Statement of Samuel W. Bodman
Secretary, U.S. Department of Energy
Before the
House Committee on Appropriations
Subcommittee on Energy and Water Development, and Related Agencies

FY 2007 Appropriations Hearing
March 8, 2006

Good morning, Mr. Chairman and Members of the Subcommittee. I am pleased to appear before you today to discuss the President's Fiscal Year (FY) 2007 budget request for the Department of Energy (DOE).

Most notably, this budget request contains:

- **A Landmark Investment in Scientific Research**
  The FY 2007 budget includes a $505 million increase in DOE's Science programs, which is part of a commitment to double funding for certain high-leverage science agencies over the next ten years. The **American Competitiveness Initiative** recognizes that scientific discovery and understanding help drive economic strength and security. Developing revolutionary, science-driven technology is at the heart of the Department of Energy's mission. The increase proposed for the Department's Science programs reflects the significant contribution DOE and its world-class research facilities make to the Nation.

- **Strategic Investments to Reduce America's Dependence on Foreign Oil and Develop Clean Energy Technologies**
  The President's **Advanced Energy Initiative** provides a 22 percent increase for research that can help reduce America's dependence on foreign oil and advance clean energy technologies. The FY 2007 Budget proposes $149.7 million for Biomass and Biorefinery Systems Research and Development (R&D) program to support the new **Biofuels Initiative** to develop cost competitive ethanol from cellulosic materials (agricultural wastes, forest residues, and bioenergy crops) by 2012. In addition, the budget request continues to pursue the vision of reducing America's dependence on foreign oil, reducing air pollution, and reducing greenhouse gas emissions through the development of a hydrogen economy. The FY 2007 Budget requests a total of $289.5 million (including $1.4 million requested by the Department of Transportation) to support implementation of the **President's Hydrogen Fuel Initiative**. The FY 2007 Budget also provides a 27 percent increase for advanced battery technologies that can improve the efficiency of conventional hybrid electric vehicles (HEV) and help make "plug-in" HEVs commercially viable.

To help develop clean electricity, the FY 2007 Budget funds diverse technology R&D programs. The FY 2007 Budget includes $148.4 million for a new **Solar America Initiative** to develop cost competitive solar photovoltaic technology by 2015. The FY 2007 Budget also provides $60.0 million for U.S. participation in **ITER**, an international experimental reactor program that has the potential for putting us on a pathway to tap nuclear fusion as an enormous source of plentiful, environmentally safe energy. The FY 2007 advances the Administration's commitment to the **FutureGen** project, which will establish the capability and feasibility of co-producing electricity and hydrogen from coal with near-zero atmospheric emissions of pollutants and greenhouse gasses.

- **Strategic Investments to Enable Nuclear Energy Expansion in a Cleaner, Safer Manner**

  The Department's FY 2007 budget features $250 million to begin investments in the Global Nuclear Energy Partnership (GNEP). GNEP is a comprehensive strategy to enable an expansion of nuclear power in the U.S. and around the world, to promote non-proliferation goals; and to help resolve nuclear waste disposal issues.

  The Energy Information Administration (EIA) projects that over the next 25 years, demand for electricity in the United States alone will grow by over 40 percent. Nuclear power is an abundant, safe, reliable and emissions-free way to help meet this growing demand for energy throughout the world. As part of the GNEP strategy, the United States will work with key international partners to develop and demonstrate new proliferation resistant technologies to recycle spent nuclear fuel to reduce waste. To help bring safe, clean nuclear power to countries around the world, the international GNEP partners will also develop a fuel services program to supply developing nations with reliable access to nuclear fuel in exchange for their commitment to forgo developing enrichment and recycling technologies.

  As a complement to the GNEP strategy, the Department will continue to pursue a permanent geologic storage site for nuclear waste at **Yucca Mountain**, and the FY 2007 budget includes $544.5 million to support this goal. Based on technological advancements that would be made through GNEP, the volume and radiotoxicity of waste requiring permanent disposal at Yucca Mountain will be greatly reduced, delaying the need for an additional repository indefinitely.

