R&D in support of the advanced fuel cycle initiative and Generation-IV programs would lead to an appropriately balanced "20 percent" portfolio of investments for university programs.

In closing, we sincerely thank the Subcommittee for its support for university nuclear education in the U.S. We hope that you will carefully consider our recommendations as you assemble your FY 2009 appropriations bill.



NUCLEAR INFORMATION AND RESOURCE SERVICE

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Written testimony of Nuclear Information and Resource Service before the House Committee on Appropriations Subcommittee on Energy and Water Development
March 19, 2008

$18.5 billion in loan guarantees for the nuclear industry is not the solution for our nation's energy independence or global climate change. In fact, supporting the building of new nuclear reactors as a means to reduce carbon emissions is a costly and dangerous proposition.

As Amory Lovins of the Rocky Mountain Institute stated in his testimony for the House Select Committee on Energy Independence and Global Warming on March 12, 2008, for every $1 spent on nuclear power, it would be possible to get up to eleven times the carbon prevention spent through spending that dollar on other technologies and efficiency measures.[1]

This is an important distinction to make. As nuclear power is being touted by the industry as a carbon free source of energy (although this is not true when looking at the entire fuel cycle), it is imperative that we compare nuclear power not only to coal plants, but to renewable energy sources, such as solar and wind, and to efficiency measures. When doing so, it becomes apparent that nuclear power is the least cost efficient source of energy available to our nation.

The Department of Energy is pressuring to have their authority extended to 2011 on the $18.5 billion loan guarantees, because there is no possibility of any utility being in a position to start construction this year on a new reactor. However, $18.5 billion would by most estimates only fund about three new reactors, if that. In Finland, construction costs for a new reactor have skyrocketed past the original budget by 1.5 billion euros and construction times are up to seven years.[2] Recent filings with the Florida Public Service Commission indicate that Florida Power & Light expects 2 new reactors to cost between $12-$24 billion, depending on the reactor design chosen and other factors, while Progress Energy estimates two new reactors in Florida to cost $17 billion.

A 2003 MIT study entitled *The Future of Nuclear Power*, used a 1,000 reactor benchmark to determine whether nuclear power could have a positive effect on the

[1] See Amory Lovins full testimony at http://globalwarming.house.gov/tools/assets/files/0401.pdf
[2] For a full description of the Finnish experience see http://www.greenpeace.org/raw/content/finland/fi/dokumentit/ol3Factsheet.pdf

environment and be economically viable.[3] Sharon Squassoni of the Carnegie Endowment for International Peace stated in testimony for the House Select Committee on Energy Independence and Global Warming on March 12, 2008, that in order to have a significant reduction in greenhouse gas emissions, the energy output of the nuclear industry would have to have a five fold increase, or roughly equivalent to 25 new plants every year through 2050, just for a one-seventh reduction in carbon emissions.[4]

In conclusion, enabling $18.5 billion in loan guarantees would squander American's tax money. These loan guarantees would also undermine any efforts at developing and deploying real, affordable energy solutions that will curb carbon emissions while also providing a reliable source of energy.

The Committee should explicitly not extend DOE's authority to hand out taxpayer-backed loan guarantees for new reactors, and should take every step necessary to ensure no such loan guarantees will be offered.

Aja Binette
Nuclear Economics Campaigner
Nuclear Information and Resource Service
March 19, 2008

[3] To see the full MIT study, http://web.mit.edu/nuclearpower
[4] See Sharon Squassoni's full testimony at http://www.carnegieendowment.org/files/3-12-08_squassoni_testimony1.pdf

Oregon Water Resources Congress

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ANITA WINKLER, EXECUTIVE DIRECTOR

OREGON WATER RESOURCES CONGRESS

MARCH 19, 2008

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 FY09 Budget for the Bureau of Reclamation and Oregon Projects.

The Oregon Water Resources Congress (OWRC) was established in 1912 as a trade association to support member needs to protect water rights and encourage conservation and water management statewide. OWRC represents non-potable agriculture water suppliers in Oregon, primarily irrigation districts, as well as member ports, other special districts and local governments. The association represents the entities that operate water management systems, including water supply reservoirs, canals, 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 FY09 Budget request for the Bureau of Reclamation's programs west-wide. The Administration's current budget proposal is approximately $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 for America Initiative

Challenge Grant Program

OWRC remains a strong advocate of the Water 2025 Program. We understand that this program has been included in the Water for America Initiative in Reclamation's budget as the Challenge Grant Program with an expansion of the types of projects that will be eligible to compete for funding. OWRC understands Reclamation's interest in expanding the project eligibility but we are deeply concerned that this expansion has occurred without a commensurate increase in the funding for this program. Assuming that this expansion of the types for projects for which funding can be sought is based on an identified need to fund those types of projects, the amount budgeted for the Challenge Grant Program should be increased to reflect that need. To do otherwise reduces the funding opportunity for water conservation and water efficiency projects, a need which has certainly not diminished since the inception of he Water 2025 program, and, in fact, has grown as the Western States address increasing demands on a limited water supply and the impacts of climate change on their water supply and water needs. The proposed Challenge Grant Program budget of $11 million (that will fund approximately 30 projects (based on Reclamation's estimates) falls far short of the needs of the Western States. Among OWRC's members alone, the need for this funding exceeds the proposed budget for the entire Western United States.

The mission of the Oregon Water Resources Congress is to promote the protection and use of water rights and the wise stewardship of water resources.

This program will support 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. The Federal investment of $3.6 million dollars over four years has 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.

Water Conservation Field Services

OWRC is disappointed to find a reduction in Reclamation's 2009 budget request for Water Conservation Field Services over prior years. We understand the importance of funding basin studies, but doing so at the cost of Water Conservation Field Services is a disservice to Reclamation's customers. The projects funded under the Field Services program are often the planning works that helps our member districts identify opportunities for water conservation through improved water management and capitol investments. The Federal share in these projects ensures 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.

State Investigations

Reclamation's FY 09 budget includes only $294,000 for projects in the Deschutes River Basin, on the Rogue River, in the North Powder River Basin, and in the Umatilla Basin. These provide only a limited look at the need for Federal participation throughout Oregon as the different entities in the State work to address Oregon's water supply needs. The Oregon Legislature recently established a program and appropriated funding to help project sponsors, such as cities, irrigation districts, farmers, and non-governmental organizations, with the costs to evaluate projects to address Oregon's water supply needs. While the State stands ready to help local project sponsors, we need the Federal Government's participation as well. We request that funding for the State Investigations program be increased to more realistically reflect the needs of Oregon and other Western States as they work to address water supply needs to meet demographic changes and climate change impacts. The Legislature appropriated $750,000 for the current fiscal year and has signaled an interest in additional appropriations in FY 09. We request that Reclamation's budget include enough to match the FY 08 appropriation of $750,000 plus another $2 million for FY 09 for Oregon's share under State Investigations. OWRC will be working with the Oregon Water Resources Department to identify specific projects for funding.

Oregon Needs

Conservation Implementation

The largest need for funding for OWRC's members is to implement water conservation projects. Irrigation districts in Oregon continue to line and pipe open waterways to enhance both water supply and water quality. But the ability to continue this work depends on some public investment in return for the public benefits. Districts have conserved water and provided some

of the saved or conserved water to benefit the fishery in-stream while also building reservoir supplies. 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 (Klamath Basin and the Deschutes Basin), energy reduction programs, additional measurement and telemetry monitoring, etc.

While some of these districts will continue to benefit from the funding requested in the FY09 budget, others are going through a reauthorization process or new authorizations for projects in their districts that will continue this conservation ethic.

Rogue River Basin

Medford Irrigation District, Rogue River Irrigation District, Talent Irrigation District
Three contiguous districts in the Rogue Project (Medford, Rogue River and Talent Irrigation Districts) are requesting $1 million to fund the Bear Creek and Little Butte Optimization Study by the Bureau of Reclamation. That study will propose a plan to conserve water throughout the basin by lining and piping canals within the districts, considering the potential for raising Howard Prairie Dam and the feasibility of other conservation options.

Grants Pass Irrigation District
The Grants Pass Irrigation District (GPID) continues to address the eventual removal of the Savage Rapids Dam. The $3 million in the FY09 Budget is an important continuation of the effort to address the agreements made in this area.

Deschutes Basin

Swalley Irrigation District
Swalley Irrigation District is completing its Main Canal Piping Project and requests $1 million in federal funds for completion of the $11 million dollar 5 mile canal piping project which will permanently allocate 27 cubic feet per second instream in the Deschutes River. Swalley Irrigation District is working with the Deschutes River Conservancy and matches the federal request with $10 million, including some grant funds.

Central Oregon Irrigation District, Tumalo Irrigation District, Swalley Irrigation District, North Unit Irrigation District, Ochoco Irrigation District, Three Sisters Irrigation District and Lone Pine Irrigation District through the Deschutes Basin Board of Control
We encourage the Committee to increase the Administration's FY 09 recommendation for the Deschutes Project by $1.5 million as additional funding through Water Conservation Field Services program. These funds will enable the Bureau of Reclamation to participate in a 50% cost-share with irrigation districts in Central Oregon on innovative conservation projects to increase efficiencies and benefit fish and wildlife species.

Umatilla Basin

Stanfield Irrigation District, Westland Irrigation District, Hermiston Irrigation District, West Extension Irrigation District
The Umatilla districts (Stanfield Irrigation District, Westland Irrigation District, Hermiston Irrigation District, West Extension Irrigation District) draw their water supply from the Umatilla

and Columbia Rivers. The districts have been in the process of completing boundary changes and seeking supplemental contracts as part of the conclusion of the boundary process. This process has taken nearly a decade. The districts recognize the need to move forward with Phase III of the project and support the increasing the budget from $100,000 to $500,000 for the Umatilla Basin Water Supply Study under the Oregon Investigations Program.

Hood River Basin

Farmers Irrigation District
Farmers Irrigation District has requested $6,000,000 in federal assistance to install a piped, pressurized irrigation water delivery system to high value orchard land in Hood River County. This conversion to a more efficient system will reduce operating costs for the district's water users and reduce water demand thereby increasing in-stream flow in Hood River.

Klamath Basin

The Klamath Project districts continue to require support of their Water Resource Initiatives, Water Conservation Plan work and 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.

Thank you for the opportunity to provide testimony regarding the FY09 Federal budget. While we support existing proposals, we feel that given the record-setting droughts we have suffered in the past few years and in anticipation of another drought this year, we need to support an increased budget to stabilize the nation's water supply for the many needs it must meet. Providing a stable water supply feeds the economy locally and at the national level.

THE PORT OF HARLINGEN – HARLINGEN, TEXAS

HOUSE 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'09 budget for the full capability of the USACE of..... $4,600,000 - $O & M

President's budget included..... $0 – 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. Maintenance of the project to authorized dimensions is a Federal responsibility. Safe and efficient commercial navigation is of national interest. The inability to maintain the project at authorized depths will cause safety hazards and severe economic loss to the agricultural and petrochemical industries in the region.

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 Aliance, Helena Chemical, UAP and Willber 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. C-Mex 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'09

The Administration's FY'09 budget included no funding for maintenance dredging of the Gulf Intracoastal Waterway's intersection at the Port of Harlingen, which is of national interest. As deliberations on the Energy and Water Subcommittee on Appropriations commence, we would appreciate your help in the addition of $4,600,000 so that this project can move forward and ensure that the Gulf Intracoastal Waterway – Port of Harlingen receive essential maintenance dredging at the federally authorized depth.

Testimony on the Department of Energy's FY 2009 Budget Request for Energy Efficiency Programs

Jared O. Blum
President
Polyisocyanurate Insulation Manufacturers Association

Submitted to:
U.S. House of Representatives
Subcommittee on Energy & Water Development, and Related Agencies
Committee on Appropriations

March 19, 2008

The Polyisocyanurate Insulation Manufacturers Association (PIMA) is pleased to submit testimony on the Department of Energy's (DOE) Fiscal Year 2009 appropriations request for energy efficiency programs. PIMA believes that the following programs within the Office of Energy Efficiency and Renewable Energy (EERE) (listed below with the Department's request and our recommended funding), which directly affect energy use in residential and commercial buildings, are effective and achieve significant energy savings.

- **Building Technologies Program:** DOE's request is $123.8 million; PIMA's request is $170 million (F.Y. 2008 funding is $108.9 million)
    - **Building Energy Codes** (Training and Assistance): DOE's request is $8 million; PIMA's recommendation is $25 million (F.Y. 2008 funding is $3.7 million). *As part of the Energy Policy Act of 2005, Congress reviewed the Building Energy Codes program and strengthened it at a higher authorized funding level of $25 million.*
- **Zero-Net-Energy Commercial Buildings Initiative:** PIMA is also recommending $20 million for the new Zero-Net-Energy Commercial Buildings Initiative under section 421 of the recently enacted Energy Independence and Security Act of 2007. DOE did not request any funding for this program.

PIMA is the trade association for manufacturers of rigid polyiso foam insulation, a product that is used in over 60 percent of new commercial roof construction, in 30 percent of new residential construction, and in most re-insulation of existing commercial building roofs. PIMA members have a

nationwide presence with 26 polyiso manufacturing facilities in 16 states and Canada. PIMA and its members are strong supporters of federal programs and policies that promote cost-effective improvements in the energy efficiency of buildings, both residential and commercial.

Many people do not realize that buildings pollute. In fact, the energy used to operate our homes and buildings and the appliances they hold, accounts for 40% of the energy consumed in the United States. By comparison, industry uses 32% and transportation uses 28%. Buildings account for 39% of U.S. carbon dioxide (CO2) emissions and 9% of global emissions, an amount that is equal to the emissions of Japan, France, and the United Kingdom, combined. Also, buildings account for 72% of U.S. electricity use.

In the context of energy and climate change policy, the building sector offers several attractive options for achieving significant reductions in greenhouse gas emissions that would actually result in net benefits or savings for the economy. Improvements in lighting, building envelopes (*e.g.*, insulation and windows), residential water heaters, and appliances are some of the cost-effective energy efficiency policies that have been identified in numerous policy reports, including the December 2007 McKinsey & Company report, "Reducing U.S. Greenhouse Gas Emission: How Much at What Cost." Because these programs actually have a positive economic impact, their implementation will help lower the cost of any climate change legislation that may be enacted in the future.

The **Building Technologies program** is DOE's key program for creating a positive change in the efficiency of commercial and residential buildings. The long-term goal of developing zero energy homes and buildings, the Department's support for building envelope R&D, and the development of Advanced Energy Design Guides in cooperation with ASHRAE are among the important efforts undertaken by this program that are laying the groundwork for a more efficient building stock.

More specifically, PIMA strongly supports an increase in funding for the **Building Energy Codes program** within the Office of Energy Efficiency and Renewable Energy (EERE). Increased funding for this program would allow the Department to assist in the development of stronger model energy codes and to assist states in adopting and enforcing those codes. Building energy codes are the most effective tool for reducing energy use in buildings. 40% of the commercial and residential buildings that will be in existence in 2030 have not been built yet, and the amount of energy these buildings consume will be determined by the codes that are in place at the time they are built.

In an effort to reduce the global warming impact of commercial buildings, ASHRAE, the organization that develops the model energy code for

commercial buildings, has pledged to improve the code by 30% over the 2004 version by 2010. The recently approved 2007 version, ASHRAE Standard 90.1-2007, already moves us about 7% to 10% towards that goal. However, improvements to the model energy codes is just the first step in a process that includes state adoption and enforcement of the codes. Although several states have adopted and regularly update their building energy codes, a significant number do not. Building energy efficiency will not improve until states adopt these model codes. Help from the federal government in the form of technical assistance has a direct and immediate affect on the willingness and speed at which states adopt the newer codes.

Below are three programmatic examples where DOE funding has an impact on the pace of state code adoption and where improvements could be made.

- DOE has not kept up with its requirement under the Energy Policy Act of 1992 to review and make determinations on updated versions of the IECC and ASHRAE codes. The last time DOE performed this review was for the 2000 version of the IECC for residential buildings and the 1999 version of ASHRAE standard 90.1 for commercial buildings. These reviews, if done in a timely manner, would help to accelerate the pace of state code adoption efforts. We urge the Committee to push DOE to complete these reviews quickly, within a few months after the model codes are issued. There is nothing preventing DOE from starting their analysis of a new version of a model code as it is being developed. DOE should also conduct an analysis of the energy chapter to ASHRAE's proposed Standard 189 (a standard for green buildings) when it is finalized later this year. One goal of Standard 189 is to achieve at least a 30% reduction in energy use over Standard 90.1-2007. Once finalized, the energy chapter of Standard 189 will provide another option for states to consider in adopting new building energy codes.

- There needs to be an increase in the number of State technical analyses/reports. These reports, prepared by DOE, quantify state-specific energy savings that would result from the adoption of new, more up-to-date versions of the model building energy codes. Without this technical assistance, states have a very difficult time quantifying the energy impacts of adopting a new code. It is our understanding that DOE is currently not able to keep up with state requests for these analyses.

- The COM*check* and RES*check* software developed by DOE and used by states to demonstrate compliance with building energy codes are extremely valuable tools that create an incentive for states to adopt and enforce the most up-to-date energy codes. It is important that DOE continues to quickly update this software to cover the most recent versions of the model energy codes, including the recently released ASHRAE 90.1-2007 for commercial buildings.

Section 421 of the Energy Independence and Security Act of 2007 (P.L. 110-140), enacted in December of 2007, established a new office within DOE, the Office of Commercial High-Performance Green Buildings, with the purpose of implementing a **Zero-Net-Energy Commercial Buildings Initiative**. The activities authorized under this program complement many the innovative, R&D-type features of the Building Technologies program and will help to disseminate the relevant building practices and technologies to a wider audience. The goal of this initiative is to develop and disseminate technologies, practices, and policies that will lead to zero-net-energy commercial buildings for: 1) new commercial buildings by 2030; 2) for 50% of the commercial building stock by 2040; and 3) all of the existing building stock by 2050. The Director of this new office will undertake various activities in support of this goal, including support of code-setting organizations and state and local governments in developing minimum performance standards in building energy codes "that recognize the ready availability of many technologies utilized in high-performance energy efficient buildings."

Testimony Submitted to the House Appropriations Subcommittee on Energy and Water Development

Submitted by Eugene L. Ames III, Geologist and
Chairman of the Board of the Petroleum Technology Transfer Council
March 19, 2008

Mr. Chairman and members of the Subcommittee, on behalf of the Petroleum Technology Transfer Council (PTTC) and its partners throughout its domestic oil and natural gas industry network, I would like to express our concern about the termination of federal funding for natural gas and oil technology research.

The Administration has proposed to completely stop Department of Energy (DOE) funding for "Petroleum—Oil Technology and Natural Gas Technologies" through the appropriations process. PTTC strongly opposes this policy because it is well known and documented that federally funded R&D investments, in combination with industry R&D investments, have materially increased the domestic oil and natural gas supply. More specifically, a lack of federal funding contributions will have a negative impact on:

- The academic community where tomorrow's scientific professionals gain valuable seasoning through participation in DOE-supported projects in their graduate years;
- The young and newly trained scientific professional which is already entering the workforce at near historic low levels; and
- The domestic petroleum supply, which is developed primarily by independent producers that rely heavily on evolving technologies to exploit mature and problematical petroleum resources.

PTTC acknowledges that the R&D Consortium created and funded through EPACT 2005 (Sect. 999), which is being implemented by the Research Partnership to Secure Energy for America (RPSEA), is providing research in needed areas, which are: (1) onshore unconventional resources, (2) offshore deepwater, and (3) small producers. These needs should be addressed, but funding for small producers is very nominal, plus there are gaps that the Consortium does not cover. These gaps include:

- Enhanced oil recovery (EOR), particularly the interplay of CO_2 flooding with carbon capture as well as heavy and other unconventional sources of oil.
- Field demonstration of newly developed technologies in topic areas outside those addressed by EPACT 2005,
- Technology transfer for proven yet under-applied technologies; and
- Use of existing, integrated technology transfer networks such as that existing within PTTC.

These gaps must be filled for the U.S. to make maximum progress towards energy security. Rightly so, there is recognition that alternative energy sources are important to the U.S.'s energy future. As these are being developed, independent producers who are not capable of performing R&D and who have massive capital commitments to drill new wells will be able to exploit new technology to increase our domestic supplies. Further, the hydrocarbon and alternative energy industries will need to utilize every available scientific professional being seasoned in today's R&D programs. The academic pipeline that trains those new professionals cannot be disrupted by intermittent starts and stops of Federal R&D funding. Thank you.

THE FY 2009 FOSSIL ENERGY RESEARCH AND DEVELOPMENT BUDGET

Testimony of Kerry W. Bowers - Director, Power Systems Development Facility
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Phone: 205.670.5073, Fax: 205.670.5843; email: kwbowers@southernco.com
To the Committee on Appropriations, Subcommittee on Energy and Water
U.S. House of Representatives
March 13, 2008

Mr. Chairman and Members of the Committee:

Southern Company operates the Power Systems Development Facility (PSDF) in Wilsonville, AL (http://psdf.southernco.com) for the U. S. Department of Energy's (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. It has fulfilled this expectation. I would like to thank the House of Representatives for its past support of the PSDF and request the committee's continued support. This statement supports the Administration's budget request for DOE coal R&D which includes about $32.6 million for work at the PSDF. These funds are necessary to conduct the future test program agreed to with DOE which includes wide-ranging support of the DOE Clean Coal Technology Roadmap. A major highlight of the PSDF test program is carbon capture technology development for coal-based power generation (see details below).

A key feature of the PSDF is its ability to test new 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 PSDF 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 PSDF has slip-stream testing capability for cost effective technology screening. Future test work at PSDF will include the scale-up and continued development of several carbon dioxide (CO_2) capture technologies being developed either at DOE's NETL facility, at private R&D laboratories or at PSDF. The DOE program for CO_2 capture in

[1] Current PSDF participants include Southern Company, the Electric Power Research Institute (EPRI), KBR, Siemens Power Generation, Inc. (Siemens), Peabody Energy, the Burlington Northern Santa Fe Railway Company, and the Lignite Energy Council. The Lignite Energy Council includes major producers of lignite (who together produce approximately 30 million tons of lignite annually); the nation's largest commercial coal gasification project; and investor-owned utilities and rural electric cooperatives from a multi-state area that generate electricity from lignite, serving two million people in the Upper Midwest region. The Council also has over 250 contractor/supplier members who provide products and services to the plants and mines. In addition to the Wilsonville plant site major work is planned for the PSDF, or components are being developed at the following locations: Grand Forks, ND (sub-scale gasifier testing); Houston, TX (gasifier development); Orlando, FL (gas turbine low-NO_x burner); Pittsburgh, PA (filter fabrication); Deland, FL (filter fabrication); and Holly Springs, MS (gasifier fabrication).

coal-fueled power plants is divided into three areas: pre-combustion (e.g., treating syngas prior to combustion for power generation), post-combustion (e.g., treating flue gas after combustion for power generation), and oxy-combustion (produces a more CO_2-rich flue gas than conventional combustion for easier CO_2 capture). The PSDF's CO_2 capture efforts would address all three areas. As a part of the effort to capture CO_2, substantial new technologies, such as improved solvents for CO_2 capture or enhanced catalysts for water gas shift technology are needed and will be tested at PSDF. Also included in the PSDF research plans are efforts to enhance the coal feeding systems to enable wider ranges of coal as well as biomass to be economically and reliably introduced into many different versions of IGCC technology under consideration commercially today.

A part of DOE's goals are to encourage the commercial deployment of technologies for which DOE has contributed R&D funding. Consistent with these goals, the PSDF will also provide process technology support to efforts to commercialize transport gasifier technology. The PSDF will provide process support to a recently announced commercial deployment of the transport gasifier to be constructed in Mississippi. This project will showcase the first ever application of modern IGCC technology on Gulf Coast lignites. The PSDF will also support the deployment of other emerging commercial technologies for use on other IGCC systems, including coal feed and particulate control technologies.

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 from advanced coal R&D, the critically important R&D program outlined in the Clean Coal Technology Roadmap must be conducted.

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

One of the key national assets for achieving these benefits is the PSDF. The FY 2009 funding for the PSDF needs to be about $32.6 million to support construction of new technologies that are critical to the goals of the Clean Coal 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 PSDF to date and the future test program planned by DOE and the PSDF's industrial participants are summarized below.

PSDF Accomplishments

The PSDF test facility 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 of operating the test equipment and of working with vendors to develop and improve their technologies. The PSDF has developed testing and technology transfer relationships with over 50 vendors to ensure that test results and improvements developed at the PSDF are incorporated into future plants. In some instances, testing has eliminated technologies 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 PSDF 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: The key to successful pressurized gasifier operation is reliable operation of the coal feed system and ash removal systems. Additional work on the pressurized coal feed systems has increased the understanding and optimization of their performance. Modifications developed at the PSDF 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 a very flexible test platform for testing numerous syngas contaminant removal technologies to improve environmental footprint 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 PSDF 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 has been operated on coal-derived syngas.