  GNEP builds upon the successes of programs initiated under President Bush's leadership to encourage the construction of new nuclear power plants here in the U.S. The FY 2007 budget includes $632.7 million for nuclear energy programs, a $97.0 million increase above the FY 2006 appropriation. In addition to the $250 million for GNEP within the **Advanced Fuel Cycle Initiative, Generation IV** (Gen IV) research and development ($31.4 million) will improve the efficiency, sustainability, and proliferation resistance of advanced nuclear systems and Nuclear Power 2010 ($54.0 million), will lead the way, in a cost-sharing manner,

for industry to order new, advanced light-water reactors by the end of this decade. In addition, ongoing implementation of the Energy Policy Act of 2005 (EPACT) will establish federal insurance to protect sponsors of the first new nuclear power plants against the financial impact of certain delays during construction or in gaining approval for operation that are beyond the sponsors' control.

- **Strengthening America's National Security Commitments**
  In the area of national security, the budget proposes a total of $9.3 billion in FY 2007, a $211.3 million increase from the FY 2006 appropriation. At $6.4 billion, **Weapons Activities** remain essentially level with the FY 2006 appropriations to continue the transformation of the Nation's nuclear deterrent and supporting infrastructure to be more responsive to the threats of the 21st Century. The majority of the increase, $111.4 million, is in **Defense Nuclear Nonproliferation** programs to accelerate efforts to secure nuclear material in the former Soviet Union and advance an aggressive global nuclear nonproliferation agenda.

The Department of Energy's budget request also focuses on other key priorities. To meet our **environmental cleanup** commitments arising from nuclear activities during the Manhattan Project and the Cold War, the budget requests $5.8 billion to clean up legacy nuclear waste sites. DOE has accelerated cleanup at the legacy nuclear waste sites and recently announced completion of cleanup at Rocky Flats, a former nuclear weapons plant located outside of Denver, Colorado. In 2006, DOE will also complete environmental cleanup of the Fernald and Columbus sites in Ohio, the Sandia National Laboratory in New Mexico, and several other sites.

To continue to provide budgetary rigor and provide a public planning context for programmatic decisions, the Department expanded the development of **five-year budget plans**, including detailed five-year plans for the Department's major programs. This multi-year planning effort assures that the FY 2007 budget decisions are based on a sound corporate approach to allocating scarce financial resources to our most compelling priorities.

Reflected throughout the FY 2007 budget are the integration of performance measures and the incorporation of sound business practices in the Department's operation consistent with the President's Management Agenda. We also have established straight-forward operating principles which set the tone for further improving the management of the Department. These principles are:

- Accept no compromises in safety and security
- Act with a sense of purposeful urgency
- Work together, treating people with dignity and respect
- Make the tough choices
- Keep our commitments
- Manage Risk through informed decisions

PROMOTING SCIENCE AND TECHNOLOGICAL INNOVATION

As the millennium unfolds, we stand on the threshold of scientific revolutions in biotechnology and nanotechnology, in materials science, in fusion energy and high-intensity light sources, and in high-speed computing, to touch on only a few important fields. The nations that lead these scientific revolutions will likely dominate the global hi-tech economy for the foreseeable future. We are on the verge of major new discoveries about the nature of our universe, solutions to some of the deepest mysteries of the cosmos and the fundamental understanding of matter—insights that will transform the way we think about ourselves and our world.

The President's **American Competitiveness Initiative** will encourage American innovation and bolster our ability to compete in the global economy through increased federal investment in critical areas of research, especially in the physical sciences and engineering. This initiative will generate scientific and technological advances for decades to come and will help ensure that future generations have an even brighter future.

Twenty-first century science requires sophisticated scientific facilities. In many fields, private industry has neither the resources nor the near-term incentive to make significant investments on the scale required for basic scientific research to yield important discoveries. Indeed, in recent years, corporate research has declined. That is why the Department's Office of Science, which is responsible for ten world-class U.S. national laboratories and is the primary builder and operator of scientific facilities in the United States, plays such a critical role. Investment in these facilities is much more than bricks and mortar; it is an investment in discovery and in the future of our Nation. The Office of Science is also educating and training our next generation of scientists and engineers. Roughly half of the researchers at Office of Science-run facilities are university faculty or graduate or postdoctoral students (who work side by side with scientists and researchers employed directly by the labs), and about a third of Office of Science research funds go to institutions of higher learning. In addition, the NNSA operates three world-class national laboratories which greatly advances the frontiers of science in connection with their national security mission and which have many interactions with universities.

I am pleased to inform the Committee that the Department is already achieving meaningful scientific results with our latest high-end supercomputing systems, including Blue Gene L and Purple at Lawrence Livermore National Laboratory and our Red Storm supercomputer at Sandia National Laboratory. Within a month of coming online, weapons designers at Lawrence Livermore and Los Alamos, working jointly, have discovered key physics that is important to weapons design that could not have been identified using less capable computers. This discovery is critically important to predicting the behavior of weapons, and, as a result, our ability to be responsive to national needs. Because of the interrelationships among the Department's science-based programs, these new, remarkably powerful computers are already having a major, positive effect on science in several of our laboratories.

The President's FY 2007 budget request of $4.1 billion for the Office of Science will move us forward on several scientific fronts designed to produce discoveries that will strengthen our national competitiveness. Final international negotiations are close to being completed with our international partners in **ITER**, the fusion experimental reactor designed to demonstrate the scientific and technological feasibility of fusion energy. Capable of producing a sustained, burning fusion fuel, ITER will be the penultimate experiment before commercialization of fusion as a plentiful, environmentally friendly source of energy. A request of $60.0 million in FY 2007 provides funding for the second year of the ITER project. The return on investment will expand across international borders and has the promise of tremendous economic opportunity and development.

The FY 2007 budget also includes $105.9 million to enable us to continue construction of the **Linac Coherent Light Source** (LCLS), the world's first x-ray free electron laser. The LCLS will allow us to watch matter in action, one molecule at a time, and witness chemical reactions at the microscopic level in real time. The structural knowledge obtained with x-rays holds the key to understanding the properties of matter such as mechanical strength, magnetism, transport of electrical currents and light, energy storage, and catalysis. Likewise, in biology much of what we know about structure and function on a molecular level comes from x-ray studies. Such knowledge forms the basis for the development of new materials and molecules and the enhancement of their properties, which in turn will advance technology, fuel our economy, and improve our quality of life. In addition, the FY 2007 Budget seeks $19.2 million in FY 2007 for the first full year of operations of each of four facilities for nanoscience research and $19.4 million to continue with construction of a fifth.

The FY 2007 budget provides $171.4 million for the **Spallation Neutron Source (SNS)**, which enters its first full year of operation as the world's foremost facility for neutron scattering.

The FY 2007 budget request also includes $135.3 million for the **Genomes: GTL** research, which will help us understand how nature's own microbial communities can be harnessed to remove carbon from the atmosphere, generate hydrogen for fuel, and turn cellulose into ethanol.

Within the $4.1 billion FY 2007 budget request for Science, $143.3 million is provided to support near full operation of the **Relativistic Heavy Ion Collider (RHIC)**, which gives us a lens into the early universe, and $80.0 million is allocated to allow near full operation of the **Continuous Electron Beam Accelerator Facility (CEBAF)**, which will give new insight on the quark-structure of matter. Early studies of nuclear and particle physics provided the foundation for technologies that have changed our daily lives, giving us televisions, transistors, medical imaging devices, and computers, and has enormous potential to lead to unexpected discoveries. The **Large Hadron Collider (LHC)** at CERN, scheduled to be completed in 2007, will open a new chapter in illuminating the structure of matter, space and time. At this new energy frontier, qualitatively new phenomena of nature should emerge. There are many possibilities - supersymmetry, extra space dimensions, or unexpected new symmetries of nature - but

finding out which, if any, are true can only be settled by experiment. In FY 2007, $56.8 million is requested to support U.S. participation in the LHC research program. The new results anticipated at the LHC can be significantly advanced by discoveries at a potential next generation International Linear Collider (ILC) which would break new ground in our understanding of nature. In FY 2007, the ILC funds for research and development are doubled with a funding request of $60.0 million.

The budget also includes $318.7 million to solidify America's leadership in the economically vital field of **high-speed computing**, a tool increasingly integral not only to advanced scientific research, but also to industry. The budget will provide the pathway toward a point when computers will be so powerful that researchers will be able to attack a wide range of previously impossible scientific problems through modeling and simulation, enabling the U.S. to maintain leadership in this strategic area. Additionally, from development of the suite of scientific software and applications for the petascale computers, U.S. industry will be able to accelerate innovation, saving billions in development costs and giving our economy untold competitive advantages.