PSDF Future Test Program

The PSDF provides a unique platform from which to develop commercially-viable advanced coal-based power generation technologies. It has sufficient flexibility to test a range of technologies and can use its background experience to support future US-DOE projects and help technology developers and suppliers improve and commercialize their products. Future testing at the PSDF is focused on supporting the development of and improving cost-effectiveness of syngas cleanup technologies including those for CO_2 capture and the removal of ammonia, sulfur, and mercury. With adequate funding, work at the PSDF will include:
CO_2 Capture Technologies: Develop, integrate and test advanced and potentially lower cost CO_2 capture technologies to assess their performance on coal-derived syngas and flue gas. The technologies are likely to include enhanced solvents and/or sorbents and catalysts, novel reactor designs, and CO_2 /H_2 separation membranes. PSDF efforts will support all three areas of DOE's CO_2 capture program: pre-combustion, post-combustion, and oxy-combustion.
Water Gas Shift Enhancements - A variety of water gas shift (WGS) reactor configurations and sizes can be tested at the PSDF. The operation of shift catalysts when exposed to syngas at the PSDF will be optimized and their economics will be evaluated.
Advanced Syngas Cleanup: Test new advanced syngas cleanup systems for reducing hydrogen sulfide, hydrochloric acid, ammonia, and mercury to near-zero levels.
New Particulate Control Device (PCD) Programs: Evaluate alternative filter system internal designs, on-line detector of particle breakthrough, newly-developed filter elements, and improved resistance probes. Continue exploration of multiple uses for PCD, such as catalytic filter elements for WGS.
Improved Fuel Feed Systems: Evaluate alternatives that have been identified to conventional lock hopper feed systems and coal preparation methods.
Biomass Co-Feed - Evaluate co-feed options with biomass and coal. Design and run a test to gasify up to a 20% mixture of biomass with coal in the Transport Gasifier.
Transport Gasifier: Continue to assess the performance of the transport gasifier on various coals to expand useable feedstocks, including lignites and bituminous coals as well as biomass mixtures with these coals, and provide syngas for testing of syngas clean-up and downstream systems from these variable fuels.
Syngas Cooler: Test alternative designs that are less complex, have lower capital cost, and offer better control of the syngas exit temperature.
High-Temperature Heat Exchangers: Test high-temperature heat exchangers as they become available for use in both advanced combustion and gasification technologies.
Fuel Cell: Support NETL fuel cell development with slip-stream testing. Install and test a larger scale fuel cell.
Sensors and Automation: Evaluate automation enhancements that simulate commercial control strategies. Further development at gasification operating conditions is planned for measuring coal feed rate, temperature, gas analysis, dust at low levels, and hazardous air pollutants.

THE PORT ISABEL-SAN BENITO NAVIGATION DISTRICT – PORT ISABEL, TEXAS

HOUSE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE ON APPROPRIATIONS

US ARMY CORPS OF ENGINEERS

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We express full support of the inclusion in the FY'09 budget for the full capability of the USACE of..... $4,480,000 – $O & M

President's budget included..... $0 – O & M

Additional funds needed for FY'09.....$0 – O & M

HISTORY AND BACKGROUND

Port Isabel is on the point where Texas Highway 100 meets the Laguna Madre in southeastern Cameron County, sixteen miles northeast of Brownsville. It is connected to South Padre Island by the two-mile-long Queen Isabella Causeway (Park Road 100). The town was incorporated as Port Isabel on March 23, 1928. That year a shallow-draft channel was dredged around the south and west sides of the town. Also in that year, the Rio Grande Railroad was acquired by the Port Isabel and Rio Grande Valley Railway. On July 3, 1930, the River and Harbor Act authorized the expansion of the Port Isabel harbor through the Brazos Island harbor project. In 1933 the ship channel was dredged to a depth of twelve feet and a

width of 125 feet. The first modern use of Port Isabel as a seaport occurred on July 27, 1935. In 1937 a six-foot channel was dredged from Port Isabel to a point two miles east of Harlingen. In 1941 the Port Isabel and Rio Grande sold its track connecting Port Isabel to Brownsville to the St. Louis, Brownsville and Mexico Railway. The channel connecting Port Isabel to Harlingen was full of silt by 1942 and was no longer in use.

The Port Isabel-San Benito Navigation District is one of 12 deep-water ports in Texas with a federally authorized project depth of 36 feet. Formed in 1929 to lower the transportation costs of the agricultural interests of San Benito and the marine interests of Port Isabel, the Port has broadened its scope to serve as the home base for more than 27 businesses that employ more than 600 persons. The principal mission of the Port is to lower transportation costs and to provide land for industrial development.

The Port is one of a select few classified Texas deepwater ports and is positioned at the southernmost tip of Texas to serve Mexico, Central and South America. Through the Texas Intracoastal Waterway, the Port can serve points as close as Corpus Christi and as far as St. Louis and Chicago

PROJECT DESCRIPTION

The project is to dredge the Entrance channel of the Port of Brownsville to Port Isabel and turning basin and to perform placement area dust control measures. Currently, the Coast Guard and Pilots have restricted the Main channel to 37', impacting traffic into Port Isabel. The Channel to Port Isabel is experiencing shoaling, preventing the growth of the port as negotiations are underway with companies involved in offshore oil explorations in the Gulf of Mexico and nearing draft restrictions for current customers.

ECONOMIC IMPACT OF THE PORT OF PORT ISABEL

The Gulf Intracoastal Waterway, completed during the 1950s, increased trade and improved the economic health of Port Isabel, but it also caused problems. A spoil bank from its construction continually dusts the community, and the city's board sought the assistance of the United States government to solve the dust problem. The Queen Isabella Causeway, with a swing bridge across the ship channel between Port Isabel and South Padre Island, was completed in February 1954 at a cost of $2.2 million. The causeway drew tourists to the area. The shrimping industry contributes significantly to the local economy. In 1960 Port Isabel harvested 7,136,000 pounds of shrimp and served as a gateway into South Texas and northern Mexico. The port, equipped for all types of export and import tonnage, handled 444,627 short tons that year. During the 1960s, forty-one million pounds of shrimp annually, 65 percent of the state's production, came from the area. At the annual Shrimp Fiesta held in Port Isabel, among the many ceremonies is a Blessing of the Fleet. In 1978 the Port Isabel Ship Channel had been dredged to thirty-six feet in depth and 200 feet in bottom width. It was 7,144 feet long and had a turning basin thirty-six-feet deep by 1,000 feet wide. The new Queen Isabella Causeway was constructed in 1974 and replaced the original Queen Isabella Causeway, which became known as the Old Fishing Pier. In 1989 the port handled 263,335 short tons of cargo.

Today, the shrimping industry is no longer viable at the Port. The Port has ceased all efforts to attract tonnage from sources to concentrate on offshore oil exploration or production. Two years ago, Amarada Hess Corporation approached the Port and advised them as to the opportunities in offshore service work. The Navigation District Board decided to turn away existing and/or proposed car ferry, offshore gaming, and passenger vessels, to concentrate on offshore oil related jobs.

The Port has now leased or optioned every square foot of existing dock space and available land to offshore service interests. They have ongoing communications with numerous service corporations and major producers with drilling leases in their waters. The Port is preparing permits to build additional docks in anticipation of serving the Perdido Hub Spar that will begin production in 2010. Shell has advised the Port that as the closest port, the Port of Port Isabel will be serving that production facility for 25 years.

A $5,000,000 oil facility service base is under construction at the Port by PILOT Inc. The Port Isabel Logistical Offshore Terminal will serve Shell, Chevron, Petrobras, Hess, ConDiv, Subsea7 and a long list of long-term players in offshore oil exploration and production.

Shell, Hess etc. have extreme interest in Port Isabel's draft. The new classification of OSV's (Offshore Supply Vessel) draw in excess of 30 feet of water loaded. This change in the norm is a function of the long distances to the production fields in the middle of the Gulf of Mexico and the deep water, open ocean sea conditions.

Draft is the first question asked of the Port in any negotiation. The Port's 36-foot project depth and availability of local labor are two precious commodity's the Port's efforts to attract customers.

A typical drilling and/or production rig will consume 60,000 tons per year in fuel alone. Five to seven rigs are anticipated for long-term drilling and production in the Port's area for the foreseeable future; one is on site at the "Great White" Shell/Chevron, and two are to be delivered near Port Isabel in 2008. Delivery vessels, crew vessels and construction vessels working with each production platform will burn an additional 60,000 tons of fuel per year. Drill stem, heavy lift, production pipeline, drilling muds and fluids, sea bottom manifolds, etc will generate an additional 200,000 tons per year. Drill water and potable water will exceed 120,000 tons per year. The above estimates are for the U.S. side of the international border. The Port has ongoing discussions to serve PEMEX's Perdido efforts on the Tampaulipan side of the border. U.S. estimates for oil in Mexican waters 9 miles from Port Isabel exceed 5 billion barrels.

COMMUNITY AND INDUSTRY SUPPORT

The Port Isabel-San Benito Navigation District at project depth can easily accommodate the new deep draft class of offshore supply vessels and land based needs for a wide variety of oil field projects.

The Port is a hub of concentrated economic activity with benefits to be felt far beyond Port Isabel. It is difficult to quantify the effects of the Port on the Valley economy. But know this, the Port Board and the Port Staff have the economic health

of Cameron County foremost in their minds. This philosophy creates a very healthy environment for the entrepreneur. The Port stands ready to help by providing a direct to County, Regional, State, and Federal Business development assistance. The Port provides inexpensive development property and a resort setting that has one of the best labor markets in Texas and the southwest.

The University of Texas Brownsville in partnership with Texas' Southernmost College UTB/TSC is seeking $4,000,000 in grants for job training efforts to serve Offshore and onshore oil field construction firms. ConDiv and CalDiv are financial partners in this effort as well. The Port has an opportunity to train people in their community for living wages jobs in job classifications that provide long-term work. That is the bottom line in any effort of the Port.

The Port is located in Cameron County Texas. It is the second poorest county in the U.S. A living wage job is a dream for a working population where minimum wage is the prevailing wage for adults.

WHAT WE NEED FROM THE SUBCOMMITTEE IN FY'09

The Administration's FY'09 budget included no funding for maintenance dredging, which is vital to the economic growth of the Port, as well as the community of Cameron County; the second poorest county in the nation. Port Isabel is on a ten-year maintenance schedule, so this is an appropriation needed once every 10-12 years and is currently past due. As deliberations on the Energy and Water Subcommittee on Appropriations commence, we would appreciate your help in the addition of $4,480,000 so that this project can move forward and ensure that the Brazos Island Harbor – Port Isabel Channel receive essential maintenance dredging at the federally authorized depth of 36 feet.

PERKINS COUNTY RURAL WATER SYSTEM, INC.
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BISON, SD 57620
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March 3, 2008
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 $6.0 million dollars for fiscal year 2009. This project was authorized under PL 106-136.

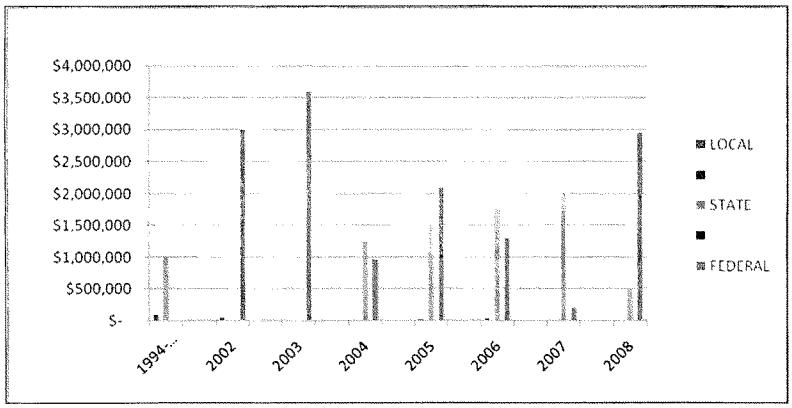
Perkins County Rural Water System, Inc. (PCRWS) gained the approval of the Office of Management and Budget and the Bureau of Reclamation to proceed with construction in 2004. With funding for 2008, we have been appropriated to date $13.7 million. The Administration has zeroed out our funding for 2009. In 2007& 2008, we received $200,000 and $2.9 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. 2008 will be the last year that we will be able to obtain state funds. With local and State funds to date, we would 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 2009 is as follows:

2009 BUDGET	
INCOME	
BUREAU OF RECLAMATION	***$6,000,000***
STATE OF SOUTH DAKOTA	***$ 0***
LOCAL FUNDS	***$ 25,000***
TOTAL	***$6,025,000***
EXPENSE	
FINISH WORK FOR 2008	***$ 450,000***
NORTH DAKOTA STATE WATER COMMISSION	***$1,320,000***
PRAIRIE CITY AREA	***$ 925,000***
BISON RURAL	***$ 925,000***
BOOSTER STATION	***$ 200,000***
ENGINEERING	***$ 450,000***
CONSTRUCTION, OPERATION, MISC	***$1,755,000***
TOTAL	***$6,025,000***

PCRWS would need 7-8 million dollars for the next two years to complete the project by 2011. This consists of 550 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.

RIVERSIDE COUNTY, CALIFORNIA
FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Testimony of Marion Ashley, Chairman, Board of Supervisors

TESTIMONY BEFORE THE
U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
THE HONORABLE PETER J. VISCLOSKY, CHAIRMAN

FISCAL YEAR 2009
ENERGY AND WATER DEVELOPMENT APPROPRIATIONS

PROJECT	REQUEST
MURRIETA CREEK FLOOD CONTROL PROJECT Corps' Construction, General Account	$13,000,000
HEACOCK AND CACTUS CHANNELS WRDA Special Authorization & Corps' Construction, General Account	$28,400,000
FUNDING FOR CERTIFICATION OF CORPS LEVEES Corps' Inspection of Completed Works Account	$3,000,000
SAN JACINTO & UPPER SANTA MARGARITA RIVER WATERSHEDS SPECIAL AREA MANAGEMENT PLAN (SAMP) Corps' General Investigations Account	$355,000
SANTA ANA RIVER-MAINSTEM Corps' Construction, General Account	$108,600,000

Respectfully submitted,

MARION ASHLEY, Chairman
Board of Supervisors
Riverside County Flood Control
and Water Conservation District

The Riverside County Flood Control and Water Conservation District ("District") is responsible for maintaining the safety of residents and businesses within 2,700 square miles of Southern California from floods, which before the District's creation, occurred throughout much of Riverside County during winter rains and monsoon season. Today, through effective engineering, dam and channel construction, regulation, and public education, massive flooding is less common in our region.

I am pleased to appear before the Subcommittee to discuss several of our ongoing and planned projects, and I am grateful for your continued consideration of our FY 2009 appropriations requests. In FY 2009, the District is requesting federal support for five projects, each of which, once completed, would provide vitally important flood protection and other benefits to Riverside County and the surrounding region.

These projects for which the District is requesting federal support are the following: (1) the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project; (2) the Heacock & Cactus Channels (Protection of March Air Reserve Base) Project; (3) Certification of Corps Constructed Levees; (4) development of a Special Area Management Plan for the San Jacinto and Upper Santa Margarita River Watersheds; and (5) the Santa Ana River Mainstem Project.

MURRIETA CREEK FLOOD CONTROL, ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Murrieta Creek continues to pose a severe flood threat to the cities of Murrieta and Temecula. Overflow flooding from the undersized creek with a tributary watershed area of over 220 square miles continues to periodically wreak havoc on the communities. The winter storms in 1993 cost nearly $20 million in damages to the public and private sectors. Almost on a yearly basis, small to moderate storms cause localized damages at numerous locations requiring ongoing repairs. As the area continues to develop, the potential for damages (direct and indirect) continues to increase.

In 1997 the U.S. Army Corps of Engineers initiated studies on the Creek. The final outcome of this endeavor was Congressional authorization in 2000 of the $90 million, multi faceted project known as the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project. This project is being designed and will be constructed in four distinct phases. Phases 1 and 2 include channel improvements through the city of Temecula. Phase 3 involves the construction of a 250-acre detention basin, including the establishment of about 160 acres of new environmental habitat and over 50 acres of recreational facilities. Phase 4 will include channel improvements through the city of Murrieta. Equestrian, bicycle and hiking trails, as well as a continuous vegetated habitat corridor for wildlife are components of the entire 7.5 mile long project.

The Omnibus Appropriations Bill for FY2003 provided $1 million for a new construction start for this critical public safety project and construction activities commenced in the Fall of 2003 on Phase 1. Appropriations for FY2004 and additional funds allocated allowed the Corps to continue construction on Phase 1, which was completed in December 2004. Phase 2 traverses Old Town Temecula, one of the hardest hit areas during the flooding of 1993. The Corps anticipates having a Phase 2 construction contract ready to award in Winter 2008. The District, therefore, respectfully requests the Committee's support of a $13 million appropriation in FY 2009 to allow the Corps to complete the Design Documentation Report, and initiate construction on Phase 2 of the long awaited Murrieta Creek Flood Control, Environmental Restoration and Recreation Project.

HEACOCK & CACTUS CHANNELS - PROTECTION OF MARCH AIR RESERVE BASE

Heacock and Cactus Channels are undersized, earthen channels that border the eastern and northern boundary of the March Air Reserve Base (MARB) located adjacent to the city of Moreno Valley, Riverside County, California. Substantial vegetation becomes established within both channels and impedes the conveyance of tributary storm flows to the existing ultimate outlet located downstream. Storm flows overtop Cactus Channel and traverse MARB causing major disruption of the Base's operation, including the fueling of airplanes and the transport of troops and supplies. The record rainfall of 2004/2005 also caused extensive erosion along Heacock Avenue jeopardizing existing utilities within the road right of way and cutting off access to about 700 residences within the city of Moreno Valley.

Under Section 205 of the Continuing Authorities Program (CAP), the Corps received $100,000 in FY 2005 and completed an Initial Appraisal Report which determined the feasibility of proceeding with a project to provide flood protection to this sensitive area. With the $546,000 received in FY 2006 the Corps completed a Project Management Plan, executed a Feasibility Cost Sharing Agreement and is nearing completion of the Feasibility Study. However, this study found that MARB would receive approximately 75% of the benefits from constructing this project making the use of Section 205 funds inappropriate. Therefore, the project will require Special Authorizing Language to approve and an appropriation of $28.4 million to provide flood protection to MARB.

The District requests support from the Committee for Special Authorization approving the project and authorizing appropriations of $28.4 million to complete the design and construct the project providing this critical military installation flood protection.

CERTIFICATION OF CORPS CONSTRUCTED LEVEES

As part of the Federal Emergency Management Agency's (FEMA) Map Modernization Program, the District, as well as all other agencies, Cities and Counties in the Nation are being required to provide certification of the reliability of all levee structures providing flood protection to our citizens. Many of these projects were constructed by the U.S. Army Corps of Engineers and in these cases, FEMA is requesting that the certification be provided by the Corps. Certification involves an extensive amount of geotechnical analysis, including field and lab material testing, slope stability and seepage checks, hydrologic and hydraulic verification, and other costly and time consuming activities, as well as the review of operation and maintenance records. These projects have an established Federal interest. Therefore, a National Policy needs to be established addressing the need for these Federally constructed projects to be certified by the Corps and authorizing the Corps to perform the required analysis. Furthermore, the Corps should also be authorized to provide Federal assistance for design and construction costs associated with any necessary rehabilitation, repair or reconstruction of projects that are found not to meet the CFR 65.10 FEMA and/or Risk and Uncertainty analysis criteria. Non-conforming levees put the public at risk and should be a Federal priority. Within our District, there are three Corps constructed levees requiring this Federal certification: Santa Ana River Levees constructed in 1958, Chino Canyon Levee constructed in 1972 and San Jacinto River Levee constructed in 1982.

The District requests support from the Committee for the establishment of a National Policy addressing this issue and the authorization and funding needed for the Corps to meet its obligations

to the numerous local sponsors of Federally constructed levees throughout the Country. The Los Angeles District needs an appropriation of $3.0 million for FY 2009 under the Inspection of Completed Works – CA Operations and Maintenance Appropriation 3123 to accomplish the needed certification work.

SAN JACINTO & UPPER SANTA MARGARITA RIVER WATERSHEDS
SPECIAL AREA MANAGEMENT PLAN

In 2001 the Corps began development of a Special Area Management Plan (SAMP) for both the San Jacinto and Upper Santa Margarita Watersheds to address regional conservation and develop plans that protect the environment while allowing for compatible economic development. The final product of the SAMP will be the establishment of an abbreviated or expedited regulatory permitting process by the Corps under Section 404 of the Clean Water Act to assist Federal, State and local agencies with their decision making and permitting authority to protect, restore and enhance aquatic resources, while accommodating various types of development activities. This process will increase regulatory efficiency and promote predictability to the regulated public. The plan will also build on the protection of high value resource areas, as envisioned in the MSHCP. The District requests support from the Committee for a FY 2009 appropriation of $355,000 to complete the work on the nation's largest SAMP for the San Jacinto and Upper Santa Margarita Watersheds.

SANTA ANA RIVER – MAINSTEM

The Water Resources Development Act of 1986 (Public Law 99-662) authorized the Santa Ana River-All River project that includes improvements and various mitigation features as set forth in the Chief of Engineers Report to the Secretary of the Army. The Boards of Supervisors of Orange and San Bernardino Counties as well as the Board for the Riverside County Flood Control and Water Conservation District continue to support this critical project as stated in past resolutions to Congress.

For FY 2009, an appropriation of $108.6 million, is necessary to provide funding for Reach 9 of the Santa Ana River immediately downstream of Prado Dam, continue the construction of Prado Dam features and provide mitigation for the construction of Seven Oaks Dam. The District respectfully requests that the Committee support an overall $108.6 million appropriation of Federal funding for FY 2009 for the Santa Ana River Mainstem Project.

This concludes my testimony regarding the Riverside County Flood Control and Water Conservation District's FY 2009 Appropriations Requests. Thank you again to the Subcommittee for its consideration of these requests.

Testimony of Mayor Joseph C. Donaldson, City of Flagstaff, Arizona
Fiscal Year 2009 Energy and Water Development Appropriations Bill
Rio de Flag Flood Control project
March 19, 2008

Chairman Visclosky, Ranking Member Hobson, 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 2009. 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 three fiscal years, Rio de Flag received more than $13 million to continue construction on this important project. We are extremely grateful that the Subcommittee boosted this project well above the President's request both years, and we would appreciate your continued support for this project in FY 2009.

Like many other projects under the Army Corps's jurisdiction, Rio de Flag received no funding in the president's FY 2009 budget, although the Corps has expressed a capability of $8 million to continue construction on the project and unwavering commitment to the project. 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 2009 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 2009.

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 has 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 at 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 – approximately $54 million (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 2009 Energy and Water Development Appropriations bill. Thank you in advance for your consideration.

TESTIMONY OF
THE RED RIVER VALLEY ASSOCIATION
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
COMMITTEE ON APPROPRIATIONS
FY 2009 'CIVIL WORKS'
U.S. HOUSE OF REPRESENTATIVES

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

The Resolutions contained herein were adopted by the Association during its 83rd Annual Meeting in Shreveport, Louisiana, on February 21, 2008, 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 budget included $4.741 billion for the civil works programs. It is $130 million less than he proposed in FY 2008 and $850 million less than what Congress enacted in the FY 2008 Omnibus Bill, $5.591 billion. 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 $4.741 billion level does not come close to the real needs of our nation. A more realistic funding level to meet the requirements for continuing the existing needs of the civil works program is $8 billion for FY 2009. 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 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.

We want to point out that we appreciate the funding Congress enacted in the FY 2008 Omnibus Bill. Of the $31.466 billion, in the total Energy and Water Bill, $5.591 billion was allocated to 'water' projects, which represents 17.77% of the total bill. This is the highest percent since FY 2002, but still below the 19.7% share in FY 1998. If the water part of the bill was at 20% there would have been $6.293 billion available. We encourage Congress to make the 'water' share 20% of the Bill.

Another proposal allocates O&M funding by watershed regions and eliminates funding by individual project. We do not accept this concept since you will loose ownership and identity of each project; therefore, lose grass root support. If this was done, due to reprogramming constraints, then reprogramming should be addressed. Major reprogramming issues are with CG projects, not with O&M projects. Fund O&M by project, not watershed basins.

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. Soon they may be subject to independent review. 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 priorities and who will determine that, OMB or Congress! We hope Congress keeps their responsibility to set civil works priorities and funding levels.

The president's budget proposes eliminating the current fuel tax to fund the Inland Waterways Trust Fund (IWTF) and replace it with a barge lock-use fee. This change will more than double the levies on the inland barge industry. The needs of the IWTF should be analyzed and determine what minor increase to the existing fuel tax would maintain the necessary income flow to keep projects funded that depend on the Trust Fund.

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, is investing $1 billion in its Rodemacher Plant near Boyce, Louisiana, on the lower Red River and is expected to move over 3 million tons of 'petroleum coke' and limestone, by barge, starting in the 4th quarter 2008. These projects are a reality and there are many more industries considering using our Waterway.

You are reminded that the Waterway is not complete, six percent (6%) remains to be constructed, $121 million. We appreciate Congress's appropriation level in FY 2008 of $6,888,000; however, the President's FY 2009 budget drastically cuts that to $1.5 million, which is unacceptable. 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 2008. There is great optimism that the study will recommend a favorable project; however, the Administration must consider the benefit analysis

by modern day criteria, not by 25 year-old standards. Benefit analysis is by Administration policy and they can consider externality benefits that impact society today. This region of SW Arkansas and NE Texas continues to suffer major unemployment and this navigation project although not the total solution will help revitalize the economy. We request funding of $300,000 to initiate planning, engineering and design, PED.

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, which will occur.

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 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 $6 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 $6 million in FY 2009, '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 a letter from the Oklahoma Governor in support of a re-evaluation report.

Total request for the 'Chloride Control Project': $5,163,000 for the Texas and Oklahoma areas.

Water Supply: Lake Kemp, just west of Wichita Falls, TX, is a major water supply for the needs of this region. Due to siltation the available storage of water has been impacted. A reallocation study is needed to determine water distribution needs and raising the conservation pool. Total O&M of $664,000 is requested for FY 2009 ($214,000 is required for the base annual O&M, $300,000 for the study and $150,000 for service bridge and gate repair).

A water re-allocation study has been completed for Lake Texoma. It will provide for an additional 600,000 acre-feet for municipal use. The release of the study has been delayed at the Corps HQ for over a year. Congress needs to request that this re-allocation study be approved and released.

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 - $350,000; Cross Lake Water Supply Study, LA - $250,000; SE Oklahoma Water Resource Study, OK – $500,000; SW Arkansas Study, AR - $100,000; 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. The '2007 Summer Flood of Record' was devastating to the recreation industry at Lake Texoma, on the main stem Red River, as well as a number of other Oklahoma lakes. We urge you to appropriate funding to address this serious issue, either through an emergency supplemental or the appropriation bill. 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 2009 APPROPRIATIONS ($000)
CIVIL WORKS

I. Studies (GI)	**FY 08 Approp**	**RRVA FY 09 Request**	**President FY 09 Budget**	**Local Sponsor Requirements**
1. Navigation into SW Arkansas: Feasibility	197	300	-0-	(ARRC)
2. Red River Waterway, LA – 12' Channel, Recon	-0-	100	-0-	(RRWC)
3. Bossier Parish, LA	129	350	-0-	(Bossier Levee)
4. Cross Lake, LA Water Supply Supplement	165	250	-0-	(Shreveport)
5. SE Oklahoma Water Resource Study: Feasibility	148	500	-0-	(OWRB)
6. SW Arkansas Ecosystem Restoration: Recon Study	-0-	100	-0-	(ANRC)
7. Cypress Valley Watershed, TX	-0-	100	-0-	(Jefferson)
8. Sulphur River Basin, TX	-0-	1,000	-0-	(Sulphur Auth)
9. Washita River Basin, OK	148	500	-0-	(L)
10. Wichita River Basin above Lake Kemp, TX: Recon	-0-	100	-0-	(WCWID)
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. Red River Waterway, Index to Denison, Bendway Weir	-0-	-0-	-0-	(?)
II. Construction General (CG)				
1. Red River Waterway: J. B. Johnston Waterway, LA	6,888	20,000	1,500	(RRWC)
2. Chloride Control Project, TX & OK	936	5,163	-0-	
3. Red River Below Denison Dam; AR & LA	2,060	8,000	-0-	
a. Bowie County Levee, TX	-0-	-0-	-0-	
4. Red River Emergency Bank Protection	3,277	12,000	-0-	
5. Big Cypress Valley Watershed, TX: Section 1135	-0-	-0-	-0-	
6. Palo Duro Creek, Canyon, TX: Section 205	-0-	100	-0-	(Canyon, TX)
7. Millwood, Grassy Lake, AR: Section 1135	-0-	350	-0-	(?)
8. Little River County/Ogden Levee, AR, PED	-0-	300	-0-	(ASWC)
9. McKinney Bayou, AR, PED	-0-	-0-	-0-	
10. Miller County Levee, AR, Sec 1135	-0-	-0-	-0-	(Miller Levee)
III. Operation and Maintenance (O&M)				
1. J. Bennett Johnston Waterway, LA	11,620	20,339	*(10,555)	
2. Lake Kemp, TX - Total Need	571	664	*(214)	
Basic Annual O&M		214		
Reallocation Study		300		
Service Bridge & Gate Repair		150		
3. Lake Texoma, TX & OK - Total Need	6,859	31,613	*(6,393)	
Basic Annual O&M		6,393		
Supplemental EIS		1,000		
Backlog Maintenance		24,220		
4. OK, TX & AR Lakes – Fund at full Corps capability			*	

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; Blank – No Sponsor required.

NOTE: The President's Budget allocates funding by river basins. Our O&M projects come under Red River, AR & LA with $17,633,000 and 'Upper Red River, OK & TX' with $35,734,000. *( ) Corps designated for FY 2009.

March 10, 2008

Public Witness Testimony for the Record
House Committee on Appropriations Subcommittee on Energy and Water Development
EW.Approp@mail.house.gov

Dear Sirs:

I strongly support retaining 1) full funding ($3.75 million) in the FY 2009 budget of the Department of Energy to Small Producers Program of the RPSEA (Research Partnership to Secure Energy for America), and 2) renewal and full base funding (approximately $3 million) for the cooperative agreement between U.S. DOE and The Pennsylvania State University for the operation of the Stripper Well Consortium (SWC), a program directed at smaller independent producers. These programs are two of the remaining sources of federal funds that support research and technology demonstration used to enhance domestic oil and gas production from marginal assets owned and operated by small independent producers.

Domestic oil production from marginal wells (<10 barrels per day) is significant:

- >400,000 marginal wells produced over 335 million barrels in 2006.
- Kansas has 54,000 marginal wells, 2nd in the nation that have produced 27 million barrels (in 2006), and 4th in the nation (Marginal Oil Well Survey January 1, 2007).
- Marginal oil production in Kansas represents ~94% of its total crude oil produced.

Domestic gas production from marginal wells (<60 thousand cubic feet per day) is significant:

- Nearly 9% of domestic gas production came from marginal wells in 2006 totaling 1.7 trillion cubic feet.
- Kansas ranks 7th in nation in number of marginal gas wells, which number 13,900. These wells have produced 180 Billion cubic feet of natural gas (in 2006), 2nd in the nation for marginal production (Marginal Oil Well Survey January 1, 2007).
- Marginal gas production in Kansas represents ~56% of its total natural gas produced.

In the lower 48 states, small independent producers (<10 employees) drill 85% of the oil and gas wells while producing 65% of the natural gas and ~50% of the oil production. In Kansas 90% of the state's operators are independent producers who own and operate a majority of these marginal oil and gas wells. The Small Producer Program of RPSEA and the SWC provide financial support to enhanced recovery from assets held by these small producers. On their own these independent operators do not have the technical resources to address producibility problems. Neither do they have the financial resources to risk investing in new unproven technologies tailored to their reservoirs and fields. This is where Small Producer

Program of RPSEA and SWC fill a critical void by providing financial support to undertake field demonstration studies of new technology to enhance production from mature reservoirs.

American Energies Corporation (AEC) and the Kansas Geological Survey (KGS) are recipients of funding from the SWC titled, "Demonstration of a low cost 2-tower micro scale N_2 rejection system to upgrade low-BTU gas from stripper wells." We have undertaken a field demonstration study in central Kansas to apply cost-effective technologies to produce natural gas from heretofore unproduced low BTU natural gas reservoirs/wells. The gas resources that could be mobilized to the nation's gas grid are estimated to be over 1 trillion cubic feet. The low BTU resources are known and could be additional natural gas that could contribute to the nation's quest for clean energy with the support of monies delivered to SWC and RPESA. The data, lessons learned, and the plant blueprint would be provided to the independent operators through technology transfer workshops.

Another field demonstration project between the AEC and KGS and funded by RPSEA's Small Producer Program is titled, "Enhancing oil recovery from mature reservoirs using radial-jetted laterals and high-volume progressive cavity pumps." This project addresses a fundamental problem in mature oil fields – how to significantly increase oil production from high water-cut reservoirs? This problem affects many independent oil and gas operators from across the country. Critical funding from RPSEA enables AEC to share the risk of undertaking a project using unproven new technology. This extended study, testing, modeling, and technology transfer can not be carried out by an independent petroleum operator such as AEC or the KGS without this external support provided by RPSEA. The funded project will provide decisive results in a short, one-year timeframe and convey results to the general industry through technology transfer workshops.

We as an independent oil and gas industry are committed to do our part to provide dependable domestic energy. Programs like these that allow collaboration with a research partner and provide data and technology transfer that will keep the domestic industry efficient and effective. American Energies Corporation strongly recommends that the federal FY 09 funding for the SWC and RPSEA's Small Producer Program be retained.

Sincerely,

Alan DeGood
President of American Energies Corporation

OFFICE OF THE GOVERNOR
ROD R. BLAGOJEVICH - GOVERNOR

TESTIMONY ON APPROPRIATIONS
FOR
U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

The State of Illinois supports the following projects in the Administration's FY 2009 budget proposal:

SURVEYS:

Des Plaines River – Phase 2	$500,000
Illinois River Basin Restoration	$400,000
Great Lakes Navigation System Study	$200,000

CONSTRUCTION:

Chain of Rocks Canal	$2,500,000
Chicago Sanitary & Ship Canal Dispersal Barrier	$6,250,000
Chicago Shoreline	$1,000,000
Des Plaines River – Phase 1	$5,620,000
East St. Louis Flood Protection Rehab.	$200,000
Illinois Waterway, Lockport Lock & Dam (Seepage)	$28,600,000
McCook and Thornton Reservoir	$34,000,000
Miss. River Btwn. Ohio & Mo Rivers (Reg. Works)	$5,011,000
Olmsted Lock & Dam	$114,000,000
Upper Mississippi River Restoration	$23,464,000
Wood River Levee	$684,000

OPERATION AND MAINTENANCE:

Illinois supports the Corps' budget for continued satisfactory maintenance and operation of navigation, flood control and multipurpose projects, as well as adequate manpower for public service activities related to the water resources in and bordering the state. Although, the administration's budget request contains nearly $252.2 million for operation and maintenance for the Corps Districts in Illinois, the Administration has modified the structure of the O&M account by appropriating the account on a regional basis and shifting the funding for rehabilitation projects to this account. This skews the O&M account funds, and the disaggregated numbers from the Administration's budget indicate the Corps' future viability and commitment to maintain the inland waterway system, water supply and recreational reservoirs, and to maintain an operational and forecast dependent streamgaging network, can be severely impacted. As an example, there is a need for an additional $16.1 million to satisfy dredging needs and the backlog of maintenance for the Illinois River Waterway. Backlog of maintenance items for the Mississippi River in Rock Island and St. Louis Corps Districts is an additional $83.9 million. The State of Illinois is also concerned that significant cuts to operations and maintenance has led the St. Louis Corps District Corps to propose the close out of camp grounds at Rend Lake, Carlyle Lake, and Lake Shelbyville.

ADDITIONAL FUNDING PRIORITIES:
The State of Illinois also recommends that additional funding be provided for the following projects, which are listed in the general priority order, in the FY 2009 Corps of Engineers' budget:

THE CHICAGO HARBOR LOCK MAJOR REHABILITATION
The Chicago River Lock Rehabilitation is an important project for the State of Illinois. It will reduce leakage of Lake Michigan water into the Chicago Sanitary and Ship Canal and thus will reduce Illinois' Lake Michigan diversion. Reducing leakage at the Chicago River Lock is specifically mentioned in the list of activities in the 1996 Memorandum of Understanding that Illinois, the other Great Lakes states and the U.S. Department of Justice signed to resolve the dispute over Illinois' alleged over diversion of Lake Michigan water. This project is also needed to ensure the safe operation of the lock itself. This lock is the second busiest lock in the country, and while almost all of the traffic is recreational, its value and importance to Chicago and the state is enormous. Currently, no funding is included in the FY 2009 budget for this purpose. To rehabilitate the lock in FY 2009, Illinois requests $8.6 million, which would primarily be used to fund the fabrication of two new gates for the west end of the lock.

ILLINOIS RIVER BASIN RESTORATION
Section 519 of Water Resources Development Act 2000 authorized the Illinois River Basin Restoration. The FY 2009 budget request proposes $400,000 in General Investigations funds for a comprehensive plan. However, the State of Illinois requests that this be increased to $1.0 million in General Investigation funds to complete much of the comprehensive plan that has been developed under other authorizations. Additionally, the State of Illinois requests $8.5 million of Construction General funds to continue construction in FY 2009 of the projects that were authorized in Section 519 as providing substantial restoration and environmental benefits through the comprehensive plan.

DES PLAINES RIVER - PHASE ONE
Section 101(b-10) of the Water Resources Development Act of 1999 authorized Phase I of the Upper Des Plaines River Flood Control Project at a total cost of $68.3 million for the implementation of a series of projects to reduce flood damage along the Des Plaines River. The federal share is approximately $44.4 million (65 percent) and the estimated non-Federal cost is $23.9 million. The U.S. Army Corps of Engineers and the State of Illinois have signed an agreement to begin construction of six of the recommended projects. While $5.6 million is designated to the Levee 37 element of this project in the budget request, we are requesting an additional $5.0 million in the FY 2009 budget to complete the design and initiate the construction of the Big Bend Lake project.

UPPER MISSISSIPPI RIVER AND ILLINOIS WATER-WAY SYSTEM
This program required Congressional authorization, which Congress provided in the Title VIII of the Water Resources Development Act of 2007 (Public Law No. 110-114). Congressional add-on also provided funding for Pre-construction, Engineering and Design (PED) efforts. To proceed with construction of navigation improvements and ecosystem restoration projects, Illinois is requesting an appropriation of $15.0 million for the Corps of Engineers to continue PED, and we recommend construction funding of $35.2 million. The proposed FY 2009 budget contains no funding for this project.

DES PLAINES RIVER FEASIBILITY STUDY - PHASE TWO

An expansion of the Phase I Upper Des Plaines River study was authorized in Section 419 of the Water Resources Development Act of 1999. The projected $25,000,000 in average annual damages, which will remain in the tributary floodplains of the Des Plaines River after the completion of Phase I project construction, is the basis for the expanded study of Phase II. State of Illinois, Lake County, Cook County, and Kenosha County Wisconsin all have appropriated funds under contract for cost sharing in the Phase II study effort. Currently, the FY 2009 budget contains $500,000 to continue the Phase II study effort. Illinois requests an additional appropriation of $500,000 of General Investigation funds to continue feasibility study in FY 2009.

CHOUTEAU ISLAND (ECOSYSTEM RESTORATION)

The Corps of Engineers, St. Louis District, is continuing the feasibility study for ecosystem restoration for the Chouteau Island, Illinois, project authorized under Section 514 (Missouri and Middle Mississippi Rivers Enhancement Project) of the Water Resources Development Act of 1999 (Public Law 106-53). The project is focusing on ecosystem restoration on IDNR-owned land on Chouteau, Gabaret, and Mosenthein Islands in Madison County. Illinois requests an appropriation of $150,000 for the Corps of Engineers to complete the Feasibility Study and initiate Design for the Chouteau Island, Illinois, project. The FY 2009 budget contains no specific funding for this project.

CHAIN OF ROCKS CANAL LEVEE

The levee lying along the east bank of the Chain of Rocks Canal has documented design deficiencies, which must be corrected in order to adequately protect the thousands of residents living behind it. Currently, the FY 2009 budget includes $2.5 million for this purpose. We are requesting additional funding of $8.9 million of construction general funds to advance the construction of the remedial work on the north levee and brumes.

WOOD RIVER LEVEE

The Wood River Drainage and Levee District protects an urban and industrial area in the Mississippi River flood plain in Madison County, Illinois, upstream of the city of East St. Louis. Problems with the integrity of the flood protection system were documented during the 1993 flood including unexpected seepage problems that had to be handled as an emergency. The proposed project addresses both design deficiency and reconstruction issues. To maintain the system's authorized level of protection, Illinois requests an appropriation of $5.5 million to continue with relief well design and construct a portion of the relief wells.

EAST ST. LOUIS & VICINITY (ECOSYSTEM RESTORATION & FLOOD DAMAGE PROTECTION)

The Corps of Engineers, St. Louis District, is continuing design of the project for ecosystem restoration and flood damage reduction at East St. Louis and Vicinity, Illinois (East Side Levee and Sanitary District), authorized by Section 204 of the Flood Control Act of 27 October 1965 (Public Law 89-298). The Water Resources Development Act of 2000 modified this Section, to make ecosystem restoration a project purpose and the Water Resources Development Act of 2007 (Public Law No: 110-114) authorized the construction. The project is focusing on

ecosystem restoration within the American Bottoms area. Illinois requests an appropriation of $375,000 for the Corps of Engineers to continue the Pre- Engineering and Design and documentation of the East St. Louis and Vicinity Project. Currently, the FY 2009 budget contains no funding for this purpose.

KANKAKEE STATE LINE

We urge you to include $196,000 to fund the design and implementation phase of the State Line Kankakee Aquatic Ecosystem Restoration Act Project that was authorized under Section 206 of the Water Resources Development Act of 1996, as amended. We are concerned that the funding level for Section 206 Continuing Authorities Projects requested in the President's budget for FY2009 is not adequate to insure continuation of this project.

RECONSTRUCTION OF ILLINOIS AND MISSOURI FLOOD PROTECTION PROJECTS

10th and 28th Street Pump Stations within the city limits of Cairo, and Flood control levee projects in Brookport, Shawneetown, Old Shawneetown, Golconda, Rosiclare, Harrisburg, and Reevesville, are eligible flood control projects for reconstruction by the Corps authorized by Section 5070 of the Water Resources Development Act of 2007, if reconstruction is not required as a result of improper operation and maintenance of the project. We are requesting $1.0 million be provided in the Corps of Engineers General Investigations funding for Louisville and Memphis Districts to prepare a decision document for addressing the deficiencies of these levee projects.

UPPER MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PLAN

Section 509 of the Water Resources Development Act of 1999 re-authorized the Upper Mississippi River System Environmental Management Program (EMP). In its 20 years of existence, the EMP has become the most significant effort to restore and protect the natural resource values of the Upper Mississippi River. While $20 million is in this year's budget request, we believe this level of funding is below the point that Corps can efficiently continue with the program. To pursue this program efficiently, we believe this program should be pursued at the re-authorized level of $33.25 million as described in Section 509 of the Water Resources Development Act of 1999.

KEITH CREEK

Section 5003 of the Water Resources Development Act of 2007 provides for local community assistance for flood control and dam safety at Keith Creek in Rockford. This is a cost-share project between the Corps of Engineers and the City of Rockford. The State is not a cost share partner to this project but recognizes this project as an important component to the local flood control infrastructure needs of this community. As a result, we are requesting that $684,000 be provided in the Corps of Engineers General Investigations funding for the feasibility study and $1.0 million to start the pre-engineering and design of this project. The FY 2009 budget contains no specific funding for this project.

UPPER MISSISSIPPI RIVER COMPREHENSIVE PLAN

Section 459 of the Water Resources Development Act of 1999 authorized the Upper Mississippi River Comprehensive Plan for the Corps to develop a three-year study to address water resource and related land resource problems and opportunities in the Upper Mississippi and Illinois River Basins. We are requesting that $720,000 be provided in the Corps of Engineers General Investigations funding to advance the Upper Mississippi Comprehensive Plan to the feasibility phase.

MELVIN PRICE LOCK AND DAM

The state of Illinois also requests $750,000 funding for the Corps to continue the cost shared recreation facilities with the city of Alton and $2,600,000 to continue design and construction of punch list items. The FY 2009 budget contains no funding for this project.

SECTIONS 204, 206, & 1135 ENHANCEMENT PROJECTS

Section 204, 206, and 1135 programs offer a wide range of opportunities to address fish and wildlife habitat needs which exist due to past Corps projects and ongoing ecosystem and dredging activities. The Section 206 program provides a proactive tool for federal participation in aquatic ecosystem restoration initiatives where the need for the aquatic restoration activity does not have to directly relate to a prior Corps sponsored project. The State of Illinois strongly urges full funding of these continuing authorities.

Statement of Barry Mayfield
On Behalf of the Southeastern Federal Power Customers Inc.
For the U.S. Army Corps of Engineers 2009 Fiscal Year Budget Request
Before the House Committee on Appropriations Subcommittee
On Energy and Water Development

On behalf of the Southeastern Federal Power Customers, Inc., ("SeFPC") I am pleased to provide comments in support of the entire U.S. Army Corps of Engineers' ("Corps") budget request for Fiscal Year 2009 ("FY '09") that supports hydropower production in the Southeast. The SeFPC is a not for profit corporation that represents municipally owned and rural electric cooperatives in Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, South Carolina, and Virginia. The SeFPC members purchase capacity and energy from the Southeastern Power Administration ("SEPA") which markets hydropower produced at Corps facilities throughout the Southeast.

The appropriations for the Corps are vital to support hydropower production in the Southeast. Notably, the funds that are provided to the Corps for hydropower production are recouped in the power rates charged by SEPA. In other words, the U.S. Treasury receives the monies appropriated back in the form of payments for electric energy. Historically, SEPA has recovered more in the rates than the Corps has received for its hydropower mission in the Southeast.

However, if the Corps does not receive the funds to generate hydropower, SEPA cannot sell the energy and recover the taxpayer's investment in carbon neutral hydropower plants in the Southeast. Therefore, in the interest of protecting and preserving the U.S. Government's investment in carbon neutral electric generation plants, we encourage full funding of the Corps' hydropower mission.

Construction General Funding

The SeFPC supports full funding for the requested amounts in the Construction General accounts that support hydropower generation in the Southeast. At two critical projects in the Cumberland River Basin, the Wolf Creek project in Kentucky and the Center Hill project in Tennessee, the Corps has proposed significant expenditures for dam safety repairs because of well documented risk of total project failure. The $57 million recommended for the Wolf Creek project and the $53.4 million suggested for the Center Hill projects is vital to protect downstream communities.

The funding for the Wolf Creek and Center Hill projects is essential to protect the downstream communities but is also important for hydropower production as well. Since late 2006, the Corps has drastically curtailed hydropower generation at the Wolf Creek project because of the threat of total project failure. Shortly thereafter, the Corps reduced water levels at the Center Hill project because of the potential threat of dam failure as well.

The abrupt changes in the Corps operations of these two projects has increased costs for SeFPC members who rely on the power produced at the Cumberland River projects to reduce the high costs of power during peak demand periods. Because of the loss of this supply of energy, power customers of SEPA have been forced to purchase replacement energy at a cost of $100 million per year while the Corps repairs the Wolf Creek and Center Hill projects.

In the interest of minimizing the additional economic burden, it is vital that the Corps continue the repair work at the Center Hill and Wolf Creek projects on an expedited basis. We understand that the amounts request in the President's FY 09 budget are sufficient to maintain the level of work necessary to bring both of these projects back on line as soon as possible.

Elsewhere in the Southeast, the President's FY '09 budget also includes Construction general funding for the Richard B. Russell Project in Georgia in the amount of $1.450 million and $14 million for the replacement work at the Kerr Project in Virginia. The SeFPC supports the full funding of these amounts as well.

Operations and Maintenance Funding

As a general proposition, the SeFPC supports the Operations and Maintenance (O&M") funding for the Corps activities that support hydropower in several Southeastern river basins. However, once again, the Corps has aggregated funding amounts for O&M on a river basin by river basin basis which precludes the SeFPC from commenting on the actual adequacy of O&M amounts per project. Indeed, our ability to provide testimony to assist the Subcommittee is hampered by the Corps decision to present the O&M funding request in aggregate fashion for the affected river basins in the Southeast. Therefore, it remains difficult for the SeFPC to comment specifically on the precise funding levels for hydropower production and represent that these funding levels are sufficient to maintain hydropower production in the Southeast.

Nonetheless, we generally support the following funding levels for O&M expenditures to support hydropower production at the listed projects in the following river basins:

Alabama –Mississippi River Basin

Georgia

Allatoona
Carters Dam

Total for hydropower $16.639 million

Apalachicola – Chattahoochee – Flint River Basin

Alabama

Walter F George Lock And Dam

Florida

Jim Woodruff Lock And Dam

Georgia

Buford Dam
West Point Dam

Total for hydropower $17.112 million

Cumberland River Basin

Kentucky

Barkley Dam
Laurel River Lake
Wolf Creek Dam

Tennessee

Center Hill Lake
Cheatham Lock
Cordell Hull
Dale Hollow Lake
J Percy Priest Dam
Old Hickory Lock

Total for hydropower $27.103 million

Georgia- South Carolina Basins

Georgia

Hartwell Lake
J Strom Thurmond
Richard B Russell Dam

Total for hydropower $17.612 million

North Carolina Basins

Virginia

John H Kerr
Philpott

Total for hydropower $10.572 million

We thank the Subcommittee for the consideration of our request and remain available to answer any questions that you may have.

Respectfully submitted,

/S/

Barry Mayfield
Chair
Legislative Committee
Southeastern Federal Power Customers, Inc.

SEIA

March 19, 2008

Dear Chairman Visclosky and Ranking Member Hobson:

Thank you for the opportunity to provide to the subcommittee on Energy and Water Development written testimony on the FY 2009 budget. My name is Katherine Gensler, and I am the Manager of Regulatory and Legislative Affairs for the Solar Energy Industries Association (SEIA). SEIA is the national trade association of solar energy manufacturers, dealers, distributors, contractors, installers, architects, consultants and marketers. I come to you on behalf of 750 member companies doing business nationwide. SEIA's objectives are twofold. First, we urge you to increase funding in the Department of Energy's budget for solar research activities. As detailed below, we seek $250 million for solar research and development programs at DOE. Second, we ask that you appropriate funds for four programs authorized in the Energy Independence and Security Act of 2007 (Public Law 110-140). If fully funded at authorized levels, the result would be $125 million for "green jobs" workforce training; $10 million for solar workforce training; $7 million for research into utility-scale solar energy technologies; and $2.5 million for research and development of solar energy cooling systems.

Support for research and development on photovoltaic, concentrating solar power, and solar heating and cooling technologies is crucial for achieving cost-effective solar power, job creation, and, more broadly, increased renewable power production. Increased production from solar sources aids our national energy security and reduces greenhouse gas emissions.

In his 2006 State of the Union address, the President announced the establishment of the Solar America Initiative and set forth the ambitious goal of making solar power cost competitive with other renewable fuels by 2015. Yet the President's FY09 budget proposes a $12 million (7.3%) cut in funding for solar programs at DOE, to levels below not just this year's funding, but the FY07 appropriation, as well.