We are, in short, on the verge of a revolution across multiple sciences as profound as any humanity has witnessed - one that will transform our vision of nature and, ultimately, our industry and economy.

ADVANCING AMERICA'S ECONOMIC AND ENERGY SECURITY

The Energy Policy Act of 2005, signed by President Bush on August 8, 2005, serves as a roadmap to help lead the United States to a secure energy future. The FY 2007 budget request of $2.6 billion to support energy programs fulfills President Bush's pledge to promote a strong, secure economy and expand our Nation's energy supply by developing a diverse, dependable energy portfolio for the future.

The President has proposed the **Advanced Energy Initiative** to help reduce America's dependence on foreign sources of oil and accelerate development of clean energy technologies through targeted increases in federal investment.

The FY 2007 budget request of $1.2 billion for **energy efficiency and renewable energy** activities reallocates resources to emphasize technologies with the potential for reducing our growing reliance on oil imports and for producing clean electricity with reduced emissions. It includes two new Presidential initiatives; Biofuels and Solar America. The FY 2007 budget proposes $149.7 million for the **Biofuels Initiative** to develop by 2012 affordable, domestically produced bio-based transportation fuels, such as ethanol, from cellulosic feedstocks (such as agricultural wastes, forest residues, and bioenergy crops), and encourage the development of biorefineries. Biomass has the promise to deliver a plentiful domestic energy resource with economic benefits to the agricultural sector, and to directly displace oil use. The **Solar America Initiative** accelerates the development of solar photovoltaics, a technology that converts energy from the sun into electricity. Further development can help this emissions-free technology achieve efficiencies to

make it cost-competitive with other electricity generation sources by 2015. The FY 2007 Budget provides $148.4 million for the **Solar Energy Program** that comprises the initiative.

In addition to funding increases for biomass and solar energy, the Energy Efficiency and Renewable Energy budget request includes $195.8 million to support continued research and development in **hydrogen and fuel cell technology** which holds the promise of an ultra-clean and secure energy option for America's energy future. The increase of $40.2 million above the FY 2006 appropriation accelerates activities geared to further improve the development of hydrogen production and storage technologies, and evaluate the use of hydrogen as an emissions-free transportation fuel source. The President's **Hydrogen Fuel Initiative** is funded at $289.5 million and includes $195.8 million for DOE's Energy Efficiency and Renewable Energy program, $23.6 million for DOE's Fossil Energy program, $18.7 million for DOE's Nuclear Energy program, $50.0 million for DOE's Science program, and $1.4 million for the Department of Transportation. While the budget proposes increases for Biomass, Solar and Hydrogen research, the Geothermal Program will be closed out in FY 2007 using prior year funds. The 2005 Energy Policy Act amended the Geothermal Steam Act of 1970 in ways that should spur development of geothermal resources without the need for subsidized Federal research to further reduce costs.

Nuclear power, which generates 20 percent of the electricity in the United States, contributes to a cleaner, more diverse energy portfolio. In FY 2007 a total of $632.7 million is requested for nuclear energy activities. Within the total, $250 million will support the **Global Nuclear Energy Partnership (GNEP)**. GNEP is a comprehensive strategy to enable an expansion of nuclear power in the U.S. and around the world, to promote nuclear nonproliferation goals; and to help resolve nuclear waste disposal issues.

GNEP will build upon the Administration's commitment to develop nuclear energy technology and systems, and enhance the work of the United States and our international partners to strengthen nonproliferation efforts. GNEP will accelerate efforts to:

- Enable the expansion of emissions-free nuclear power domestically and abroad;
- Reduce the risk of proliferation; and
- Utilize new technologies to recover more energy from nuclear fuel and dramatically reduce the volume of nuclear waste.

Through GNEP, the United States will work with key international partners to develop new recycling technologies that do not result in separated plutonium, a traditional proliferation risk. Recycled fuel would then be processed through advanced burner reactors to extract more energy, reduce waste and actually consume plutonium, dramatically reducing proliferation risks. As part of GNEP, the U.S. and other nations with advanced nuclear technologies would ensure developing nations a reliable supply of nuclear fuel in exchange for their commitment to forgo enrichment and reprocessing facilities of their own, also alleviating a traditional proliferation concern.