	FY 2007 Operating Plan (millions)	FY 2008 Appropriation (millions)	FY 2009 Request (millions)	SEIA Request (millions)
Photovoltaic Energy Systems	138.4	136.7	137.1	175.0
Concentrating Solar Power	15.7	29.7	19.0	50.0
Solar Heating & Cooling Systems	3.0	2.0	0.0	25.0
Total, Solar Energy*	**$157.0**	**$168.5**	**$156.1**	**$250.0**

* Totals may not add up due to rounding

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At a time when conventional fossil fuels are becoming more expensive and the world's largest concentrating solar power (CSP) plant to be built since 1990 just went on-line in Nevada, reducing support for solar research and development at the Department of Energy is a move in the wrong direction. We urge you to increase the solar programs budget at DOE to $175 million for Photovoltaic Energy Systems, $50 million for Concentrating Solar Power, and $25 million for Solar Heating and Cooling Systems.

In addition to DOE's traditional research areas, the Energy Independence and Security Act of 2007 created several new solar energy programs. Funding for these programs was authorized as outlined below:

- **Green Jobs Act:** $125 million for training of energy efficiency and renewable energy workers. (Sec. 1002, 121 Stat. 1748)
- **Solar Workforce Training:** $10 million for solar industry workforce training and internship programs (Sec. 604, 121 Stat. 1675)
- **Solar Energy Research and Advancement Act of 2007:** $7 million to support the research, development, and commercial application of utility-scale solar energy technologies. (Sec. 602-3, 121 Stat. 1674)
- **Solar Lighting Research and Demonstration Program:** $3.5 million for the Department of Energy to establish a research and development program to increase demonstrations and deployments of solar energy lighting systems. (Sec. 605, 121 Stat. 1676)
- **Solar Air Conditioning Research and Demonstration Program:** $2.5 million for the Department of Energy to establish a research and development program to increase demonstrations and deployments of solar-powered air conditioning systems. (Sec. 606, 121 Stat. 1676)
- **Solar Innovation Manufacturing Partnerships:** $25 million for a Renewable Energy Innovation Manufacturing Partnership Program. The program would make awards for research, development and demonstration related to the manufacture of renewable energy technologies. (Sec. 656, 121 Stat. 1703)
- **Government and Non-Profit Solar Assistance:** $30 million for the Department of Energy to assist states and other qualifying entities by providing grants and technical assistance to increase demonstrations and deployments of solar energy systems. (Sec. 607 & 803, 121 Stat. 1677 & 1718, respectively)
- **Energy Efficiency & Conservation Block Grant Program:** $2 billion for this program to provide funding assistance to state and local governments to increase energy efficiency and conservation programs, as well as to install in government buildings equipment

to generate electricity from renewable resources, including solar energy. (Sec. 542, 121 Stat. 1668)

Each of these programs is important to SEIA's members and we will continue to seek appropriations to fund them. However, we recognize that new funds are scarce, and call your attention to four programs in particular which we urge you to fund at their fully-authorized level: the Green Jobs Act, Solar Workforce Training, the Solar Energy Research and Advancement Act of 2007, and the Solar Air Conditioning Research and Demonstration Program.

Again, thank you for the opportunity to provide these comments. If you or your staff have additional questions, please feel free to contact me at (202) 682-0556, ext. 93.

Sincerely,

Katherine Gensler
Manager, Regulatory and Legislative Affairs

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 6, 2008

Department of Energy – Elk Hills School Lands Fund:
$9.7 million for FY 09 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 2009, 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 FY 09 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.

We understand that 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 President's FY09 Budget request says 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. (FY09 Budget Appendix, at p. 403). 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 2009 Congressional 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 Stevens Zone [the largest in Elk Hills] is expected to be completed in 2008. A final recommendation for the Shallow Zone is pending." (p. 142). 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 FY 09 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 09 Budget Appendix, at p. 403). 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. 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 nearly 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 its FY 09 budget request.

Conclusion

Therefore, 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 2009 installment of compensation, in order to meet the Federal Government's obligations to the State under the Settlement Agreement.

For more information, contact:
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Washington, DC

Edward Derman, Deputy Chief Executive Officer (916/229-3714)
Jennifer Baker, Director of Legislative Affairs (916/229-3866)
California State Teachers' Retirement System, Sacramento, CA

Sacramento Area Flood Control Agency
Stein Buer, Executive Director
House Committee on Appropriations
Subcommittee on Energy and Water Development, and Related Agencies

March 12, 2008

On behalf of the Sacramento Area Flood Control Agency (SAFCA), its member agencies and the millions of people that may be directly or indirectly impacted by floods in Sacramento, we extend our sincere appreciation to the Committee for the past consideration and support extended to the ongoing local, State and Federal effort to reduce flood risk in the Capital of California. For FY 09, SAFCA respectfully requests $82,500,000 in continued support from the Army Corps of Engineers' construction account.

According to the U. S. Army Corps of Engineers (Corps), Sacramento's flood risk continues to be the highest of major urban areas in the country. Located at the confluence of the Sacramento and American Rivers, the Sacramento floodplain contains 165,000 homes, over 488,000 residents, 1300 government facilities including the State Capital, and businesses providing 200,000 jobs. It is the hub of a six-county regional economy that provides 800,000 jobs for 1.5 million people. A major flood along the American River or the Sacramento River would cripple this economy, cause between $7.0 and $16.0 billion in direct property damages and likely result in significant loss of life.

The devastating flood of February 1986 revealed that Sacramento's defenses provided less than 100-year flood protection, far less than previously thought. SAFCA was created in 1989 to work with the Corps and the State to improve the Sacramento region's flood protection as rapidly as possible. Much progress has been made since then, with a combined investment of over $485,000,000 in levee improvements, reservoir operations, and floodplain restoration. Nevertheless, much remains to be done. In collaboration with the Corps and the State, SAFCA is pursuing completion of levee improvements needed to achieve the minimum 100-year level of flood protection, while advancing measures which will lead to better than 200-year flood protection over the next decade.

SAFCA's Federal Fiscal Year (FFY) 2009 Federal Budget requests are shown in order of priority in Table 1. Consistent with previous years' requests, SAFCA's top priority is achieving 100-year level flood protection for the Sacramento area. While this goal has now been achieved for most of the community, work along the tributaries of Morrison Creek needs to move forward at Corps capability to achieve this level of protection for about 6,000 residential properties (about 16,000 people). Therefore the South Sacramento Streams Group Project, which includes this work, remains the top priority.

The American River Common Features Project needs to continue at capability as well, to complete project elements needed to safely convey 160,000 cfs in the Lower American River and to continue the efforts of evaluating the system to provide a minimum level of 200-year protection.

The Folsom Dam Joint Federal Project relies on the authority of the Folsom Dam Modifications Project and Reclamation's Dam Safety Program for the construction of an auxiliary spillway on the

south abutment of the dam. This is the cornerstone of Sacramento's 200-year flood program, for which planning and design need to proceed at Corps capability levels. SAFCA supports the continuing planning for up to a 3.5 foot raise of Folsom Dam embankments. Completion of the Folsom Bridge will be completed in 2009.

Table 1. Federal Fiscal Year 2009 Appropriations Requests (millions)

PROJECT	Proposed 2009 Federal Budget Feb 2008	SAFCA 2009 Request Feb 2008	Requested Increase
South Sacramento Streams Group: Construct levee and channel improvements to prevent flooding in south Sacramento where floodwaters from four creeks threaten 100,000 residents.	$12.000	$18.000	$6.000
American River Common Features: Raise and reinforce levees to assure 100-year flood protection for the urban Sacramento area from the American and Sacramento Rivers and study efforts to provide 200-year protection.	$13.000	$20.000	$7.000
Folsom Dam Outlet Modifications: Construct an auxiliary spillway at Folsom Dam to more efficiently manage flood storage in Folsom Reservoir.	$9.000	$9.000	$0
American River Plan (Folsom Dam Mini-Raise): Continue design of the Folsom Mini-Raise	$0	$1.000	$1.000
Sacramento River Bank Protection: Repair critical erosion sites and mitigate for impacts throughout the Sacramento River Flood Control System, including the urban Sacramento area.	$23.968	$30.000	$6.032
Natomas Phase I Reimbursement: Previously appropriated funds, not yet received by SAFCA for federally authorized and completed work on the North Area Local Project	$0	$4.500	$4.500
TOTAL	$57.968	$82.500	$24.032

Updates on progress on each of the referenced projects are provided in the following paragraphs.

South Sacramento County Streams Group Project:

This project will provide a minimum of 100-year flood protection from the Morrison Stream Group, including Morrison Creek, Florin Creek, Elder Creek, and Unionhouse Creek when completed. This project protects the existing community, as well as helps facilitate the City's economic development goals for the South Sacramento region. SAFCA, the State, and the Corps are working together to expedite construction of this project. Levee improvements around the Regional Wastewater Treatment Plant were completed in 1996. The Morrison Creek north levee from the Sacramento River east to the Union Pacific Railroad, and north to Brookfield Drive were completed in 2005-2006. In 2007, levee improvements were constructed along Morrison Creek and tributaries as far east as Franklin Boulevard. In 2008, channel improvements will be made to Unionhouse Creek from UPRR

to Center Parkway, floodwall improvements on Elder Creek and Florin Creek to Franklin Boulevard.

American River Common Features Project:

American River Levees
Construction of the Mayhew levee improvements is underway with completion of the work expected by the end of 2008. Additional levee improvements to address gaps in the slurry walls along the American River levees on both sides of the river, and to provide levee height parity are expected to go to construction in 2008 and 2009. This work will go a long way towards meeting the goal of safely conveying 160,000 cubic feet per second through Sacramento, which will be required to provide 200-year flood protection on the American River.

American River Common Features General Re-evaluation Report (GRR)
The Corps is studying alternatives for levee improvements needed to provide the Natomas basin with 200-year flood protection. The Corps study will proceed concurrently with SAFCA's construction of those improvements. The Central Valley Flood Control Board has requested Section 104 Credit for levee improvements constructed by SAFCA, with the goal of obtaining federal reimbursement for State and SAFCA funding for construction of these improvements over the next several years. Funding for the Corps study effort is needed to keep the Corps study on schedule for completion of the GRR in 2010, thus paving the way for Congressional reimbursement for State and SAFCA expenditures in 2010 and beyond.

Under the Common Features authorization, the Corps has initiated a GRR to include reconnaissance planning for measures which may be needed to provide 200-year flood protection for Natomas, the Sacramento River East levee south of the American River and to evaluate erosion on the American River. This comprehensive GRR under the American River Common Features Authority will address all elements needed to improve the levees to provide 200-year level of protection to the area. The report is expected to be included in the WRDA 2010.

Folsom Dam Modifications: Joint Federal Project
This project includes construction of a new auxiliary spillway on the east abutment to Folsom Dam. This new spillway will both provide sufficient release capacity to allow Folsom Dam to control the 200-year flood, as well as to safely pass a Probable Maximum Flood without overtopping the dam. Since June of 2005 the Corps, Bureau of Reclamation, the State of California, and SAFCA have rapidly advanced planning for this project, including a joint EIR/EIS, a Post Authorization Change (PAC) Report by the Corps, and a Reclamation Dam Safety Modifications Report. All these reports are completed and work on the project has begun through the Bureau of Reclamation's Dam Safety program. The project will be jointly constructed by the Corps and Reclamation, with the State and SAFCA serving as non-federal cost sharing partners. The Corps will continue to design their portion of the JFP. Construction by the Corps is slated to start in 2010.

Folsom Dam Raise Project:
Based on current Corps design studies, a raise of up to 3.5 feet of the dikes and wingdams around Folsom Lake may be constructed under this project authority in conjunction with the Folsom Dam Modifications project. The Folsom Dam Bridge, an authorized part of this project, is currently under

construction by the Corps. The bridge is expected to open for traffic by mid-2009. Ecosystem restoration is also an authorized component of this project, focusing on improving salmonid habitat in the Lower American River through improved temperature control for Folsom Dam releases.

Sacramento River Bank Protection Project:
This program, executed by the Corps in close collaboration with the State, has been very effective in rapidly addressing serious erosion defects in levees protecting the Sacramento area and in other parts of the central valley. Additional funding is needed to continue repairs of critical erosion issues within the river system and to avoid levee failures associated with an eroding levee system.

Natomas Phase I Reimbursement:
SAFCA is seeking reimbursement for work completed on Natomas levees under federal authority. A total of $21 million in reimbursements have been authorized and appropriated, of which $16.5 million has been paid to SAFCA, leaving about $4.5 million which has been appropriated but not reimbursed to SAFCA. SAFCA needs the $4.5 million to help fund SAFCA's flood control improvement efforts.

SOUTHERN UTE INDIAN TRIBE

OFFICE OF THE CHAIRMAN

February 22, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

On behalf of the Southern Ute Indian Tribe, I am requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Michelle Olguin for
Clement J. Frost, Chairman

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

Name: **John Porter and Bruce T. Whitehead**
Title: **President Executive Director**
Institution: **Southwestern Water Conservation District**
Contact: (phone, fax, email) (970)247-1302, (970)259-8423, brucew@southwesternwater.org

February 14, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

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I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

John Porter
President
Southwestern Water Conservation District

Bruce T. Whitehead
Executive Director
Southwestern Water Conservation District

Name: **Russell Huffman**
Title: **Plant Manager**
Institution: **PNM/San Juan Generating Station**
Contact: **505-598-7814 phone**
505-598-6036 fax
Russell.Huffman@pnm.com

February 13, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

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I appreciate the Subcommittee's past support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Russell Huffman
Plant Manager
San Juan Generating Station

San Juan Water Commission
7450 East Main Street, Suite B • Farmington • New Mexico • 87402
Ph: 505-564-8969 • Fax: 505-564-3322 • Email: sjwcoffice@sjwc.org

MEMBERS:
City of Aztec
City of Bloomfield
City of Farmington
San Juan County
S.J. County Rural Water Users Association

Mark Duncan, Chairman
San Juan Water Commission
7450 E. Main Street
Farmington, NM 87402

February 13, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

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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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,
Mark Duncan, Chairman
San Juan Water Commission

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Upper Penitencia Creek Flood Protection Project
Santa Clara County, California

Summary

This statement urges the Committee's support a Fiscal Year 2009 Administration budget request of $191,000 and an appropriation add-on of $171,000, for a total of $362,000 to complete the feasibility study for the Upper Penitencia Creek Flood Protection Project.

Statement of Support
Upper Penitencia Creek Flood Protection Project

Background. The Upper Penitencia Creek Watershed is located in northeast Santa Clara County, California, near the southern end of the San Francisco Bay. In the last two decades, the creek has flooded in 1980, 1982, 1983, 1986, 1995, and 1998. The January 1995 flood damaged a commercial nursery, a condominium complex, and a business park. The February 1998 flood also damaged many homes, businesses, and surface streets.

The proposed project on Upper Penitencia Creek, from the Coyote Creek confluence to Dorel Drive, will protect portions of the cities of San Jose and Milpitas. The floodplain is completely urbanized; undeveloped land is limited to a few scattered agricultural parcels and a corridor along Upper Penitencia Creek. Based on an August 2004 U.S. Army Corps of Engineers' (Corps) Economics Analysis, over 5,000 homes and businesses in the cities of San Jose and Milpitas are located in the 1 percent or 100-year flood area. Flood damages were estimated at $455 million. Benefit to cost ratios for the nine project alternatives range from 2:1 to 3.1:1.

Study Synopsis. Under authority of the Watershed Protection and Flood Prevention Act (PL 83-566), the Natural Resources Conservation Service (formerly the Soil Conservation Service) completed an economic feasibility study (watershed plan) for constructing flood damage reduction facilities on Upper Penitencia Creek. Following the 1990 U.S. Department of Agriculture Farm Bill, the Natural Resources Conservation Service watershed plan stalled due to the very high ratio of potential urban development flood damage compared to agricultural damage in the project area.

In January 1993, the Santa Clara Valley Water District (District) requested the Corps proceed with a reconnaissance study in the 1994 fiscal year while the Natural Resources Conservation Service plan was on hold. Funds were appropriated by Congress for Fiscal Year 1995 and the Corps started the reconnaissance study in October 1994. The reconnaissance report was completed in July 1995, with the recommendation to proceed with the feasibility study phase. The feasibility study, initiated in February 1998, is currently scheduled for completion in 2009.

Advance Construction. To accelerate project implementation, the District submitted a Section 104 application to the Corps for approval to construct a portion of the project. The application was approved in December 2000. The advance construction is for a 2,600-foot long section of bypass channel between Coyote Creek and King Road. However, due to funding constraints at the District and concerns raised by regulatory agencies, the design was stopped and turned over to the Corps to complete.

Fiscal Year 2008 Funding. Congress appropriated $229,000 to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support an appropriation add-on of $171,000, in addition to the $191,000 in the Administration's Fiscal Year 2009 budget request, for a total of $362,000 for the Upper Penitencia Creek Flood Protection Project to continue the Feasibility Study.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Llagas Creek Project
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $1.8 million for planning, design, and environmental updates for the Llagas Creek Flood Protection Project.

Statement of Support
Llagas Creek Project

Background. The Llagas Creek Watershed is located in southern Santa Clara County, California, serving the communities of Gilroy, Morgan Hill and San Martin. Historically, Llagas Creek has flooded in 1937, 1955, 1958, 1962, 1963, 1969, 1982, 1986, 1996, 1997, 1998, 2002, and 2008. The 1997, 1998, and 2002 floods damaged many homes, businesses, and a recreational vehicle park located in areas of Morgan Hill and San Martin. These are areas where flood protection is proposed. Overall, the proposed project will protect the floodplain from a 1 percent flood affecting more than 1,100 residential buildings, 500 commercial buildings, and 1,300 acres of agricultural land.

Project Synopsis. Under authority of the Watershed Protection and Flood Prevention Act (PL-566), the Natural Resources Conservation Service completed an economic feasibility study in 1982 for constructing flood damage reduction facilities on Llagas Creek. The Natural Resources Conservation Service completed construction of the last segment of the channel for Lower Llagas Creek in 1994, providing protection to the project area in Gilroy. The U.S. Army Corps of Engineers (Corps) is currently updating the 1982 environmental assessment work and the engineering design for the project areas in Morgan Hill and San Martin. The engineering design is being updated to protect and improve creek water quality and to preserve and enhance the creek's habitat, fish, and wildlife while satisfying current environmental and regulatory requirement. Significant issues include the presence of additional endangered species including red-legged frog and steelhead, listing of the area as probable critical habitat for steelhead, and more extensive riparian habitat than were considered in 1982.

Until 1996, the Llagas Creek Project was funded through the traditional PL-566 federal project funding agreement with the Natural Resources Conservation Service paying for channel improvements and the District paying local costs including utility relocation, bridge construction, and right of way acquisition. Due to the steady decrease in annual appropriations for the PL-566 construction program since 1990, the Llagas Creek Project had not received adequate funding to complete the PL-566 project. To remedy this situation, the District worked with congressional representatives to transfer the construction authority from the Department of Agriculture to the Corps under the Water Resources Development Act of 1999 (Section 501). Since the transfer of responsibility to the Corps, the District has been working the Corps to complete the project. In November 2007, Congress passed the Water Resources Development Act of 2007 (Public Law 110-114, Section 3022) revising the estimated total project cost for the remaining reaches of the project to $105 million with a federal share of $65 million and a local share of $40 million. The bill language also directs the Corps to complete the construction of the project.

Fiscal Year 2008 Funding. Congress did not appropriate any funding to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. Based upon the high risk of flood damage from Llagas Creek, it is requested that the Congressional Committee support an appropriation add-on of $1.8 million in Fiscal Year 2009 for planning, design, and environmental updates for the Llagas Creek Project.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Upper Guadalupe River Project
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $12.5 million to continue construction for the Upper Guadalupe River Flood Protection Project.

Statement of Support
Upper Guadalupe River Project

Background. The Guadalupe River is one of two major waterways flowing through a highly urbanized area of Santa Clara County, California, the heart of Silicon Valley. Historically, the river has flooded the central district and southern areas of San Jose. According to U.S. Army Corps of Engineers (Corps) 1998 feasibility study, severe flooding would result from a 100-year flooding event and potentially cause $280 million in damages.

The probability of a large flood occurring before implementation of flood prevention measures is high. The upper Guadalupe River overflowed in March 1982, January 1983, February 1986, January 1995, March 1995, and February 1998, causing damage to several residences and businesses in the Alma Avenue and Willow Street areas. The 1995 floods in January and March, as well as in February 1998, closed Highway 87 and the parallel light-rail line, a major commute artery.

Project Synopsis. In 1971, the Santa Clara Valley Water District (District) requested the Corps reactivate an earlier study of Guadalupe River. From 1971 to 1980, the Corps established the economic feasibility and federal interest in the Guadalupe River only between Interstate 880 and Interstate 280. Following the 1982 and 1983 floods, the District requested that the Corps reopen its study of the upper Guadalupe River upstream of Interstate 280. The Corps completed a reconnaissance study in November 1989, which established an economically justifiable solution for flood protection in this reach. The report recommended proceeding to the feasibility study phase, which began in 1990 and was completed in 1998. Preconstruction Engineering and Design commenced in 1999 and currently several reaches are ready for construction.

The Upper Guadalupe River Flood Protection Project was first authorized for federal construction in the Water Resources Development Act of 1999 (Section 101). This authorization was for a project cost of $140 million with an unfavorable cost-sharing formula. In November 2007, Congress passed the Water Resources Development Act of 2007 (Public Law 110-114, Section 3037) for an estimated revised project cost of $256 million with a federal share of $136.7 million and local share of $119.3 million.

Project cooperation agreement signed on July 21, 2007, and construction is planned to commence in July 2008.

Fiscal Year 2008 Funding. Congress appropriated $439,000 to the project in the Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support an appropriation add-on of $12.5 million in Fiscal Year 2009 to continue construction on the Upper Guadalupe River Flood Protection Project.

TO: UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS
THE HONORABLE PETER VISCLOSKY, CHAIRMAN

CALAVERAS COUNTY WATER DISTRICT

STATEMENT REGARDING FISCAL YEAR 2009
ARMY CORPS OF ENGINEERS APPROPRIATIONS REQUESTS BEFORE THE SUBCOMMITTEE

PROJECT REQUESTS

CALAVERAS COUNTY REGIONAL WATER/WASTEWATER AND RECYCLED WATER FACILITIES PROGRAM- PHASE II
$600,000 (Construction General- Section 5039)

NEW HOGAN WATER DISTRIBUTION SYSTEM
$600,000 (Construction General- Section 219)

COSGROVE CREEK FLOOD CONTROL PROJECT
$200,000 (Construction General- Section 205)

Respectfully Submitted,

Bob Dean
President
March 2008

Calaveras County Water District
423 East St. Charles Street
Post Office Box 846
San Andreas, California 95249

OVERVIEW

On behalf of the Calaveras County Water District, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 2009 and, at the same time, express our appreciation for your support of the District's projects in recent years. The Calaveras County Water District is respectfully seeking the following requests before the House Energy and Water Development Appropriations Subcommittee from the U.S. Army Corps of Engineers during fiscal year 2009. We are seeking $600,000 from the Corps Construction General Account-Section 5039 for the Calaveras County Regional Water/Wastewater and Recycled Water Facilities Program-Phase II; $600,000 from the Corps of Engineers Construction General Account- Section 219 for our New Hogan Water Distribution System request and $200,000 from the Corps of Engineers Construction General Account-Section 205 for the Cosgrove Creek Flood Control Project.

As background, the Calaveras County Water District (CCWD) was founded in the fall of 1946 and was organized under the laws of the state of California as a public agency for the purpose of developing and administering the water resources in Calaveras County. Therefore, CCWD is a California Special District and is governed by the California Constitution and the California Government and Water Codes. CCWD is not a part of, or under the control of, the County of Calaveras. CCWD was formed to preserve and develop water resources and to provide water and wastewater service to the citizens of Calaveras County

Under state law, CCWD, through its board of directors, has general powers over the use of water within its boundaries. These powers include , but are not limited to: the right of eminent domain, authority to acquire, control, distribute, store, spread, sink, treat, purify, reclaim, process and salvage any water for beneficial use, to provide sewer service, to sell treated or untreated water, to acquire or construct hydroelectric facilities and sell the power and energy produced to public agencies or public utilities engaged in the distribution of power, to contract with the United States, other political subdivisions, public utilities, or other persons, and subject to the California State Constitution, levy taxes and improvements.

CALAVERAS COUNTY REGIONAL WATER/WASTEWATER AND RECYCLED WATER FACILITIES PROGRAM- PHASE II
$600,000 (Construction General- Section 5039)

The Calaveras County Water District proposes a multi-phase, collaborative project to investigate strategic opportunities to correct water and wastewater utility deficiencies along the Highway 4 corridor in the Stanislaus River Watershed of Calaveras County.

Utility regionalization and improved coordination are needed to support sustainable practices in the Sierra Nevada foothill communities. This project would create partnerships between local, state, and federal agencies so that infrastructure improvements, replacement needs, and growth decisions can be coordinated in a manner that respects connections between water, wastewater, land use, and development within the watershed thereby greatly enhancing the utilization and safeguarding of our region's water resources.

To accomplish these objectives CCWD will partner with Calaveras County, the City of Angels, Murphys Sanitary District, Union Public Utility District, and the Utica Power Authority. Through the identification of particular problem areas and collaboration with our local partners a 'living' model will be developed to examine strategies for regionalizing water and wastewater facilities. A technical team consisting of project partners will develop preliminary concept plans based on shared goals, objectives, and priorities. Information will be circulated among all stakeholders and a strong community involvement plan will be put forth that will incorporate the suggestions of the public and interested non-governmental organizations. This original model will then be further refined to evaluate concepts achieving maximum beneficial use to ensure a sustainable, cost-effective concept plan emerges for regional watershed implementation.

Cost breakdowns for this critical project in fiscal year 2009 are listed as follows: Negotiation of Project Partnership Agreement (PPA) and Initial planning, design, and construction contract $50,000; development of regional water/wastewater and recycled water master plan concept $50,000; summary of existing facilities and regulatory setting $50,000; evaluation of wastewater and water supply needs $75,000; formulation and evaluation of alternatives $200,000; development of institutional partnerships and public outreach $100,000; and reparation of Feasibility Study $75,000.

NEW HOGAN WATER DISTRIBUTION PROJECT

The New Hogan Water Distribution Project is a multi-phased project that will improve the region's water supply, significantly increase and protect water quality and provide significant environmental restoration that will greatly increase habitat for local wildlife while increasing recreational opportunities for the local community. The project will include monitoring facilities to continually evaluate the region's sensitive groundwater basin and its response to conjunctive use operation and will also include enhanced modeling tools that evaluate the effectiveness of planned or proposed facilities for expanding conjunctive use in the region.

The project will provide a sustainable water supply for the region in the face of significant population growth, the continued threat of severe drought and the unknown impacts global climate change will have on the region's water supply. In addition, the project will benefit all of California as it will minimize the losses of naturally occurring springs and will improve stream-flow conditions for river tributaries of the Sacramento-San Joaquin River Delta which provides water to two-thirds of the State of California.

Cost Breakdowns for this project in fiscal year 2009 are listed as follows: Negotiation PPA and initial planning, design, and construction contract $50,000; develop Calaveras-Mokelumne Master Plan Concept $50,000; water supply and demand analysis $75,000; alternatives formulation and analysis $175,000; environmental program development $75,000; development of institutional partnerships and public outreach, $100,000; development of Feasibility Report. $75,000.

Cosgrove Creek Flood Control Project

Finally, CCWD, in conjunction with Calaveras County, is seeking $200,000 in Section 205 funding for The Cosgrove Creek Flood Control Project. The project will address flooding that

occurs along the lower reaches of the creek, as well as flooding that occurs on Spring Creek. Flooding in these areas impacts over 400 people and 100 structures located in the 100-year floodplain. In addition to providing critical flood control for the region, the project will also provide a number of ancillary benefits including; the beneficial use of flood flows including sprayfields, conjunctive use of recycled water and wetlands restoration. In addition, the project will provide additional riparian habitat and much-needed recreational opportunities through the creation of hiking/riding trails and numerous athletic fields for use by the local community. The Calaveras County Water District respectfully requests $200,000 for this project in FY 2009 from the Corps of Engineers Construction General account.

OUTSIDE WITNESS STATEMENT

Mayor Susan Narvaiz

Submitted by the City of San Marcos, Texas

House Committee on Appropriations
Subcommittee on Energy and Water Development, and Related Agencies

March 19, 2008

In Support of the

San Marcos River Ecosystem Project

San Marcos, Texas

SUMMARY

Project Title:	San Marcos River Ecosystem Restoration Project (Spring Lake and Upper San Marcos River project combination)
Request:	Combine and fund two related Ecosystem Restoration Projects on the upper segment of the San Marcos River in San Marcos, Texas
Agency:	U.S. Army Corps of Engineers
Act:	FY09 Energy and Water Appropriations Bill for U.S. Army Corps of Engineers project, Section 206 Ecosystem Restoration Project.
Amounts:	City of San Marcos, Texas: $439,000 for Phase II Detailed Restoration Plan; Texas State University: $946,000 for Phase III Implementation/ Construction for FY09.

The City of San Marcos, Texas and Texas State University-San Marcos have embarked on two San Marcos River Ecosystem Restoration Projects to rehabilitate seriously degraded aquatic and terrestrial habitat along the upper segment of the San Marcos River, critical habitat for eight federally listed threatened or endangered species. The University's Spring Lake Project provides for the removal of structures and pavements in an old theme park, removal of non-native terrestrial vegetation, restoration of native grasses, removal of a submarine theatre, and establishment of a buffer zone of native plants. The City of San Marcos project will restore and sustain approximately 22.0 acres of riparian woodland habitat, 6.0 acre of tall grass prairie habitat, 4.0 acres of emergent wetland habitat and 16.0 acres of aquatic habitat in a one mile stretch of the San Marcos River.

The City of San Marcos seeks support for combining the City's Section 206 application for funding from the U.S. Army Corps of Engineers with the appropriations request for the project sponsored by Texas State University in order to move forward with two vitally important related projects. The Texas State University project, Phase III construction requests $946,000 for FY09. The City of San Marcos seeks $439,000 for a Phase II Detailed Restoration Plan as part of an overall project costing $4,520,000, with a City share of $1,300,000.

BACKGROUND

The City of San Marcos has sought funding from the U.S. Army Corps of Engineers for an ecosystem restoration project on the San Marcos River since 2003 under Section 206, Water Resources Development Act of 1996. The project would rehabilitate and enhance degraded aquatic and terrestrial habitat along and within the San Marcos River. Since we first began applying for this funding, erosion and habitat deterioration along the river continue to worsen.

In 2005 the City received $10,000 for a preliminary restoration plan in Phase I. We have applied for the next phase of funding of $439,000 for a detailed restoration plan in subsequent years but did not receive the funding. The total cost of the City project is $4,520,000, with an approximate City share of $1,300,000. The City recently learned that we will receive $100,000

from the Corps of Engineers from FY08 funds to initiate Phase II of our project. Texas State University also has applied for a Section 206 grant from the U.S. Army Corps of Engineers in recent years for the habitat restoration of Spring Lake upstream from our project. They are now in Phase III of the funding cycle. The university project will remove buildings and facilities once associated with the former Aquarena Springs amusement park and restore the banks and habitat of Spring Lake.

City of San Marcos and Texas State University officials have discussed the possibility of combining the two ecosystem restoration projects since both address critical habitat in the same segment of the San Marcos River. The entities have agreed to look into adding the City's funding request of $439,000 to the University's Section 206 appropriations request.

The City project is immediately downstream of the University project. Combining the projects would support the ongoing partnership of Texas State University and the City of San Marcos to establish a contiguous river park corridor from the headwaters at Spring Lake to the Interstate 35 and enable the City portion of the habitat restoration project to obtain the needed funding to develop the detailed restoration plan.

The City of San Marcos City Council adopted a resolution on March 3, 2008 in support of this endeavor.

The spring-fed San Marcos River offers one of rarest aquatic ecosystems found in the United States. The headwaters of the river originate from underground springs from the Edwards Aquifer, producing millions of gallons of crystal clear, constant temperature water daily. The river creates a unique ecosystem supporting eight threatened or endangered species that live in the Springs and the San Marcos River. (Blind salamander, Fountain darter, Comal Springs riffle beetle, Comal Springs dyropid beetle, Peck's cave amphipod, San Marcos gambusia--not seen in the wild for nearly 30 years--Texas wild-rice and the threatened San Marcos Salamander.)

The San Marcos River has attracted humans to its banks for more than 12,000 years, making San Marcos, Texas one of the oldest continuously inhabited places in the United States. The City of San Marcos has strived for the past 40 years to protect the river by establishing parks along its banks and restricting intense development. Still, the constant use of the popular river over many decades has impacted the riparian and aquatic habitat of the river, requiring restoration of this valuable waterway.

The San Marcos River and associated tributaries have experienced aquatic ecosystem degradation due to a variety of human factors. Impoundment of water upstream, in its tributaries, and within the study area has altered the normal flow regime of the San Marcos River. The native aquatic plant communities within the San Marcos River have been displaced by invasive exotic and generalist plant species.

Increased nutrient and sediment loads from overland surface flow, tributary runoff, non-point sources and storm water drainage have reduced water quality and in-stream habitat values within the river. The majority of the bottomland plant community within the study area is highly

disturbed and fragmented due primarily to urban encroachment, installation of hardpan surfaces, recreational disturbance and invasion of non-native plant species.

This degradation has resulted in the loss of high quality in-stream and riparian habitat for plant and wildlife species within the study area. The proposed restoration plan will help restore aquatic and terrestrial habitat that has degraded due to human activity, including critical habitat for the federally-listed species.

The City of San Marcos is located in south central Texas in Hays County, approximately 30 miles southwest of Austin, Texas. The proposed restoration area is located within the city limits of San Marcos along and within the San Marcos River and its headwaters. The study area consists of an approximate 1.0-mile stretch of the San Marcos River and associated riparian corridor. The ecosystem restoration project will restore and enhance degraded aquatic and terrestrial habitat along and within the San Marcos River.

This project will directly benefit the environment by increasing biodiversity, carrying capacity, stability and productivity of native plant and wildlife species endemic to the area. Additional benefits include improvement of existing recreational opportunities, enhancement of water quality, and improvement of natural aesthetics.

Specifically, the project will restore and sustain approximately 22.0 acres of riparian woodland habitat, 6.0 acre of tall grass prairie habitat, 4.0 acres of emergent wetland habitat and 16.0 acres of aquatic habitat within a highly urbanized area. The total project cost is estimated at $4,540,000, which will be cost-shared 65% Federal Government and 35% City of San Marcos. The federal share is $2,951,000 with a local match of $1,589,000.

CONCLUSION

The only COE Section 206 projects that now receive funding are those that have Congressional support. The City of San Marcos seeks Congressional support for combining and funding the Texas State University habitat restoration project with the City project so that both may move forward.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Guadalupe River Project
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $10 million to continue construction of the final phase of the Guadalupe River Flood Protection Project.

Statement of Support
Guadalupe River Project

Background. The Guadalupe River is a major waterway flowing through a highly developed area of San Jose, in Santa Clara County, California. A major flood would damage homes and businesses in the heart of Silicon Valley. Historically, the river has flooded downtown San Jose and the community of Alviso. According to the U.S. Army Corps of Engineers (Corps) 2000 Final General Reevaluation & Environmental Report for Proposed Project Modifications, estimated damages from a 1 percent flood in the urban center of San Jose are over $576 million. The Guadalupe River overflowed in February 1986, January 1995, and March 1995, damaging homes and businesses in the St. John and Pleasant Street areas of downtown San Jose. In March 1995, heavy rains resulted in breakouts along the river that flooded approximately 300 homes and business.

Project Synopsis. In 1971, the local community requested that the Corps reactivate its earlier study. Since 1972, substantial technical and financial assistance have been provided by the local community through the Santa Clara Valley Water District in an effort to accelerate the project's completion. To date, more than $85.8 million in local funds have been spent on planning, design, land purchases, and construction in the Corps' project reach.

The Guadalupe River Project received authorization for construction under the Water Resources Development Act of 1986; the General Design Memorandum was completed in 1992, the local cooperative agreement was executed in March 1992, the General Design Memorandum was revised in 1993, construction of the first phase of the project was completed in August 1994, construction of the second phase was completed in August 1996. Project construction was temporarily halted due to environmental concerns.

To achieve a successful, long-term resolution to the issues of flood protection, environmental mitigation, avoidance of environmental effects, and project monitoring and maintenance costs, a multi-agency "Guadalupe Flood Control Project Collaborative" was created in 1997. A key outcome of the collaborative process was the signing of the Dispute Resolution Memorandum in 1998, which modified the project to resolve major mitigation issues and allowed the project to proceed. Energy and Water Development Appropriations Act of 2002 was signed into law on November 12, 2001. This authorized the modified Guadalupe River Project at a total cost of $226.8 million. Subsequent to the authorization, the project cost has been raised to $251 million. Construction of the last phase of flood protection was completed December 2004 and a completion celebration held in January 2005. The remaining construction consists of railroad bridge replacements and mitigation plantings. The overall construction of the project including the river park and the recreation elements is scheduled for completion in 2008.

Fiscal Year 2008 Funding. Congress appropriated $1.783 million in for the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support an appropriation add-on of $10 million to continue construction of the final phase of the Guadalupe River Flood Protection Project.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Bureau of Reclamation Budget

for

CALFED Bay-Delta Program
Santa Clara County, California

Summary

This statement urges the Committee's support for the Fiscal Year 2009 Administration budget request of $32 million for California Bay-Delta Restoration.

Statement of Support
CALFED Bay-Delta Program

Background. In an average year, half of Santa Clara County's water supply is imported from the San Francisco Bay/Sacramento-San Joaquin Delta estuary (Bay-Delta) watersheds through three water projects: The State Water Project, the federal Central Valley Project, and San Francisco's Hetch Hetchy Project. In conjunction with locally developed water, this water supply supports more than 1.7 million residents in Santa Clara County and the most important high-tech center in the world. In average to wet years, there is enough water to meet the county's long-term needs. In dry years, however, the county could face a water supply shortage of as much as 100,000 acre-feet per year, or roughly 20 percent of the expected demand. In addition to shortages due to hydrologic variations, the county's imported supplies have been reduced due to regulatory restrictions placed on the operation of the state and federal water projects.

There are also water quality problems associated with using Bay-Delta water as a drinking water supply. Organic materials and pollutants discharged into the Delta, together with salt water mixing in from San Francisco Bay, have the potential to create disinfection by products that are carcinogenic and pose reproductive health concerns.

Santa Clara County's imported supplies are also vulnerable to extended outages due to catastrophic failures such as major earthquakes and flooding.

Project Synopsis. The CALFED Bay-Delta Program is an unprecedented, cooperative effort among federal, state, and local agencies to restore the Bay-Delta. With input from urban, agricultural, environmental, fishing, and business interests, and the general public, CALFED has developed a comprehensive, long-term plan to address ecosystem and water management issues in the Bay-Delta.

Restoring the Bay-Delta ecosystem is important not only because of its significance as an environmental resource, but also because failing to do so will stall efforts to improve water supply reliability and water quality for millions of Californians and the state's trillion dollar economy and job base.

The passage of HR 2828 (PL 108–361) in 2004 reauthorized federal participation in the CALFED Bay-Delta Program and provided $389 million in new and expanded funding authority for selected projects, including the San Luis Reservoir Low Point Improvement Project. The San Luis Project is one of six new projects, studies or water management actions authorized to receive a share of up to $184 million under the conveyance section of the bill. It is critical that federal funding be provided to implement the actions authorized in the bill in the coming years.

Fiscal Year 2008 Funding. Congress appropriated $40.098 million to the program in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Committee support the $32 million in the Administration's Fiscal Year 2009 budget request for California Bay-Delta Restoration.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Bureau of Reclamation Budget

for

San Luis Reservoir Low Point Improvement Project
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 Administration budget request of $1.4 million to complete the Feasibility Study. This request is included in the $32 million CALFED Bay-Delta Program appropriation request.

Statement of Support
San Luis Reservoir Low Point Improvement Project

Background. San Luis Reservoir is one of the largest reservoirs in California, and is the largest "off-stream" water storage facility in the world. The Reservoir has a water storage capacity of more than 2 million acre-feet and is a key component of the water supply system serving the Federal Central Valley Project (CVP) and California's State Water Project. San Luis is used for seasonal storage of Sacramento-San Joaquin delta water that is delivered to the reservoir via the California Aqueduct and Delta-Mendota Canal. The San Luis Reservoir is jointly owned and operated by the U.S. Bureau of Reclamation and the California Department of Water Resources.

The San Luis Reservoir provides the sole source of CVP water supply for the San Felipe Division contractors — Santa Clara Valley Water District (District), San Benito County Water District and, in the future, Pajaro Valley Water Management Agency. When water levels in San Luis Reservoir are drawn down in the spring and summer, high water temperatures result in algae blooms at the reservoir's water surface. This condition degrades water quality, making the water difficult or impractical to treat and can preclude deliveries of water from San Luis Reservoir to San Felipe Division contractors. In order to avoid the "low point" problem, the reservoir has been operated to maintain water levels above the critical low elevation — the "low point" — resulting in approximately 200,000 acre-feet of undelivered water to south of the Delta state and federal water users

Project Goals and Status. The goal of the project is to increase the operational flexibility of storage in San Luis Reservoir and ensure a high quality, reliable water supply for San Felipe Division contractors. The specific project objectives are to: 1) Avoid supply interruptions when water is needed by increasing the certainty of meeting the requested delivery schedule throughout the year to south of Delta contractors dependent on San Luis Reservoir; 2) Increase the reliability and quantity of yearly allocations to south of Delta contactors dependent on San Luis Reservoir; 3) Announce higher allocations earlier in the season to south of Delta contractors dependent on San Luis Reservoir without sacrificing accuracy of the allocation forecasts. In addition to the above objectives, identify opportunities to provide for ecosystem restoration.

Preliminary studies by the District have identified six potential alternatives to solve the problem. More funding is needed to fully explore these alternatives.

The passage of H.R. 2828 in 2004 reauthorized federal participation in the CALFED Bay-Delta Program. The San Luis Reservoir Low Point Improvement Project was one of six new projects, studies or water management actions authorized in the bill to receive a share of up to $184 million authorized under the conveyance section of the bill.

Fiscal Year 2008 Funding. Congress appropriated $1.4 million to the project in Fiscal year 2008 under the CALFED appropriation.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support the Administration's Fiscal Year 2009 budget request of $1.4 million for the San Luis Reservoir Low Point Improvement Project. The San Luis request is included in the $32 million CALFED Bay-Delta appropriation request.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for
South San Francisco Bay Shoreline Study
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $2.8 million to continue a Feasibility Study to evaluate integrated flood protection and environmental restoration for the South San Francisco Bay Shoreline.

Statement of Support
South San Francisco Bay Shoreline Study

Background. Congressional passage of the Water Resources Development Act of 1976, originally authorized the San Francisco Bay Shoreline Study, and Santa Clara Valley Water District (District) was one of the project sponsors. In 1990, the U.S. Army Corps of Engineers (Corps) concluded that levee failure potential was low because the existing non-federal, non-engineered levees, which were routinely maintained by Leslie Salt Company (subsequently Cargill Salt) to protect their industrial interests, had historically withstood overtopping without failure. As a result, the project was suspended until adequate economic benefits could be demonstrated.

Since the project's suspension in 1990, many changes have occurred in the South Bay. The state and federal acquisition of approximately 15,000 acres of South Bay salt ponds was completed in early March 2003. The proposed restoration of these ponds to tidal marsh will significantly alter the hydrologic regime and levee maintenance activities, which were assumed to be constant in the Corps' 1990 study. In addition to the proposed restoration project, considerable development has occurred in the project area. Many major corporations are now located within Silicon Valley's Golden Triangle, lying within and adjacent to the tidal flood zone. Damages from a 1-percent high tide are anticipated to far exceed the $34.5 million estimated in 1981, disrupting business operations, infrastructure, and residences. Also, historical land subsidence of up to six feet near Alviso, as well as the structural uncertainty of existing salt pond levees, increases the potential for tidal flooding in Santa Clara County.

In July 2002, Congress authorized a review of the Final 1992 Letter Report for the San Francisco Bay Shoreline Study. The final Fiscal Year 2004 appropriation for the Corps included funding for a new start Reconnaissance Study.

Project Synopsis. At present, large areas of Santa Clara, Alameda and San Mateo Counties would be impacted by flooding during a 1-percent high tide. The proposed restoration of the South San Francisco Bay salt ponds will result in the largest restored wetland on the West Coast of the United States, and also significantly alter the hydrologic regime adjacent to South Bay urban areas. The success of the proposed restoration is therefore dependent upon adequate tidal flood protection, and so this project provides an opportunity for multi-objective watershed planning in partnership with the California Coastal Conservancy, the lead agency on the restoration project. Project objectives include: restoration and enhancement of a diverse array of habitats, especially several special status species; tidal flood protection; and provision of wildlife-oriented public access. A Corps Reconnaissance Study was completed in September 2004 and the Feasibility Study was initiated in September 2005.

Fiscal Year 2008 Funding. Congress appropriated $785,000 to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Request. It is requested that the Congressional Committee support an appropriation add-on of $2.8 million to continue the Feasibility Study to evaluate integrated flood protection and environmental restoration.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Coyote/Berryessa Creek Project
Berryessa Creek Project Element
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 Administration budget request of $950,000 and an appropriation add-on of $650,000, for a total of $1.6 million to complete with the General Reevaluation Report and update of environmental documents for the Berryessa Creek Flood Protection Project element of the Coyote/Berryessa Creek Project.

Statement of Support
Coyote/Berryessa Creek Project
Berryessa Creek Project Element

Background. The Berryessa Creek Watershed is located in northeast Santa Clara County, California, near the southern end of the San Francisco Bay. A major tributary of Coyote Creek, Berryessa Creek drains 22 square miles in the City of Milpitas and a portion of San Jose.

On average, Berryessa Creek floods once every four years. The most recent flood in 1998 resulted in significant damage to homes and automobiles. The proposed project on Berryessa Creek, from Calaveras Boulevard to upstream of Old Piedmont Road, will protect portions of the Cities of San Jose and Milpitas. The flood plain is largely urbanized with a mix of residential and commercial development. Based on the U.S. Army Corps of Engineers (Corps) 2005 report, a 1-percent or 100-year flood could potentially result in damages exceeding $179 million. Benefit-to-cost ratios for the six project alternatives being evaluated range from 2:1 to 7.3:1.

Study Synopsis. In January 1981, the Santa Clara Valley Water District (District) applied for federal assistance for flood protection projects under Section 205 of the 1948 Flood Control Act. The Water Resources Development Act of 1990 authorized construction on the Berryessa Creek Flood Protection Project as part of a combined Coyote/Berryessa Creek Project to protect portions of the Cities of Milpitas and San Jose.

The Coyote Creek element of the project was completed in 1996. The Berryessa Creek Project element proposed in the Corps' 1987 feasibility report consisted primarily of a trapezoidal concrete lining. This was not acceptable to the local community. The Corps and the District are currently preparing a General Reevaluation Report which involves reformulating a project which is more acceptable to the local community and more environmentally sensitive. Project features will include setback levees and floodwalls to preserve sensitive areas (minimizing the use of concrete), appropriate aquatic and riparian habitat restoration and fish passage, and sediment control structures to limit turbidity and protect water quality. The project will also accommodate the City of Milpitas' adopted trail master plan. Estimated total costs of the General Reevaluation Report work are $6.5 million, and should be completed in 2009.

Fiscal Year 2008 Funding. Congress appropriated $1.147 million to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. Based on the continuing threat of significant flood damage from Berryessa Creek and the need to continue with the General Reevaluation Report, it is requested that the Congressional Committee support an appropriation add-on of $650,000, in addition to the $950,000 in the Administration's Fiscal Year 2009 budget request, for a total of $1.6 million for the Berryessa Creek Flood Protection Project element of the Coyote/Berryessa Creek Project.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

San Francisquito Creek Flood Damage Reduction and Ecosystem Restoration Project Santa Clara County, California

Summary

This statement urges the Committee's support a Fiscal Year 2009 appropriation add-on of $700,000 to continue a Feasibility Study of the San Francisquito Creek Watershed.

Statement of Support
San Francisquito Creek Flood Damage Reduction and Ecosystem Restoration Project

Background. The San Francisquito Creek watershed comprises 45 square miles and 70 miles of creek system. The creek mainstem flows through five cities and two counties, from Searsville Lake, belonging to Stanford University, to the San Francisco Bay at the boundary of East Palo Alto and Palo Alto. Here it forms the boundary between Santa Clara and San Mateo counties, California and separates the cities of Palo Alto from East Palo Alto and Menlo Park. The upper watershed tributaries are within the boundaries of Portola Valley and Woodside townships. The creek flows through residential and commercial properties, a biological preserve, and Stanford University campus. It interfaces with regional and state transportation systems by flowing under two freeways and the regional commuter rail system. San Francisquito Creek is one of the last natural continuous riparian corridors on the San Francisco Peninsula and home to one of the last remaining viable steelhead trout runs. The riparian habitat and urban setting offer unique opportunities for a multi objective flood protection and ecosystem restoration project.

Flooding History. The creeks mainstem has a flooding frequency of approximately once in 11 years. It is estimated that over $155 million in damages could occur in Santa Clara and San Mateo counties from a 1-percent flood, affecting 4,850 home and businesses. Significant areas of Palo Alto flooded in December 1955, inundating about 1,200 acres of commercial and residential property and about 70 acres of agricultural land. April 1958 storms caused a levee failure downstream of Highway 101, flooding Palo Alto Airport, the city landfill, and the golf course up to four feet deep. Overflow in 1982 caused extensive damage to private and public property. The flood of record occurred on February 3, 1998, when overflow from numerous locations caused severe, record consequences with more than $28 million in damages. More than 1,100 homes were flooded in Palo Alto, 500 people were evacuated in East Palo Alto, and the major commute and transportation artery, Highway 101, was closed.

Status. Active citizenry are anxious to avoid a repeat of February 1998 flood. Numerous watershed based studies have been conducted by the Corps, the Santa Clara Valley Water District, Stanford University, and the San Mateo County Flood Control District. Grassroots, consensus-based organization, called the San Francisquito Watershed Council, has united stakeholders including local and state agencies, citizens, flood victims, developers, and environmental activists for over 10 years. The San Francisquito Creek Joint Powers Authority was formed in 1999 to coordinate creek activities with five member agencies and two associate members. The Authority Board has agreed to be the local sponsor for a Corps project and received Congressional authorization for a Corps reconnaissance study in May 2002. The Reconnaissance Study was completed in March 2005 and the Feasibility Study was initiated in November 2005.