GNEP will also help resolve America's nuclear waste disposal challenges. By recycling spent nuclear fuel, the heat load and volume of waste requiring permanent geologic disposal would be significantly reduced, delaying the need for an additional repository indefinitely.

The Administration continues its commitment to open and license Yucca Mountain as the nation's permanent geologic repository for spent nuclear fuel, a key complement to the GNEP strategy. Managing and disposing of commercial spent nuclear fuel in a safe and environmentally sound manner is the mission of DOE's Office of Civilian Radioactive Waste Management (RW).

To support the near-term domestic expansion of nuclear energy, the FY 2007 budget seeks $54.0 million for the **Nuclear Power 2010** program to support continued industry cost-shared efforts to reduce the barriers to the deployment of new nuclear power plants. The technology focus of the Nuclear Power 2010 program is on Generation III+ advanced light water reactor designs, which offer advancements in safety and economics over the Generation III designs. If successful, this seven-year, $1.1 billion project (50% to be cost-shared by industry) could result in a new nuclear power plant order by 2009 and a new nuclear power plant constructed by the private sector and in operation by 2014.

Funding of $1.8 million is provided in FY 2007 to implement a new program authorized in the recently enacted Energy Policy Act of 2005. The program will allow DOE to offer **risk insurance** to protect sponsors of the first new nuclear power plants against the financial impact of certain delays during construction or in gaining approval for operation that are beyond the sponsors' control. This program would cover 100 percent of the covered cost of delay, up to $500 million for the first two new reactors and 50 percent of the covered cost of delay, up to $250 million each, for up to four additional reactors. This risk insurance offers project sponsors additional certainty and incentive to provide for the construction of a new nuclear power plant by 2014.

The FY 2007 budget request includes $31.4 million to continue to develop next-generation nuclear energy systems known as **Generation IV (GenIV)**. These technologies will offer the promise of a safe, economical, and proliferation resistant source of clean, reliable, sustainable nuclear power with the potential to generate hydrogen for use as a fuel. Resources in FY 2007 for GenIV will be primarily focused on long-term research and development of the Very-High Temperature Reactor.

The **University Reactor Infrastructure and Educational Assistance** program was designed to address declining enrollment levels among U.S. nuclear engineering programs. Since the late 1990s, enrollment levels in nuclear education programs have tripled. In fact, enrollment levels for 2005 have reached upwards of 1,500 students, the program's target level for the year 2015. In addition, the number of universities offering nuclear-related programs also has increased. These trends reflect renewed interest in nuclear power. Students will continue to be drawn into this course of study, and universities, along with nuclear industry societies and utilities, will continue to invest in university research reactors, students, and faculty members. Consequently, Federal

assistance is no longer necessary, and the 2007 Budget proposes termination of this program. The termination is also supported by the fact that the program was unable to demonstrate results from its activities when reviewed using the Program Assessment Rating Tool (PART), supporting the decision to spend taxpayer dollars on other priorities. Funding for providing fresh reactor fuel to universities is included in the Research Reactor Infrastructure program, housed within Radiological Facilities Management.

Recognizing the abundance of coal as a domestic energy resource, the Department remains committed to research and development to promote its clean and efficient use. U.S. coal accounts for twenty five percent of the world's coal reserves. For the last three years, the Department has been working to launch a public-private partnership, **FutureGen**, to develop a coal-based facility that will produce electricity and hydrogen with essentially zero atmospheric emissions. This budget includes $54 million in FY 2007 and proposes an advance appropriation of $203 million for the program in FY 2008. Funding for FutureGen will be derived from rescinding $203 million in balances no longer needed to complete active projects in the Clean Coal Technology program. Better utilization of these fund balances to support FutureGen will generate real benefits for America's energy security and environmental quality.

The budget request for FY 2007 includes $4.6 million to support **Alaska Natural Gas Pipeline** activities authorized by Congress in late 2004. Within the total amount of $4.6 million, $2.3 million will be used to support an Office of the Federal Coordinator and the remaining $2.3 million will support the **Loan Guarantee** portion of the program. Once constructed, this pipeline will be capable of delivering enough gas to meet about ten percent of the U.S. daily natural gas needs.