Fiscal Year 2008 Funding. Congress did not appropriate any funding to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested the Congressional Committee support an appropriation add-on of $700,000 to continue the Feasibility Study.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Coyote Creek Watershed Study
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $100,000 to initiate a Reconnaissance Study of the Coyote Creek Watershed.

Statement of Support
Coyote Creek Watershed Study

Background. Coyote Creek drains Santa Clara County's largest watershed, an area of more than 320 square miles encompassing most of the eastern foothills, the City of Milpitas, and portions of the Cities of San Jose and Morgan Hill. It flows northward from Anderson Reservoir through more than 40 miles of rural and heavily urbanized areas and empties into south San Francisco Bay.

Prior to construction of Coyote and Anderson Reservoirs, flooding occurred in 1903, 1906, 1909, 1911, 1917, 1922, 1923, 1926, 1927, 1930 and 1931. Since 1950, the operation of the reservoirs has reduced the magnitude of flooding, although flooding is still a threat and did cause damages in 1982, 1983, 1986, 1995, and 1997. Significant areas of older homes in downtown San Jose and some major transportation corridors remain susceptible to extensive flooding. The federally-supported lower Coyote Creek Project (San Francisco Bay to Montague Expressway), which was completed in 1996, protected homes and businesses from storms which generated record runoff in the northern parts of San Jose and Milpitas.

The proposed Reconnaissance Study would evaluate the reaches upstream of the completed federal flood protection works on lower Coyote Creek.

Objective of Study. The objectives of the Reconnaissance Study are to investigate flood damages within the Coyote Creek Watershed; to identify potential alternatives for alleviating those damages which also minimize impacts on fishery and wildlife resources, provide opportunities for ecosystem restoration, provide for recreational opportunities; and to determine whether there is a Federal interest to proceed into the Feasibility Study Phase.

Study Authorization. In May 2002, the House of Representatives Committee on Transportation and Infrastructure passed a resolution directing the Corps to "...review the report of the Chief of Engineers on Coyote and Berryessa Creeks...and other pertinent reports, to determine whether modifications of the recommendations contained therein are advisable in the interest of flood damage reduction, environmental restoration and protection, water conservation and supply, recreation, and other allied purposes..."

Fiscal Year 2006 Administration Budget Request and Funding. The Coyote Watershed Study was one of only three *"new start"* studies proposed for funding nationwide in the Administration Fiscal Year 2006 budget request. Congress did not include funding for the study in the final Fiscal Year 2006 appropriations bill.

Fiscal Year 2008 Funding. Congress did not appropriate any funding to the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support an appropriation add-on of $100,000 to initiate a multi-purpose Reconnaissance Study within the Coyote Creek Watershed.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Bureau of Reclamation Budget

for

San Jose Area Water Reclamation and Reuse Program
(South Bay Water Recycling Program)
Santa Clara County, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 Administration budget request of $250,000 and an appropriation add-on of $7.75 million, for a total of $8 million to fund the program's work.

Statement of Support
San Jose Area Water Reclamation and Reuse Program
(South Bay Water Recycling Program)

Background. The San Jose Area Water Reclamation and Reuse Program, also known as the South Bay Water Recycling Program, will allow the City of San Jose and its tributary agencies of the San Jose / Santa Clara Water Pollution Control Plant to protect endangered species habitat, meet receiving water quality standards, supplement Santa Clara County water supplies, and comply with a mandate from the U.S. Environmental Protection Agency and the California Water Resources Control Board to reduce wastewater discharges into San Francisco Bay.

The Santa Clara Valley Water District (District) collaborated with the City of San Jose to build the first phase of the recycled water system by providing financial support and technical assistance, as well as coordination with local water retailers. The design, construction, construction administration, and inspection of the program's transmission pipeline and Milpitas 1A Pipeline was performed by the District under contract to the City of San Jose.

Status. The City of San Jose is the program sponsor for Phase 1, consisting of almost 60 miles of transmission and distribution pipelines, pump stations, and reservoirs. Completed at a cost of $140 million, Phase 1 began partial operation in October 1997. Summertime 2006 deliveries averaged 14.1 million gallons per day of recycled water. The system now serves over 540 active customers and delivers approximately 10,000 acre-feet of recycled water per year.

Phase 2 is now underway. In June 2001, San Jose approved an $82.5 million expansion of the program. The expansion includes additional pipeline extensions into the cities of Santa Clara and Milpitas, a major pipeline extension into Coyote Valley in south San Jose, and reliability improvements of added reservoirs and pump stations. The District and the City of San Jose executed an agreement in February 2002 to cost share on the pipeline into Coyote Valley and discuss a long-term partnership agreement on the entire system. Phase 2's near-term objective is to increase deliveries by the year 2010 to 15,000 acre-feet per year.

Funding. In 1992, PL 102-575 authorized the Bureau of Reclamation to work with the City of San Jose and the District to plan, design, and build demonstration and permanent facilities for reclaiming and reusing water in the San Jose metropolitan service area. The City of San Jose reached an agreement with the Bureau of Reclamation to cover 25 percent of Phase 1's costs, or approximately $35 million; however, federal appropriations have not reached the authorized amount. To date, the program has received $27.6 million of the $35 million authorization.

Fiscal Year 2008 Funding. Congress appropriated $984,000 for the project in Fiscal Year 2008.

Fiscal Year 2009 Funding Recommendation. It is requested that the Congressional Committee support an appropriation add-on of $7.75 million, in addition to the $250,000 in the Administration's Fiscal Year 2009 budget request, for a total of $8 million to fund the Program's work.

Statement of

Santa Clara Valley Water District
San Jose, California

March 2008

before the

United States House of Representatives
Committee on Appropriations
Subcommittee on Energy and Water
Development Appropriations
The Honorable Peter Visclosky, Chairman

U.S. Army Corps of Engineers Budget

for

Bay Area Regional Desalination Project
San Francisco Bay Area, California

Summary

This statement urges the Committee's support for a Fiscal Year 2009 appropriation add-on of $4 million for the project.

Statement of Support
Bay Area Regional Desalination Project

Background. The Bay Area Regional Desalination Project is a joint effort between the Contra Costa Water District, the East Bay Municipal Utility District, the San Francisco Public Utilities Commission, and the Santa Clara Valley Water District to explore the development of regional desalination facilities that will benefit over 5.4 million Bay Area residents and businesses served by these agencies. One or more desalination facilities would supply as much as 71 million gallons per day of desalinated water to the Bay Area. The project aims to provide an additional source of water during emergencies such as earthquakes or levee failures; provide a supplemental water supply source during extended droughts; allow other major facilities, such as treatment plants, water pipelines, and pump stations, to be taken out of service for maintenance or repairs; and increase supply reliability by providing water supply from a regional facility. Pre-Feasibility studies have concluded there are at least three locations in the Bay Area where a regional desalination facility could be located. A further Pre-Feasibility study of the three sites has been conducted to better define the desalination project facilities, conveyance options, and institutional issues. A Feasibility Study has developed additional information on potential benefits, appropriate technologies, environmental impacts, and costs of the various options. Moreover, a pilot test is currently underway at Contra Costa Water District's Mallard Slough Pump Station site in the eastern part of Contra Costa County to collect data on technical feasibility (pretreatment options, membrane performance, design parameters) and the environmental impacts (brine disposal, marine life).

Project Synopsis. Project is a regional initiative authorized under the Water Resources Development Act of 2007 (Section 5158 (88)) for $4 million under the Section 219 Program (WRDA 1992), Environmental Infrastructure. The project offers the region a solution to water supply shortages created during natural and manmade disasters that could limit or impose severe water shortages upon the San Francisco Bay region. Because the project enjoys broad support from each of the key water suppliers in the region it serves as a model for other regions to develop similar water projects that are dedicated to protecting the environment and public health during times of water shortages.

Budget Breakdown and Total Cost:

Site Selection & Investigation –	$1,100,000
Pre-Design –	$1,950,000
Environmental & Permitting –	$1,495,000
PR/Education –	$ 287,500
PM/Framework –	$ 517,500
Total (including local funds):	$5,350,000

Fiscal Year 2008 Funding. Not applicable. New project for Fiscal Year 2009.

Fiscal Year 2009 Funding Request. It is requested that the Congressional Committee support an appropriation add-on of $4 million for the project.

Name: Mike Berry
Title: General Manager
Institution: Tri-County Water Conservancy District
Contact: (phone, fax, email) 970-249-3369, 970-249-8277, tcw@montrose.net

February 26, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Mike Berry
General Manager

Texas Public Power Association

TESTIMONY OF MARK ZION
EXECUTIVE DIRECTOR
TEXAS PUBLIC POWER ASSOCIATION
BEFORE THE
ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES
March 19, 2008

The Texas Public Power Association (TPPA) provides this testimony in support of fully funding programs authorized by the Energy Independence and Security Act (EISA) of 2007. First, TPPA supports fully funding the State Energy Program (SEP), which provides money to state energy offices to implement energy efficiency and renewable energy programs that impact every sector of the economy. The SEP has been recently reauthorized through 2012 at a proposed funding level of $125 million. While this would be a significant improvement over funding in recent years, it would actually return the program to a level of funding provided in the 1980s. SEP programs are needed now more than ever, and TPPA supports returning to an allocation of funds based on the existing formula rather than through competitive solicitation. In addition, TPPA supports funding the fully authorized amounts for the programs created or expanded through the EISA listed below.

Examples of programs that should be fully funded include the following:

- $ 2 billion for the Energy Efficiency and Conservation Block Grants authorized by Sec. 541 of the EISA
- $250 million for the Energy Sustainability and Efficiency Grants and Loans authorized by Sec. 471 of the EISA
- $90 million for the competitive demonstration project grants for plug-in hybrid electric vehicles authorized by Sec. 131 of the EISA
- $50 million for the Zero Net Energy Commercial Buildings Initiative authorized by Sec 422 of the EISA
- Funding for the Solar Energy Research and Advancement Act established in Subtitle A, Title, VI of the EISA, specifically,
    - $7 million for the Thermal Energy Storage Research and Development Program established by Sec 602 of the EISA

  - $10 million for the Solar Energy Curriculum Development and Certification Grants for solar energy system installers, instructors, and training programs authorized by Sec 604 of the EISA
  - $30 million for Photovoltaic Demonstration Program authorized by Sec. 607 of the EISA
- Funding the Energy Storage for Transportation and Electric Power authorized by Sec 641 of the EISA, specifically,
  - $ 50 million for basic research
  - $80 million for applied research
  - $30 million for stationary energy storage demonstrations
  - $30 million for vehicle energy storage demonstrations
- $100 million for the Smart Grid Regional Demonstration Initiative authorized by Sec 1304 of the EISA.

The state of Texas and TPPA member systems are leaders in the deployment of renewable energy technologies such as wind and solar. However, necessary advances can be realized only through public-private partnerships and the support of federal agencies such as the Department of Energy. Fully funding programs authorized by the EISA is vital to developing the means to achieve energy independence and to reduce harmful emissions from the nation's energy and transportation sectors.

TPPA represents 72 municipally owned electric utilities which provide highly reliable, low-cost power to nearly 3 million Texans (about 15% of the state's electric market), along with river authorities, joint action agencies, and others. TPPA appreciates this opportunity to provide testimony in support of funding programs related to energy efficiency, conservation, sustainability, renewable energy, electric transportation, and other clean energy initiatives.

Respectfully submitted,

Mark Zion
Executive Director
Texas Public Power Association
701 Brazos, Suite 1005
Austin, Texas 78701
(512) 472-5965

Name: Carly Burton
Title: Executive Director
Institution: Utah Water Users Association
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Email utahwaterusers@aol.com

February 14, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

We are requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 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: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

/s/ Carly Burton

Executive Director

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March 18, 2008

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

Honorable Byron Dorgan,
Chairman
Subcommittee on Energy and
Water Development
Committee on Appropriations
U.S. Senate
Washington, DC 20510

RE: FY 2009 Energy and Water Appropriations

Dear Chairman Visclosky and Chairman Dorgan:

This is to convey the rice industry's request for FY 2009 funding for selected programs under the jurisdiction of your respective subcommittees. The USA Rice Federation appreciates your assistance in making this letter a part of the hearing record.

The USA Rice Federation is the global advocate for all segments of the U.S. rice industry with a mission to promote and protect the interests of producers, millers, merchants and allied businesses. USA Rice members are active in all major rice producing states: Arkansas, California, Florida, Louisiana, Mississippi, Missouri, and Texas. The USA Rice Producers' Group, the USA Rice Council, the USA Rice Millers' Association, and the USA Rice Merchants' Association are members of the USA Rice Federation.

USA Rice understands the budget constraints the subcommittees face when developing the FY 2009 appropriations bill. We appreciate your past support for initiatives that are critical to the rice industry and look forward to working with you to meet the continued water and related needs of the rice industry in the future.

The Mississippi River Valley alluvial aquifer is the primary source of irrigation water for one of the major rice-producing areas in the United States. Groundwater is being withdrawn at such a rate that the aquifer is in danger of being permanently damaged. Irrigation wells are failing. Loss of rice production in this area would result in severe economic and social repercussions to the local, state, and national economies.

Rice producers continue to seek new sources of irrigation for their crops. In many rice-growing regions the aquifers used by rice farmers are the same aquifers used by local

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metropolitan populations. Some of these vital aquifers are at risk. Water levels are dropping fast due to deficit rainfall and expanding use from industrial, agricultural, and metropolitan users.

Rice producers are working to build new sources of irrigation. The programs listed below are cost-share programs to help rice producers ensure there will be a plentiful water supply for their rice crops and their neighbors in the city. By using surface water from man-made reservoirs, rivers or bayous to irrigate rice crops, these precious aquifers can be saved for future generations. These water projects also provide invaluable wildlife habitat.

To address these critical water needs the USA Rice Federation supports the following:

White River Irrigation Demonstration Project – Full funding to continue construction on this important Demonstration Project. This project is located in the major rice-growing region of East Arkansas and will help provide the critical water resources necessary for rice production, which plays such a vital role in the economy of Arkansas.

Bayou Meto Basin – Continued construction funding for this project located in East Central Arkansas in Lonoke, Pulaski, Prairie, Jefferson, and Arkansas counties.

Boeuf Tensas Project – Continued funding for work on this water project located in portions of Jefferson, Lincoln, Desha, and Chicot counties in Arkansas, as well as portions of Northeast Louisiana.

For California, a very critical wetland wildlife habitat enhancement program was authorized by **Section 3406 (b) 22 of the Central Valley Project Improvement Act**. Unfortunately, the funds were sunset in 2002. When fully funded, this program provided funding for the winter flooding of 35,000 – 40,000 acres of important rice wetland habitat in the Pacific Flyway of California. These acres are not only critical to the health of the Flyway for migrating waterfowl, but are also designated as Shorebird Habitat of International Significance by the Western Hemisphere Shorebird Reserve Network. USA Rice supports continuation of the winter flooding incentives program provided by Section 3406 (b) 22 of the Central Valley Project Improvement Act and requests restored funding for this important effort.

The rice industry also supports continued funding for the **Mississippi River and Tributaries Project**, and within that, the **St. Francis Basin Project**, which provides flood control and drainage from Cape Girardeau, Missouri, to Helena, Arkansas. We also support the **St. John's Bayou Project** in Missouri and urge that funding be maintained for this project.

MEMBERS: USA Rice Producers' Group • USA Rice Millers' Association • USA Rice Council • USA Rice Merchants' Association
www.usarice.com

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Please feel free to contact us if you would like further information about the programs we have referenced. Additional background information is available for all of the programs listed, however, we understand the volume of requests the subcommittees receive and have restricted our comments accordingly.

Thank you for your consideration of our recommendations.

Sincerely,

Reece Langley

Reece Langley
Vice President, Government Affairs

Cc: Honorable David L. Hobson, Ranking Member
Honorable Pete Domenici, Ranking Member

MEMBERS: USA Rice Producers' Group • USA Rice Millers' Association • USA Rice Council • USA Rice Merchants' Association
www.usarice.com

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 17, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

The State of Colorado is an active participant in Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Recovery Implementation Program, both of which are recognized throughout the country as models for endangered species conservation and recovery. These Programs have developed collaborative solutions to pursue endangered species recovery while allowing water development to continue in our arid Rocky Mountain States.

I am requesting your support for these Programs. Specifically, I request your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation I seek is as follows: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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. P.L. 106-392, as amended, authorizes this funding.

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

These highly successful, cooperative programs are ongoing partnerships among the States of Colorado, New Mexico, 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. These recovery programs have become national models for collaboratively working to recover endangered species while addressing water needs to

support growing western communities. Since 1988, these programs have provided ESA Section 7 compliance for over 1,600 federal, tribal, state and privately managed water projects depleting more than 3 million acre-feet of water per year.

The requested FY 2009 appropriation will allow the Upper Colorado River Endangered Fish Program to proceed with construction of additional fish passage structures on the Colorado River to provide access to historic habitat upstream of existing diversion dams, a fish screen on a major diversion on the Green River to avoid entrainment of endangered fish, and construction financing of the Elkhead Project to provide low flow augmentation water on the Yampa River. The requested funding for the San Juan River Recovery Program will be used for construction of a fish screen and fish passage in critical habitat on the San Juan River. The requested federal appropriations are critically important to these efforts moving forward.

The Upper Colorado and San Juan Programs bring a diverse group of people and interests together to resolve potential conflicts over endangered species recovery and water development. The endangered fish species are returning, and water development is proceeding in accordance with state law and interstate compacts. These are the kinds of programs that I support.

The past support and assistance of your Subcommittee has greatly facilitated the success of these multi-state, multi-agency programs. I thank you for that support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely,

Bill Ritter, Jr.
Governor

cc: Representatives Diana DeGette, Mark Udall, John Salazar, Ed Perlmutter, Marilyn Musgrave, Doug Lamborn, and Tom Tancredo

Governors Richardson, Freudenthal, and Huntsman

Testimony to the House Appropriations Subcommittee
on Energy and Water Development, and Related Agencies
By Robert Rose, Executive Director of the US Fuel Cell Council
March 19th, 2008

Chairman Visclosky, Ranking Member Hobson, and distinguished Members of the Committee, on behalf of the 110 organizations of the US Fuel Cell Council (USFCC), I want to thank this subcommittee for supporting fuel cell funding over the years. We are writing to urge strong support for fuel cell and hydrogen programs managed by the Department of Energy. Specifically, we request the committee consider the following:

- Provide $20 million to establish a Market Transformation program
- Restore $39 million to continue Hydrogen Production and Delivery R&D
- Add $ 15 million to Technology Validation (managed by Vehicle Technologies – Hybrid Electric Systems)
- Add $5 million to restore EERE Manufacturing R&D
- Add $10 million to Fossil Energy's SECA program
- Add $4 million to Safety Codes and Standards, and maintain current jurisdiction
- Maintain Education jurisdiction under the Hydrogen Technology Program and fund at $4 million
- Restore $2 million to continue Fuel Processor R&D

This Subcommittee is charged with allocating the resources to the nation's search for affordable, clean energy. Never has that work been more critical to the nation's environmental and economic health. Our nation has faced daunting energy challenges before. But a perfect storm is brewing, a storm of high prices, constrained domestic resources, and growing evidence of the health and resource damage caused by unfettered combustion of hydrocarbon fuels. Fuel cells, because they are electrochemical systems, offer a pathway to safety from this storm.

Fuel cells are electrochemical systems that provide electrical energy and useful heat without combustion. They consume fuel, but do not burn it. As a result they are inherently efficient and environmentally clean. Numerous learned analyses have concluded that fuel cells utilizing hydrocarbon fuels provide significant societal benefits. Fuel cells utilizing fuels derived from renewable sources provide even greater benefits, and offer by far the best pathway to a low carbon energy future that utilizes local energy resources. No other technology that consumes fuel even comes close.

For all these reasons, Congress, led by this Subcommittee, supports an ambitious program to accelerate development of fuel cells and their supporting infrastructure. This program is paying handsome dividends. From automobiles to power for the front line soldier, fuel cells are making rapid progress toward the marketplace; they are commercial in some niche markets today. Progress has been so rapid that one of the greatest barriers to continued success is a lack of appreciation for just how close this technology family really is to widespread deployment. Federal support has been crucial to this progress, but in fuel cells, there truly is a public-private partnership; the private sector outspends the public sector in research and development funding.

The job is not done, however. There is a substantial amount of work to be done in durability, materials science and cost reduction. While the President's budget recognizes the work still ahead, the Administration's budget does NOT fully reflect the industry's need, nor does it fully account for the pace of development or the near-term potential of our industry. We are proposing, therefore, several relatively modest additions and changes in the request.

This Subcommittee understandably and wisely supports a broad portfolio of energy research. We believe hydrogen and fuel cells must continue to be full partners in that portfolio. Funding for other worthwhile technologies must not come at the expense of the hydrogen program. Certainly the size of our energy challenge justifies full funding of the full portfolio.

Beginning during *this* decade, and over the next 30 years, fuel cells can create hundreds of thousands of jobs, avoid millions of respiratory illnesses, reduce tens of millions of tons of carbon dioxide emissions, and divert tens of billions of dollars from foreign oil producers.

Establishing a Market Transformation program is a top priority for our industry. Last year the Senate Energy and Water Appropriations Subcommittee provided funding for this endeavor; the measure was not included in the final appropriations bill. Funding the program will fulfill Congressional intent as outlined in Sections 782 and 783 of EPACT 2005.

The Market Transformation program will allow the Department of Energy to assist other agencies to purchase portable, stationary and transportation fuel cell systems. The program, which is voluntary, is seen by industry as a key component to commercialization as it would also help fuel cell manufacturers increase output, thereby reducing costs and creating economies of scale. It would also allow more federal agencies to comply with new energy efficiency guidelines as directed by Executive Order.

With regard to the Fossil Energy (FE) activities, we request $70 million for fuel cell activities, which includes funding for the Solid State Energy Conversion Alliance (SECA). The SECA program is designed to develop high-efficiency fuel cells that are capable of utilizing a variety of domestically available fuel, including coal gas, ethanol and other biofuels.

The President's proposed FY 2009 budget cuts or changes a number of critical path programs. Hydrogen Production and Delivery R&D; Fuel Processor R&D; and Manufacturing R&D programs are designed to maximize availability of fuel cells and hydrogen at an affordable price. These programs are necessary and productive and deserve full funding.

With regard to Hydrogen Production R&D and Delivery, while it is encouraging that year 2015 hydrogen cost goals are achievable today, cost-effective and environmentally benign methods of reforming hydrocarbons are still not commercial. Several technical challenges remain, including low cost desulfurization methods. We hope the Subcommittee will increase research funds and also specifically encourage the search for improving our ability to remove sulfur-containing odorants from natural gas and liquefied petroleum gas. In addition, a coordinated, nationwide (or even international) effort to replace sulfur-containing odorants with non-sulfur-containing odorants would be of value to our industry. .

In transportation, biofuels, battery and electric drive train research programs are complementary to fuel cells but no replacement for fuel cell research. Success in these areas would buy time to make the transition to hydrogen in motor vehicles. Automakers still view hydrogen as the ultimate transportation fuel as it allows long range driving, short fueling time with little to zero-emissions. The public/private partnership in fuel cells is working, and more development and demonstration is needed.

The Technology Validation program is key to accelerating commercialization. This program gathers real-world experience in fuel cell vehicles and supporting hydrogen infrastructure. If this work were to stop due to lack of funding it could take years or even decades to revive the effort. By restoring funding to FY 08 levels, this Subcommittee can guarantee that the Department and private industry will stay on the accelerated path.

Manufacturing R&D is fully justified, just as it was last year. The administration put significant focus on this program, calling it critical to "cultivate a robust domestic manufacturing capability in evolving hydrogen infrastructure and fuel cell technologies, vital to establishing U.S. economic leadership in emerging hydrogen and fuel cell industries." After one year and a single round of solicitations awarded, the administration now argues manufacturing is not a critical-path barrier. Our industry moves fast, but not that fast. Eliminating this program in its infancy will only delay efforts to reduce the cost of fuel cells.

Proposed program reorganizations are unwise and untimely. A proposal to move hydrogen Education and Codes and Standards programs from the hydrogen program to the vehicle technologies program, in the name of consolidation, is misguided given the transformational nature of hydrogen. We believe these positions properly should remain within the hydrogen program for maximum effectiveness, and in any event reorganization ought to be left to the next administration.

Supporting the remainder of the Presidents FY 2009 plan – Hydrogen Storage R&D, Fuel Cell Stack Component R&D, and Distributed Energy Fuel Cells Systems – will maintain the integrity of the competitively awarded projects administered the Department of Energy and continue our public/private partnership designed to fully commercialize fuel cell and hydrogen technologies.

In conclusion, the fuel cell industry recognizes the significant and patient support the Subcommittee has provided over the years. Progress is dramatic and palpable. We believe it certainly justifies both continued research support and the expectation that fuel cells will be available to meet the nation's energy challenges at least as quickly as the other technologies in the national portfolio, with substantially greater benefits.

Thank you for considering our requests.

Name: Jessica H. Bridges
Title: Executive Director
Institution: U.S. Clean Heat & Power Association
Agency: Department of Energy
Program: Waste Energy Incentive Grant Program (EISA 2007 Authorization)
FY 2009 Funding Request: $200 million

March 19, 2008

The Honorable Peter J. Visclosky
Chairman
Energy and Water Development
Subcommittee
2362B Rayburn House Office Building
Washington, DC 20515

The Honorable David Hobson
Ranking Member
Energy and Water Development
Subcommittee
2362B Rayburn House Office Building
Washington, DC 20515

Dear Chairman Visclosky and Representative Hobson:

The members of the U.S. Clean Heat and Power Association encourage you to support the industrial energy efficiency programs within Section 451 of the Energy Independence and Security Act (EISA) of 2007. Specifically, we ask for your support to fully fund ($200 million) for fiscal year 2009 the Department of Energy's Waste Energy Recovery Incentive Grant Program, as authorized by the act.

EISA authorized the DOE Waste Energy Recovery Incentive Grant Program at $200 million for fiscal year (FY) 2009. This program would provide incentive payments of $10 per megawatt-hour for documented electricity produced from waste energy recovery projects, or for production of thermal energy, or $10 for each 3.412 Million Btus of excess thermal energy repurposed. As such, the program would promote the deployment of clean, local energy generation technologies, thereby reducing industrial demands upon the national power grid while increasing manufacturing productivity.

US Clean Heat & Power Association • 6436 Quincy Place, Falls Church, VA 22042 • USA
Phone: 703.231.4443 • Fax: 703.241.2234
www.uschpa.org

The Department of Energy and Environmental Protection Agency project 200,000 megawatts of clean power available from efficient combined heat and power and waste energy recovery projects. Full appropriations for the incentive grant program would spark tremendous private-sector investment that would cut energy costs to U.S. manufacturers, reduce greenhouse-gas emissions, and provide clean base-load electricity throughout the United States.

We appreciate your help and consideration.

Sincerely,

Recycled Energy Development
Westmont, IL

Ormat Technologies
Reno, NV

Endurant Energy
Oakbrook Terrace, IL

Elliott Energy Systems
Stuart, FL

Avalon Consulting
Naperville, IL

Austin Energy/City of Austin
Austin, TX

Cummins Power Generation
Minneapolis, MN

Enercon Engineering
East Peoria, IL

Integrated CHP Systems
Fair Lawn, NJ

Midwest CHP Application Center
Chicago, IL

Energy Resources Center
Chicago, IL

American Council For An Energy-Efficient Economy
Washington, DC

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www.uschpa.org

Testimony prepared by
Richard A. Anthes, President of the
University Corporation for Atmospheric Research (UCAR)
Submitted March 19, 2008 to the
Subcommittee on Energy and Water Development and Related Agencies
U.S. House of Representatives Appropriations Committee
Regarding FY 2009 Appropriations for the Department of Energy (DOE) Office of Science

On behalf of the **University Corporation for Atmospheric Research (UCAR)** and the university community involved in weather and climate research and related education, training and support activities, I submit this written testimony for the record of the House Committee on Appropriations, Subcommittee on Energy and Water Development. We urge you to fund the DOE Office of Science at the requested level of $4.7 billion or higher as authorized by the America COMPETES Act.

UCAR is a 71-university member consortium that manages and operates the National Center for Atmospheric Research (NCAR) and additional programs that support and extend the country's scientific research and education capabilities. In addition to its member research universities, UCAR has formal relationships with approximately 100 additional undergraduate and graduate schools including several historically black and minority-serving institutions, and over 50 international universities and laboratories. UCAR's principal support is from the National Science Foundation with additional support from other federal agencies including the **Department of Energy (DOE).**

DOE Office of Science

The atmospheric and related sciences community is concerned about the final outcome for basic research in many areas of the FY08 Consolidated Appropriations Act, including the DOE Office of Science. We do understand that Appropriators were faced with extremely difficult funding choices, but the negative consequences of not investing now in science that contributes to our economy, standard of living, and safety and security, will only multiply in the future as this country's global competitors invest on a broader scale than ever before. We appreciate your support for last year's America COMPETES Act and urge you to reinstate the doubling track for the Office of Science with the FY09 budget, and/or with a supplement to the FY08 budget.

There will surely be immense budget pressures facing you again in your deliberations this year, but we ask that you focus on science as a national priority. ***We urge you to fund the DOE Office of Science at the requested level of $4.7 billion or higher as authorized by the America COMPETES Act, ask that you make the Office a national priority when difficult choices have to be made at the end of the budget process, and that you enable the agency to apply the entire appropriation toward planned agency research priorities.***

Biological and Environmental Research (BER)

Within the Office of Science, the Biological and Environmental Research (BER) program has as a key goal the development of knowledge necessary to identify, understand, and anticipate the

potential health and environmental consequences of energy production and use. These are goals that are essential to our country's well being and security. Peer-reviewed research programs at universities, national laboratories, and private institutions play a critical role in the BER program by involving the best researchers the nation has to offer, and by developing the next generation of researchers. All BER research projects, other than those that have been in the "extra projects" category, undergo regular peer review and evaluation.

I urge the Subcommittee to fund Biological and Environmental Research at the level of the FY09 Budget Request, $568.9, a 4% increase over the FY08 level, and to enable BER to apply that entire amount toward planned agency research priorities that are peer-reviewed and that involve the best researchers to be found within the nation's university research community as well as the DOE labs.

BER's Climate Change Research Program

Within BER, the Climate Change Research subprogram addresses some of the most critical research priorities facing the world today including developing the ability to predict climate change and its impacts on global and regional scales, exploring the impacts of high levels of CO_2 on the Earth system, and providing the scientific foundation necessary to help mitigate those impacts.

One example of the compelling work being done is a BER contribution to the International Polar Year (IPY) utilizing the Community Climate System Model to simulate eight future emission scenarios. The results projected a decline in sea ice, with one scenario showing the Arctic becoming ice-free in summer at the end of this century – an occurrence that could change sea level, economies, world trade, and political stability. Such advanced modeling activities supported by the BER Climate Change Research are obviously critical to our understanding of the current global climate and areas that are being transformed by rapid change, but they are also critical to our understanding of what a changed world may look like in the very near future.

In 2009, Climate Change Research funded work will continue to focus on resolving the role of clouds and aerosols in climate change and their interaction with solar radiation. While great progress has been made in recent years, this remains one of the greatest scientific uncertainties in climate change prediction. As we learn more about climate change and the anthropogenic influences that are forcing change at an unnatural rate, those results must be made accessible to researchers working to understand the regional and local impacts that climate change will produce. A new Climate Change Research effort is strengthening the connections between the climate modeling research communities and those that address integrated assessment of impacts in addition to exploring adaptation methods. To be of use at regional scales (where details make tremendous differences at local ecosystem levels where we all live), models must be resolved at ever higher resolutions to project local impacts with any reasonable certainly. Running models at these resolutions presents complex problems of data retrieval, archiving, analysis, and dissemination for which BER is developing the tools and capabilities necessary.

The Climate Change Research goal to deliver improved regional climate data and models is critical to the ability of policy makers and stakeholders to provide stewardship resulting in a

healthy planet – and it is particularly important as signs of increasingly dramatic change in our climate and environment continue to appear.

The Climate Change Research Request of $154.9 million for FY09 is a13.2 percent increase over FY 2008 which will make up some of the ground lost in previous years. Within this amount, Climate Change Modeling receives $45.4 million -- a critical 46 percent increase over FY08. These additional resources are absolutely necessary for the work that must be accelerated at the regional level. ***I urge the Subcommittee to fund Climate Change Research at the FY09 requested level of $154.9 million, and to enable DOE to apply the entire amount toward planned national research priorities.***

Advanced Scientific Computing Research (ASCR)

Within 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 that are necessary to research the major scientific questions being addressed by the Office of Science. Development of this capacity is a key component of DOE's strategy to succeed in its science, energy, environmental quality, and national security missions.

ASCR's continued progress is of particular importance to atmospheric scientists involved with complex climate model development, research that takes enormous amounts of computing power to address the interaction of the earth's systems and global climate change. ASCR is one of the most important resources supporting climate work in this country.

Within ASCR, several programs are of particular importance to climate change computer modeling work, particularly through the development of complex software. The Leadership Computing Facility (LCF) at Oak Ridge National Laboratory (ORNL) provides a high performance computing resource and, in 2009, will continue the development of its world class facility with over 80% of its resources being made available to unclassified scientific research. In addition, the National Energy Research Scientific Computing Center (NERSC) operated by Lawrence Berkeley National Laboratory, and the Energy Sciences Network (ESnet) are also important enablers for climate research, as is Argonne National Laboratory (ALCF) which is strengthening its infrastructure to prepare for future computing capacity. These computational and networking resources play a vital role in the progress of U.S. climate research.

The high performance computing facilities for the Office of Science serve thousands of scientists throughout the country at laboratories, universities, and other Federal agencies. Computing time is awarded to research groups based on peer review of submitted proposals. Basic research accomplished at these facilities covers a wide range of disciplines including climate modeling. ESnet enables researchers at laboratories, universities and other institutions to communicate with each other using collaborative capabilities that are unparalleled. This high-speed network enables geographically distributed research teams to collaborate effectively on some of the world's most complex problems. Researchers from industry, academia and national labs, through this program,

share access to unique DOE research facilities, support the frequent interactions needed to address complex problems, and speed up discovery and innovation.

LCF, NERSC, and ESnet play complementary roles in advancing the complex and challenging science of climate change and other scientific areas of extreme importance to the security and quality of life of our citizens. ***I urge the Committee to support the President's FY09 request of $368.82 million for DOE Advanced Scientific Computing Research, a 5 percent increase over FY08, and to enable DOE to apply the entire amount toward planned national priorities.***

Scientific Discovery Through Advanced Computing (SciDAC)

BER and ASCR (through its Computational Partnerships program) partner to support Scientific Discovery Through Advanced Computing (SciDAC), a progressive program that provides the innovations in computational research and development for petascale computational and data management endeavors, including climate research. Along with very broad scientific applications, a current SciDAC goal is to break through the uncertainty still challenging researchers concerning the role of clouds and aerosols in climate change. Additional SciDAC investments address the role of land-ice in the climate system, improved representation of ice sheets in global circulation models, and understanding of climate extremes in a changing climate. Much of the research is designed to provide global community access to the data for impact studies as well as national and international assessments (e.g., the Intergovernmental Panel on Climate Change) concerning the consequences of global warming. This work is becoming increasingly critical as evidence mounts that regions of Earth are warming at an alarming rate. SciDAC research activities are competed through a merit review process and carried out via a synthesis of talent drawn from universities, national laboratories, and private institutions.

BER funding for SciDAC is requested at $7.7 million for FY09 with ACSR supporting SciDAC Computational Partnerships at $52.0 million. ***I urge the Committee to support the President's FY08 requests within BER and ASCR for overall SciDAC funding.***

* * * * * * * * * * * * *

DOE plays a vital role in sustaining U.S. scientific leadership and generating U.S. competitiveness in a time when other countries are investing heavily in scientific research and technology. On behalf of UCAR and the atmospheric sciences research community, I want to thank the Subcommittee in advance for your attention to the recommendations of our community concerning the FY 2009 budget of the Office of Science. We understand and appreciate that the nation is undergoing significant budget pressures at this time, but we believe that U.S. security and quality of life suffer when science is not supported. We urge you to follow the recommendations of the 2007 America COMPETES Act and restore Office of Science and overall DOE funding to a level that benefits this nation.

DOE UNIVERSITY RESEARCH PROGRAM IN ROBOTICS (URPR) --

Research, Education, and DOE Mission Support

FY'09 Testimony for the Energy and Water Development Subcommittee on Appropriations

Submitted on behalf of the URPR by:
Professor David K. Wehe, University of Michigan
Professor Sheldon Landsberger, University of Texas
Professor Carl Crane, University of Florida
Professor John Wood, University of New Mexico
Professor Mongi Abidi, University of Tennessee

The U.S. Department of Energy (DOE) has provided support to the DOE University Research Program in Robotics to pursue long range research leading to the:

``development and deployment of advanced robotic systems capable of reducing human exposure to hazardous environments, and of performing a broad spectrum of tasks more safely and effectively than utilizing humans."

The DOE University Research Program in Robotics (URPR) has proven highly effective in technology innovation, education, and DOE mission support. The URPR has incorporated mission-oriented university research into DOE, and, through close collaboration with the DOE sites, provides an avenue for developing creative solutions to problems of vital importance to DOE.

The URPR would like to thank the Committee members for their historically strong support of this successful program. Recognizing the shift in national priorities post-9/11/01, the URPR focuses on national security applications as a target for its technology deployments.

Request for the Committee

The University Research Program in Robotics (URPR) is included in the President's budget under the Weapons Activities/Engineering Campaigns at $2.1M. We request the Committee explicitly augment the budget request with the following language:

"The Committee provides funding for the University Research Program in Robotics (URPR) at $4,500,000."

Developing Advanced Robotics and Automation for DOE and the Nation

Robotic solutions for work in potentially hazardous environments

The URPR represents a DOE-selected consortium of major public research universities (currently including Florida, Michigan, New Mexico, Tennessee, and Texas) working on the science of remote systems technologies to advance their effectiveness in performing physical tasks in hazardous environments associated with the DOE nuclear sites. The work of these universities is widely recognized as some of the best in the field (creation of spin-off companies, deployment requests from FEMA at Ground Zero, wins in national technology competitions, patents, archival journal articles, etc.). For example, URPR received the most recent American Nuclear Society's Robotics and Remote Systems Conference awards (Best of Show and Technology Innovation Award). Some of the focus technologies include innovative mobile platforms and their semi-autonomous navigation, kinesthetic input to teleoperation systems, simulation-based design and control, manipulation of unwieldy objects, machine vision and scene assessment for world modeling, improved radiation hardening of electronic components, and integration technology to assist in the assessment and deployment of complete solutions in the field.

The goal of this program is to invent and utilize state-of-the-art robotic and automation technology in order to remove humans from potentially hazardous environments and support manufacturing, surveillance, security, and remediation efforts considered essential. Established by DOE in FY'87 to support advanced nuclear reactor concepts, the project was moved to EM to support the higher priority needs in environmental restoration where its technologies found application in a number of high visibility projects. Reflecting the change in national priorities post 9/11, the URPR began supporting NNSA applications during FY'04.

Robotics and Automation for NNSA

NNSA recognizes the need to develop advanced automation and robotics capabilities, as expressed in the NNSA Technology Roadmap for the modernized nuclear weapon complex and instantiated in the Complex 2030 Vision plan. As DOE notes, "Perhaps the most significant transformation of the NWS complex will be the replacement of manually intensive production systems with automated, intelligent process and equipment." The URPR program provides capabilities that will improve ability and agility in responding to programmatic needs, and enhance personal safety, security, efficiency, and efficacy of weapons related activities within the complex through the application of intelligent automation. It supports the DOD/DOE research programs priorities of promoting scientific and engineering leadership, and vitality and workforce renewal, providing

agile responses to future requirements, and offering assessment and implementation of new technology options during the planning and execution of major capital projects.

The nuclear weapons complex represents one of our nation's most vital pieces of defense infrastructure and warrants the country's finest people and technologies to accomplish its mission. In the commercial sector, advanced automation and robotic technologies have demonstrated the ability to increase security, personnel safety, precision and reproducibility, and productivity for tasks that are hazardous, routine, or require exceptional precision. The application of the URPR-invented technologies to DOD/DOE applications is noteworthy as well. These advanced capabilities will be needed for the future, more efficient, weapons complex.

Making the Nation Safer

In the aftermath of the 9/11 tragedy, our nation has engaged in a long-term war to counter terrorism. Indeed, mobile platforms that have evolved from our early prototypes are currently saving lives of American soldiers. The National Research Council published a thorough study of the role of science and technology in countering terrorism entitled Making the Nation Safer. Of the seven crosscutting technology challenges identified by the committee, autonomous mobile robotic technologies were highlighted. "Continued development and use of robotic platforms will enable the deployment of mobile sensor networks for threat detection and intelligence collection. Robotic technologies can also assist humans and such activities as ordinance disposal, decontamination, debris removal, and firefighting." Robotic technologies, cited as a "critical long-term research need," are featured throughout the individual chapters that address ways for mitigating our society's vulnerabilities to terrorism and responding to an attack. In addition, the report identifies the need to sustain the nation's scientific and engineering talent base and recommends [Rec. 13.4] a human resource development program to increase training in those fields consistent with the government's long-term priorities for homeland security research. In summary, the University Research Program in Robotics is a keyplayer in executing the recommendations for making our nation safer.

Innovation, Education, and DOE Mission Support

The URPR's strategic mission is to make significant advances in our nation's robotic and manufacturing technology base while emphasizing: education, technology innovation through basic R&D, and DOE mission support. The URPR has demonstrated that the advantages of operating independent research institutions as a consortium are significant. Institutions of the URPR partition the technical development into manageable sections which allow each university to concentrate within their area of expertise (efficiently maintaining world-class levels of excellence) while relying on their partners to supply supporting concentrations. With full

support of the host universities, this effort naturally generates the in-depth human and equipment capital required by the DOE community. Practically, the long-term distributed interaction and planning among these universities in concert with the DOE labs and associated industry allows for effective technology development (with software and equipment compatibility and portability), for a vigorous and full response to application requirements (component technologies, system technologies, deployment issues, etc.), and for the supported application of the technology. Considering the remarkable achievements of URPR over its history, the URPR is in the ideal position to execute its prominent role in education, technology innovation, and DOE mission support.

The project has produced an impressive array of technological innovations that have been incorporated into robotic solutions being employed across federal and commercial sectors. This successful program demonstrates efficient technology innovation while educating tomorrow's technologists, inventing our country's intelligent machine systems technology of the next century, bolstering our manufacturing-related industries, and meeting tomorrow's applied research needs for DOE.

DOE Mission Support - Employing Robotic Technologies

Since its inception, DOE has promoted robotics as a necessary enabling technology to accomplish its mission. The motives for undertaking a comprehensive R&D effort in the application of intelligent machines to tasks in hazardous environments reflect economic considerations, efficiency, and health and safety concerns. The URPR is DOE's only needs-driven research program to develop new remote systems technologies to support the DOE thrust areas. In contrast, DOD, NIH, and NASA continue to prove the benefits of much larger mission-oriented robotics programs.

Request for the Committee

The URPR is in the President's Request, but is cut disproportionately from $4.2M to $2.1M. We request the Committee restore the URPR to its historical funding level, and include the following language in the FY'09 Energy and Water Appropriations Bill under the broad Weapons Activities/Campaigns account:

"The Committee provides funding for the University Research Program in Robotics (URPR) at $4,500,000."

DAVE FREUDENTHAL
GOVERNOR

THE STATE OF WYOMING

STATE CAPITOL
CHEYENNE, WY 82002

Office of the Governor

February 19, 2008

The Honorable Peter J. Visclosky, Chairman
The Honorable David L. Hobson, 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 Hobson:

I am requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation I seek is as follows: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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.

Substantial non-federal cost-sharing funding exceeding 50% is embodied in both of these successful programs. 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 federal Endangered Species Act. The Department of the Interior continues to recognize these programs as national models demonstrating that collaboratively partnerships can successfully work to recover endangered species while addressing water needs to support growing western communities in a manner that fully respects state water law and interstate river compacts. Since 1988, these programs have provided ESA Section 7 compliance (without litigation) for over 1,600 federal, tribal, state and privately managed water projects depleting more than 3 million acre-feet of water per year.

TTY: 777-7860 PHONE: (307) 777-7434 FAX: (307) 632-3909

The requested FY 2009 appropriation will allow the Upper Colorado River Endangered Fish Program to proceed with construction of additional fish passage structures on the Colorado River to provide access to historic habitat upstream of existing diversion dams, a fish screen on a major diversion on the Green River to avoid entrainment of endangered fish, and construction financing of the Elkhead Project to provide low flow augmentation water on the Yampa River. The requested funding for the San Juan River Recovery Program will be used for construction of a fish screen and fish passage in critical habitat on the San Juan River. The requested federal appropriations are critically important to these efforts moving forward.

The past support and assistance of your Subcommittee has greatly facilitated the success of these multi-state, multi-agency programs. We in Wyoming thank you for that support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Best regards,

Dave Freudenthal
Governor

DF:RL:

c: Representative Barbara Cubin
Governor Bill Ritter
Governor Jon Huntsman
Governor Bill Richardson

STATEMENT
BY
MR. DAVID SOLOMON, CHAIRMAN, EXECUTIVE COMMITTEE
MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

My name is David Solomon; I am by profession an attorney-at-law and I reside in Helena, Arkansas. I am the President of the White River Drainage District of Phillips and Desha County. It is also my pleasure and a privilege afforded me by the other nine members of the Executive Committee, to serve as Chairman of that committee that has the responsibility for the management and direction of the Mississippi Valley Flood Control Association in accordance with policies duly adopted by the Association. This statement on behalf of the Association presents their views on the Fiscal Year 2009 budget for the Mississippi River and Tributaries Project and their request for 500 hundred million dollars.

Since there are new members on the Subcommittee and to refresh the memory of those that have served previously, I will briefly discuss the Mississippi Valley Flood Control Association which is an agency composed almost entirely of public bodies having local responsibility for flood control, drainage, bank stabilization and navigation improvements in the Mississippi River Valley and its major tributaries. Our members are for the most part public officials elected by the people they serve. The Association represents a very large number of the levee and drainage districts, municipalities, port and harbor commissions and other state agencies in the Mississippi River Valley and our membership is open to all that share our objectives. We are the agency through which the people may speak and act jointly on all flood control, navigation, bank stabilization and major drainage problems.

Our Association is comprised of a very large group of individuals who are businessmen, property owners, conservationists, farmers, attorneys, doctors, wildlife enthusiasts, engineers, accountants, environmentalists, civil servants and elected officials from all political parties.

The value of flood control and the economic reality of the need for navigation is well known to the Congress. Therefore I shall not go into details but for the sake of confirming what is already known let me just state that for every federal dollar invested in the Mississippi River and Tributaries Project twenty-five dollars have been returned in damages prevented. In addition river navigation has produced annual benefits of approximately nine hundred million dollars. What a wonderful investment of taxpayer's dollars.

Fortunately for us and the other citizens of this great nation, the Congress in its wisdom has always recognized the value of such an investment and has consequently, with only very, very rare exceptions, appropriated more dollars for the Mississippi River and Tributaries Project than has been requested by the Executive Department.

The Office of Management and Budget has for many years been our greatest problem and concern. Each year they reduce, cut and manipulate the Corps of Engineers' budget that only serves to slow or stop construction and/or delay vitally needed maintenance work. This forces the extension of the completion date further into the future and endangers the

integrity of the in-place flood control structures and the navigation channel. This is very expensive and reflects poor management of the assets of this nation plus it endangers the life and property of the citizens of this nation, especially the millions living in the lower Mississippi River Valley.

This year the President's Budget request is no different. Without an increase of funds by the Congress, there is a very strong probability that on-going contracts will have to be stopped and required maintenance work will be postponed.

We have closely examined the President's Budget request for Fiscal Year 2009 and find that it is completely inadequate for the Mississippi River and Tributaries Project. We request that this committee strongly consider an appropriation for Fiscal Year 2009 for the Mississippi River and Tributaries Project of $500,000,000.

We feel that we are justified in urging that such moneys be appropriated for flood control and navigation works because we know of no other appropriation which contributes as much to national wealth and resources as flood control and navigation for the major rivers of this country. Millions of acres which were overflow lands decades ago are now highly productive and contributing to our national wealth. These lands by reason of their geographic location are the most fertile of the nation. They produce an abundance of food and fiber for the general welfare and prosperity of the country. The inland waterways of the nation provide the cheapest and, in some cases, the only method to move bulk commodities that are also absolutely essential to the general welfare and prosperity of the country. Moneys appropriated by Congress for flood control and navigation have and will augment our national resources and improve our economic well-being. The appropriations made by Congress for the Mississippi River and Tributaries Project are investments in this nation's future.

In order to merely preserve the integrity of our flood control and navigation systems, protect the natural environment of the Mississippi River Valley and to continue the work that is underway, the appropriations we have requested is justified.

We have attached sheets to this statement that reflect the Mississippi Valley Flood Control Association's request for appropriations for the Mississippi River and Tributaries Project for Fiscal Year 2009.

That completes my statement.

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION
FISCAL YEAR 2009 CIVIL WORKS REQUESTED BUDGET
MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

PROJECT AND STATE		MVFCA REQUEST
SURVEYS, CONTINUATION OF PLANNING AND ENGINEERING & ADVANCE ENGINEERING & DESIGN		
Memphis Metro Storm Water Management, TN	$	100,000
Spring Bayou, LA		300,000
Southeast Arkansas, AR		581,000
Quiver River, MS		250,000
Coldwater Below Arkabutla Lake, MS		130,000
Alexandria to the Gulf, LA		790,000
Donaldsonville, LA		3,592,000
Atchafalaya Basin Floodway Land Study		200,000
Collection-Study of Basic Data		4,830,000
Morganza, LA		2,132,000
TOTAL GENERAL INVESTIGATIONS	$	**12,905,000**
CONSTRUCTION		
Mississippi River Levees	$	125,927,000
Channel Improvement		55,493,000
Atchafalaya Basin, LA		25,500,000
Atchafalaya Basin Floodway, LA		11,400,000
Mississippi Delta Region, LA		3,933,000
Morganza to the Gulf of Mexico, LA		4,000,000
Wolf River, Memphis, TN		175,000
Nonconnah Creek, TN & MS		500,000
Hickman Bluff, KY		60,000
St. Johns Bayou-New Madrid Floodwy, MO		200,000
St. Francis Basin, AR & MO		8,300,000
Yazoo Basin, MS		78,000,000
West Tennessee Tribs., TN		500,000
Grand Prairie, AR		38,500,000
Bayou Meto, AR		5,300,000
SUB-TOTAL CONSTRUCTION	$	**357,788,000**
SUB-TOTAL MAINTENANCE	$	**331,955,000**
SUB-TOTAL MISSISSIPPI RIVER & TRIBUTARIES	$	**702,648,000**
LESS REDUCTION FOR SAVINGS & SLIPPAGES	$	**-202,648,000**
GRAND TOTAL-MISSISSIPPI RIVER & TRIBUTARIES	$	**500,000,000**

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION
FISCAL YEAR 2009 CIVIL WORKS REQUESTED BUDGET
MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATIONS

MAINTENANCE

PROJECT AND STATE	MVFCA REQUEST
Mississippi River Levees	$ 35,047,000
Bonnet Carre, LA	5,553,000
Channel Improvement	72,176,000
Old River Control Structure	24,158,000
Atchafalaya Basin, LA	40,132,000
Atchafalaya Floodway System, LA	2,798,000
Memphis Harbor McKellar Lake	4,083,000
Helena Harbor, AR	550,000
Greenville Harbor, MS	436,000
Vicksburg Harbor, MS	424,000
Baton Rouge Harbor, Devils Swamp, LA	2,922,000
Mississippi Delta - Caernarvon	578,000
Wappapello Lake, MO	28,405,000
St. Francis River & Tribs., AR & MO	19,515,000
White River Backwater, AR	1,191,000
North Bank, Arkansas River	406,000
South Bank, Arkansas River	305,000
Boeuf & Tensas Rivers	6,430,000
Red River Backwater	8,112,000
Sardis Lake, MS	14,218,000
Arkabutla Lake, MS	12,383,000
Enid Lake, MS	16,841,000
Grenada Lake, MS	14,425,000
Greenwood, MS	2,445,000
Yazoo City, MS	653,000
Yazoo, Main Stem, MS	8,801,000
Yazoo, Tributaries, MS	925,000
Whittington Auxiliary Channel, MS	284,000
Big Sunflower (Bogue Phalia), MS	2,311,000
Yazoo Backwater, MS	1,271,000
Lower Red River South Bank (Bayou Rapides)	76,000
Bayou Cocodrie & Tribs.	42,000
Inspection of Completed Works	2,571,000
Mapping	1,488,000
TOTAL MR&T MAINTENANCE	**$ 331,955,000**

WYOMING WATER ASSOCIATION
Water is Wyoming's Gold
Now in Our 75th Year
P.O. Box 21701 • Cheyenne, WY 82003-7032
Telephone (307) 286-8614 • Facsimile: (307) 635-7581
E-mail: wwa@wyoming.com • Website: www.wyomingwater.org

February 20, 2008

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

Re: Outside Witness Testimony; Support for Fiscal Year 2009 Appropriation of $7,612,000 to the U.S. Bureau of Reclamation within the Upper Colorado Region Budget Line-Item entitled "Endangered Species Recovery Implementation Program"

Dear Chairman Visclosky and Ranking Member Hobson:

On behalf of the members of the Wyoming Water Association, I am requesting your support for an appropriation in the President's recommended budget for FY 2009 of $7,612,000 to the Bureau of Reclamation within the budget line item entitled "Endangered Species Recovery Implementation Program" for the Upper Colorado Region. The funding designation I seek is as follows: $6,430,000 for construction activities for the Upper Colorado River Endangered Fish Recovery Program; $782,000 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, and is included in the President's recommended budget for FY 2009 within the Bureau of Reclamation's "Endangered Species Recovery Implementation Program" budget line-item.

Founded in 1933, the Wyoming Water Association (WWA) is a Wyoming non-profit corporation and voluntary organization of private citizens, elected officials, and representatives of business, government agencies, industry and water user groups and districts. The Association's objective is to promote the development, conservation, and utilization of the water resources of Wyoming for the benefit of Wyoming people. The WWA provides the only statewide uniform voice representing all types of water users within the State of Wyoming and encourages citizen participation in decisions relating to multi-purpose water development, management and use.

The Wyoming Water Association is a participant in the Upper Colorado River Endangered Fish Recovery Program. That program, and its sister program within the San Juan River Basin, are ongoing partnerships among the States of Colorado, New Mexico, 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 federal Endangered Species Act. The Department of the Interior continues to recognize these programs as national models demonstrating that collaboratively partnerships can successfully work to recover endangered species while addressing water needs to support growing western communities in a manner that fully respects state water law and interstate compacts. Since 1988, these programs have provided ESA Section 7 compliance (without litigation) for over 1,600 federal, tribal, state and privately managed water projects depleting more than 3 million acre-feet of water per year.

The requested FY 2009 appropriation will allow the Upper Colorado River Endangered Fish Program to proceed with construction of additional fish passage structures on the Colorado River to provide access to historic habitat upstream of existing diversion dams, a fish screen on a major diversion on the Green River to avoid entrainment of endangered fish, and construction financing of the Elkhead Project to provide low flow augmentation water on the Yampa River. The requested funding for the San Juan River Recovery Program will be used for construction of a fish screen and fish passage in critical habitat on the San Juan River. The requested federal appropriations are critically important to these efforts moving forward. Substantial non-federal cost-sharing funding exceeding 50% is being provided for the capital construction projects benefitting the endangered fish and their habitats associated with both of these successful programs.

The past support and assistance of your Subcommittee has greatly facilitated the success of these multi-state, multi-agency programs. On behalf of the members of the Wyoming Water Association, thank you for that support and request the Subcommittee's assistance for fiscal year 2009 funding to ensure the Bureau of Reclamation's continuing financial participation in these vitally important programs.

Sincerely yours,

Bon Cunningham
President

cc: Representative Barbara Cubin

The Western Coalition of Arid States
W E S T C A S

TESTIMONY
(Submitted for the Record)

OF

CHARLES NYLANDER
PRESIDENT

WESTERN COALTION OF ARID STATES (WESTCAS)

CONCERNING

THE FY08 BUDGET OF THE US BUREAU OF RECLAMATION AND THE U.S. ARMY CORPS OF ENGINEES

March 19, 2008

The Voice of Water Quality in the Arid West

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The Western Coalition of Arid States
W E S T C A S

My name is Charles Nylander, and I am President of the Western Coalition of Arid States. The Western Coalition of Arid States (WESTCAS) is submitting this testimony regarding the Presidents FY 2009 budget request for the Bureau of Reclamation and the U.S. Army Corp of Engineers.

WESTCAS is a coalition of approximately 125 water and wastewater districts, cities and towns and professional organizations focused on water quality and water quantity issues in the States of Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon and Texas. Our mission is to work with Federal, State and Regional water quality and quantity agencies to promote scientifically-sound laws, regulations, appropriations and policies that protect public health in the environment of the arid West.

The Department of Interior touches the lives of the majority of each American within each calendar year and many customers of WESTCAS on a daily basis. We have referenced USGS programs that are part of the Water for America Initiative of the Department to provide a complete frame of reference with regard to the integration with the Bureau of Reclamation program. The specific areas of the 2009 Interior Department budget that directly support WETCAS members include, but are not limited to:

Water for America

- Bureau of Reclamation manages water for most western states without which proper management and oversight the quality and quantity of water provided could be jeopardized.
- Indian water rights settlements are crucial to many western communities. They promote development of solutions for each community, promote conservation and regional water management, and establish cooperative agreements for the benefit and Indian and non-Indian communities.
- Ethanol production is being considered as the next vital fuel. The water necessary to provide this fuel would reduce water available for potable purposes and could lead to excessive shortages in time of drought.
- The 2009 budget includes a water census that will provide information on the aquifers, rivers and water storage.

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- Supporting the USGS stream flow monitoring is crucial to understanding the affects of climate change the short term and long term affects of the variety of temperature fluctuations anticipated in the western region. Several WESTCAS members currently participate in a cost-sharing program with the USGS. Information from these monitoring devices is vital for effective water planning in many communities.
- The USGS's program for water quality and testing is one which is nationally recognized as providing valuable information for water providers and for citizens seeking to improve their knowledge of water issues. Their work on endocrine disruptors has brought to the forefront challenges that many communities need to begin to explore and determine their options for minimization and mitigation.
- The western states have had the greatest growth and will continue to do so for the coming decades. This requires long-term water resource planning and adequate management of valuable water resources. Ensuring adequate water supplies will be necessary to maintain the quality of life in all of the WESTCAS states, and will be necessary in order to avoid further potential water crisis.

U.S. Bureau of Reclamation

WESTCAS requests that a minimum of $200 million should be added into the FY 2009 Water and Related Resources Budget for the Bureau of Reclamation (BOR). The Bureau has played an important role in the development of the 17 western states over the past 100 years. However, we are greatly concerned with the almost $200 million reduction in the FY 2009 Reclamation program as proposed by the Administration. When the Water and Related Resources (construction) account of the Bureau is examined, 51% of the funding is now for facility maintenance and rehabilitation. WESTCAS recognizes the importance of such investment given the aging of the infrastructure and the harsh climatic conditions of the western United States. However that component of funding only leaves about $250 million for the construction work in the water and energy component of the program – a program with a significant backlog of authorized work that holds the potential for meeting critical water needs in the West.

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W E S T C A S

The Title XVI water recycling program within the BOR provides an excellent cost-share mechanism for helping to drought proof the West. Projects developed by this program allow agencies to reduce their dependence on the scarce imported supplies from the Colorado River, and other western watersheds. WESTCAS believes that increased funding for the program is needed to begin reducing the ever increasing backlog of authorized, but non-funded projects, as well as assist in addressing the serious drought conditions throughout Reclamation states. We believe that funding this program, at least at the level of $50 million a year, is necessary to clear the approximate backlog of $350 million for this program.

We renew our request from last years testimony, in which we asked the Committee to provide directive language to the Bureau of Reclamation to convene a meeting of all of the project sponsors for authorized projects in this program; asking them to bring their construction schedules and financing information, so a 5-year schedule for completion can be worked out, consistent with increased levels of funding for the program. We would be pleased to lend our expertise and experience to such a meeting. We further believe, and we are just as disappointed as the Committee, that the Bureau should have already produced an overall 5 year funding program consistent with the directive in prior years' Committee reports.

Another program that WESTCAS would recommend increased funding is the Colorado River Salinity Control Program, Title II. Increased agricultural use and drainage, as well as continued degradation caused by natural elements such as shale and return flows from urban centers, are creating an increased salinity content in the waters of the Colorado River. WESTCAS firmly believes that this element of the Bureau's budget should be funded at higher level than the FY09 requested level.

We would like to be able to support funding for the Bureau's Water 2025 program and the whole component of the Water For America Initiative, given the role it can play with regard to climate change issues in the West, but absent authorization we withhold our support at this time. We do believe greater integrated resource planning and water resource planning is need for the West. We would hope the Committee would consider using the information that has been developed by the Western States Water Council as a tool for evaluating future budget requests.

We also believe the Bureau of Reclamation should be doing more with regard to drought preparedness. The title XVI program is important in this regard, but is not intended to be used throughout the West. Relying on an "emergency" approach to

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W E S T C A S

drought is not an effective way to address this issue. There are emergencies associated with drought, but better planning and an ongoing well-funded program in each of the states is needed. We recommend at least $1 million per state be included in the budget to address this ongoing issue.

We believe that overall a $200 million dollar increase for the Bureau's Water and Related Resources Account would be helpful in addressing the water resource needs of the West. Before water quality and quantity issues become a greater crisis as the infrastructure ages, the population grows and environmental needs continue to be in further jeopardy.

U.S. Army Corps of Engineers

Providing an adequate budget for the Army Corps of Engineers is crucial for the immediate and long-term delivery of adequate water supplies, hydropower, flood control, and flood and coastal restoration within the arid west. As such WESTCAS supports the performance criteria established which will ensure projects are funded and completed within a timely fashion. We also believe the issue of reprogramming of funds out of projects needs to be addressed in a more thorough manner, and have welcomed your interest in this area of the Corps program.

The Corps infrastructure is one of the foundations of our nation's economy – and the infrastructure is aging. When we look at the number of projects funded by Congress last year, it appears the Corps is only submitting a budget that funds **one-quarter** of that project work. This is not a solution for success, but a pathway to cataclysmic failure, that could have devastating consequences to the economy.

Last year, Congress took the important step of enacting into law the Water Resources Development Act of 2007. That legislation authorized over $23 billion in new water resources projects and studies in an effort to keep America economically strong, reduce storm and flooding risks, and promote recreational opportunities for Americans as well as the increasing number of tourists who visit our beaches, lakes, and parks. The FY 2009 President's budget continues a pattern that does not support these new projects nor the growing backlog of water resource construction and maintenance projects. The proposed FY 2009 funding level of $4.74 billion for the Corps of Engineers is nearly $1 billion less than the enacted level of $5.6 billion for the current year.

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W E S T C A S

Unfortunately, the Corps has been operating during the last several years with a severely constrained budget. With a commitment from Congress: to a plan that increases funding for its civil works program in a robust manner, the Corps will be able to have the contracts in place so that it could execute at levels that will eliminate the

backlog of projects and meet the Nation's water resource needs and help further stimulate the economy. Given the fact that Congress has been a leader in seeing value in the program by providing funding increases for the program these past several years, WESTCAS recommends a level of at least $6 billion being provided for the Corps' civil work program.

We would recommend such funding be allocated in the following manner for these Corps accounts:

INVESTIGATIONS:	$ 200 M
O&M:	$2,900 M
CONSTRUCTION:	$2,600 M
REG:	$ 220 M

The reforms and policy changes being put in place as a result of the passage of WRDA 2007 will provide a level of greater transparency and ability for the stakeholders of the Corps to better understand future budgetary trends as well as the framework for priorities. To that end, we believe it is important for the Committee to provide greater direction for the Corps to undertake an integrated water management and watershed approach that will assist in focusing on the needs of today and with projecting future needs. What we have witnessed over the years of looking at agency budgets, is the lack of intergovernmental cooperation and cooperative planning. The planning should be taking place with the states and the interested parties at the watershed level. Congress made this quite clear in WRDA 2007. We believe there is widespread support for such approaches throughout the West.

Finally we note the static condition of the Corps Regulatory program, a program to protect wetlands and other waters of the United States. Permits and the ability to get timely consideration of such, is an important element for our agencies. We are interested in seeing greater detail with regard to the Corps request in this area since they indicate the funding is needed because of the Supreme Court's Carabell and Rapanos court decisions. These cases and the ensuing guidance hold the potential for greater resource allocations on our members' part and we believe this request needs careful attention in that regard. Thank you for considering our requests.

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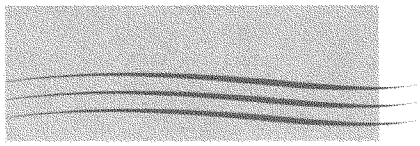

WATER RESOURCES COALITION

Statement of

The Water Resources Coalition

On the Fiscal Year 2009 Budget

For the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation

Before the Subcommittee on Energy and Water Development and Related Agencies

Committee on Appropriations

Mr. Chairman and Members of the Subcommittee:

The Water Resources Coalition (WRC) appreciates the opportunity to submit this statement to the Subcommittee on the president's budget proposal for the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation for Fiscal Year 2009.

A. The U.S. Army Corps of Engineers Civil Works Program

We support an appropriation of $6.8 billion for the Corps of Engineers Civil Works program in FY 2009.

With each passing day, the inability of our nation's aging infrastructure to meet the needs of our growing population further threatens our economy. And so does the need to bring new projects under construction to completion to meet new water resources challenges.

The FY 2009 proposed budget of $4.74 billion for the U.S. Army Corps of Engineers Civil Works Program demonstrates a failure to invest in the nation's water-resources infrastructure. It is a reduction of $800 million from the amount appropriated by Congress for the Corps in FY 2008.

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Our nation's water resources are critical to our economy and our ability to compete in the world market. They are equally critical to the protection of human life, public infrastructure, and private property as well as the preservation and enhancement of environmental resources. Much of our water infrastructure is aging, compromising its ability to meet the needs for which it was created.

Last year, Congress took the important step of enacting into law the Water Resources Development Act of 2007. That legislation authorized more than $23 billion in new water resources projects and studies in an effort to keep America economically strong, reduce storm and flooding risks, and promote recreational opportunities for Americans as well as the increasing number of tourists who visit our beaches, lakes, and parks.

Our request of $6.8 billion for the Corps in FY 2009 in no way reflects the overall need. A budget of as much as $10 billion for the Corps in FY 2009 is eminently reasonable. We realize, of course, that the agency's staff may not be able to adapt its operations to a budget of that size in a single fiscal year, but there are clear problems in terms of deferred maintenance and increased backlogs associated with almost any lesser sum.

To cite a striking example, an appropriation of $3.25 billion for inland waterways projects alone—an increase of more than $3 billion (1,800 percent) from the administration proposal of $167 million—is warranted.

The following gives some idea of the problem on the nation's waterways: the Corps operates and maintains 240 locks at 195 locations on the waterways systems. The locks have a design service life of 50 years, and the average lock already is 53 years old. The replacement cost is estimated at an average $600 million for each lock. If one assumes (1) an average major rehabilitation cost of $50 million for each lock to extend the service life for 25 years and (2) that half of all locks need to be replaced and half rehabilitated, we conclude that a budget of $3.25 billion is needed. Of this total, $3 billion would go for the replacement of five locks and $250 million would go to repair five locks annually. This level of effort would assure a well maintained inland Marine Transportation System.

Unfortunately, at the annual rate of spending of $180 million in the administration's budget proposal for FY 2009, it would take the Corps approximately 20 years simply to fund all the inland waterways projects authorized in WRDA 2007.

Indeed, the FY 2009 budget proposal continues a pattern of failing to support these new projects, much less any significant funding for the growing backlog of water resource construction and maintenance projects. The Corps has been operating during the last several years with a severely restricted budget. With a commitment from Congress to a plan that increases funding for its civil works

program over the next five years, the Corps will be able to have the contracts in place so that it could execute at levels that will eliminate the backlog of projects and meet the nation's water resource needs. Because Congress has not yet made that commitment, the Coalition recommends the FY 2009 budget provide a more modest appropriation of $6.8 billion for the Corps' civil works program.

The FY 2009 appropriation should consist of the following accounts:

INVESTIGATIONS:	$200,000,000
O&M:	$2,900,000,000
CONSTRUCTION:	$2,600,000,000
MR&T:	$400,000,000
REGULATORY:	$220,000,000
FCCE:	$60,000,000
FUSRAP:	$200,000,000
EXPENSES:	$200,000,000

One of the strong themes of the recently passed WRDA 2007 was the emphasis on water resource planning. We recommend $3 million above the president's request to be directed toward the Corps' six Planning Centers of Expertise that were authorized in Section 2033(e) of WRDA 2007 (in operation since 2003) and for state water resource planning assistance within the General Investigations account.

B. Other Considerations

The Harbor Maintenance Trust Fund

We remain concerned that the current balance in the Harbor Maintenance Trust Fund (HMTF) continues to increase. As of September 30, 2006, the balance in the HMTF was $3.306 billion, an increase of $523 million (18.8 percent) over the FY 2005 year-end balance, even after all fund transfers to the Corps. The balance in the HMTF increased to $3.749 billion in FY 2007 and to an estimated $4.728 billion in FY 2008. Revenues have substantially exceeded transfers to the Corps for a number of years despite the demonstrated need for harbor improvements.

A transfer of $729 million, as the administration proposes, would leave a balance of more than $5 billion in the HMTF by September 30, 2009, with *no* increase in revenues. The current state of the nation's ports and harbors requires a significantly larger increase in spending. And any increase in the transfer of funds to the Corps would represent only a short-term fix to an underlying problem with the structure of the HMTF. It is now time to create a budget

mechanism guaranteeing that the nation's ports and harbor users see the harbor maintenance taxes they pay annually fully invested in water side infrastructure improvements as provided in law. Congress should enact legislation setting the obligation authority each year equal to projected prior-year revenues collected in the HMTF.

Construction Inflation

The Coalition recommends the Committee direct the Office of Management and Budget and the Corps to incorporate realistic inflation estimates in its budget submissions. The Corps should report to the Committee and to both Houses of Congress on the baseline construction inflation rate incorporated in the Civil Works budget for FY 2010, as well as a justification for that rate, no later than seven days following the submission of that request to Congress.

Reprogramming

The Coalition is pleased that the FY 2008 Omnibus Appropriations Bill granted the Corps additional flexibility to meet existing obligations and unforeseen operations and maintenance needs. This additional flexibility is crucial to help the Corps meet the ever-changing needs of civil works project execution and it is hoped that this Committee will consider extending this courtesy to certain projects in the other accounts as necessary.

Continuing Contracts

Congress approved legislation in FY 2006 making continuing contracts optional rather than mandatory. The WRC agrees that use of the continuing contract is an important contracting mechanism given the vastly varied scope of projects executed by the Corps of Engineers. Given some of the controversy that caused Congress to question the value of continuing contracts in the first place, alternatives to this contracting mechanism should indeed be examined. The Coalition is willing to provide whatever expertise is can to achieve this mutual goal.

The Coalition shares the belief that the Corps, as the contracting agent, holds administration of the pace of expenditures. The Coalition, however, does not agree with the implication that somehow contractors "dictate" the pace of expenditures; in the normal performance of public and private construction projects nationwide, additional funds to accelerate project execution under optimum circumstances should be considered an overall benefit to the nation, not a breaking of violation of the public trust.

C. The Bureau of Reclamation

The coalition also believes that a minimum of $200 million should be added into the FY 2009 Water and Related Resources Budget for the Bureau of Reclamation. We would suggest the Committee direct this additional funding into the Bureau's drought and water conservation programs; the Title XVI Water Reclamation and Reuse Program; its authorized Rural Water Projects and the Colorado River Salinity Control Program.

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

The Bureau has played an important role in the development of the 17 western states over the past one hundred years. We are greatly concerned with the almost $200 million reduction in the FY 2009 Reclamation program as proposed by the administration.

When the Water and Related Resources (construction) account of the Bureau is examined, 51 percent of the funding is now for facility maintenance and rehabilitation. The Coalition recognizes the importance of such investment given the aging of the infrastructure and the harsh climatic conditions of the western United States. Nevertheless, that funding only leaves about $250 million for the construction work in the water and energy component of the program—a program with a significant backlog of authorized work that holds the potential for meeting critical water needs in the West.

Respectfully submitted,

The Water Resources Coalition

American Society of Civil Engineers
Associated General Contractors of America
American Council of Engineering Companies
American Public Works Association
American Shore and Beach Preservation Association
Atlantic Intracoastal Waterway Association
Association of California Water Agencies
Harris County Flood Control District
National Association of Regional Councils
Dredging Contractors of America
Oregon Water Resources Congress

The WRC was established in 2007 to promote the development, implementation and funding of a comprehensive national water resources policy. Our member organizations represent 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.

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

U.S. Army Corps of Engineers
Mississippi River & Tributaries Project
FY 09 Request -- $500 Million

Public Witness Testimony for the Record

The Yazoo-Mississippi Delta Levee Board respectfully requests that the Mississippi River and Tributaries Act (MR&T) be funded at the full U.S. Army Corps of Engineers' capability of $500 million for Fiscal 09.

While all components of the MR&T are of vital concern to the people of the greater Mississippi River Valley, of particular concern to the Yazoo Mississippi Delta Levee Board and the 10 counties it represents, are those projects which directly affect the lives and livelihoods of Mississippians.

Of highest priority to this levee board is the Upper Yazoo Project, one of the least controversial and most publicly supported flood control projects in the nation. The project already provides protection to the Greenwood area, and with the $26 million being requested, the Corps can proceed upstream to provide that same flood protection to the other residents of our district.

Also of high priority to us is the Delta Headwaters Project, which is an example of the kind of preventive maintenance that holds down flood control costs in future years. This project controls runoff from the hill region of Mississippi, lessening the rate of siltation of our waterways. We request this project be funded at the Corps capability level of $25 million.

The other Mississippi construction projects for which we would ask full funding include:
• Mississippi River Levees—$98.550 million
• Channel Improvement—$28.859 million
• Main Stem—$25,000
• Yazoo Backwater Project—$2.3 million
• Big Sunflower River—$6.875 million
• Reformulation—$2.8 million

As we all know, that which has already been constructed must be maintained, and in that regard, we ask that the following maintenance requests be fully funded:
• Mississippi River Levees—$34.511 million
• Main Stem—$5.691 million
• Big Sunflower—$4.191 million
• Yazoo Backwater—$1.223 million.

Of particular concern to us in terms of operation and maintenance are Mississippi's four flood control reservoirs, the function of which is critical to the residents not only of our area, but downstream, as well.

We request that the reservoirs be allocated funding at the following levels:
• Grenada Lake—$11.084 million
• Sardis Lake—$14.556 million
• Arkabutla Lake—$11.991 million
• Enid Lake—$11.342 million

In this regard, we would also request that within the provision of operation and maintenance funds, special attention be given to the funding for the operation of mitigation lands, acquired in connection with our flood control projects.

Our levee board is also very much concerned that some unfortunate language within the Flood Insurance Reform and Modernization Act of 2007 (Senate Bill 2284) could have a devastating effect on many of our residents, particularly our lower income residents, if left unchanged. As currently written, that legislation completely discounts the effectiveness of the most successful levee system the world has ever seen—a system designed to withstand "the maximum flood predicted as possible"–and so we would urge Congress to exempt the Mississippi River and Tributaries Act areas from its provisions. This can be done by amending its Section 7(b)(2) by striking the period following the last word "structures," adding a comma and the following text: "except those areas protected by structures that were constructed as a part of the Flood Control, Mississippi River and Tributaries Project."

On behalf of all the citizens in our levee district, respectfully submitted,

B. Sykes Sturdivant, President

Kelly Greenwood, CEO, Chief Engineer

Yazoo-Mississippi Delta Levee Board

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