The budget request proposes to terminate the oil and gas research and development programs, which have sufficient market incentives for private industry support, to other energy priorities.

The Energy Policy Act of 2005 established a new mandatory oil and gas research and development (R&D) program, called the Ultra-Deep and Unconventional Natural Gas and Other Petroleum Research program, that is to be funded from Federal revenues from oil and gas leases beginning in FY 2007. These R&D activities are more appropriate for the private-sector oil and gas industry to perform. Therefore, this budget proposes to repeal the program through a future legislative proposal, although we will faithfully execute current law until such time that Congress acts affirmatively on that legislative proposal.

The FY 2007 budget includes $124.9 million for a refocused portfolio of energy reliability and assurance activities in the **Office of Electricity Delivery and Energy Reliability.** This will support research and development in areas such as high temperature superconductivity, and simulation work needed to enhance the reliability and effectiveness of the Nation's power supply. This office also operates the Department's

energy emergency response capability and led DOE's support effort during and after the Gulf Coast hurricanes.

The Department of Energy's **Power Marketing Administrations (PMAs)**, consisting of the Southeastern (SEPA), Southwestern (SWPA), Western Area (WAPA) and Bonneville Power Administrations (BPA), play an important role in meeting energy demands and fueling our economy. The electricity generated at Federal hydroelectric facilities and sold by the PMAs represents four percent of the Nation's electricity supply. In FY 2007, $229 million is requested for SEPA, SWPA, and WAPA to continue their activities.

The budget includes a proposal that sets the interest rate for certain new obligations incurred by SEPA, SWPA and WAPA paid to the Treasury for power related investments at the rate Government corporations borrow in the market. This rate is similar to the interest rate current law sets for BPA borrowing from the U.S. Treasury. However, this change applies only to investments whose interest rates are not set by law. These three PMA obligations due to Treasury currently outstanding will continue to retain existing interest rates. This is expected to result in a rate increase of less than 1 percent paid by some PMA customers. This change is expected to increase total receipts to the U.S. Treasury, beginning in FY 2007, by approximately $2-3 million annually.

BPA, unlike the other three PMAs, is "self-financed" by the ratepayers of the Pacific Northwest and receives no annual appropriation from Congress. BPA funds the expense portion of its budget and repays amounts it has borrowed from the Treasury as well as certain Federal investments with revenues from electric power and transmission rates.

The President's FY 2007 Budget provides, consistent with sound business practices required under the Federal Columbia River Transmission Act of 1974, that BPA will use any net secondary revenues it earns above $500 million annually to make early payments on its federal bond debt to the U.S. Treasury. Due to high energy prices, these net secondary revenues could be significantly higher than historical levels, especially in the next three years. The budget reflects $924 million from FY 2007-2016 from these higher-than-historical net secondary revenues. Absent implementation of the Budget proposal, BPA could run out of borrowing authority from the U.S. Treasury, and therefore limiting BPA's ability to invest in energy infrastructure, as early as 2011.

In addition, the FY 2007 budget provides that Energy Northwest will refinance a portion of its debt in calendar years 2006 and 2007. During FY 2006 and FY 2007, these deficit reduction proposals should allow $1.3 billion in additional U.S. Treasury borrowing authority to become available to BPA.

In the month since the FY 2007 budget was released, I have heard from Members of Congress and from various stakeholders concerning the Administration's budget proposal relating to BPA. I also have met with Members of Congress from the Pacific Northwest, from both parties, concerning that proposal; I have found those discussions to be helpful. I continue to believe that the Administration's proposal makes good sense for the Bonneville Power Administration and its customers. I have decided that a formal BPA

rate case to address the proposal will not be initiated until July, and have committed to a further dialogue with members of the Pacific Northwest Congressional delegation and others in Congress concerning the proposal.

ADVANCING AMERICA'S NATIONAL SECURITY

The National Nuclear Security Administration (NNSA) continues significant efforts to meet Administration and Secretarial priorities by conducting fundamental and applied scientific research and development, and applying that science to promote national security. The FY 2007 budget proposes $9.3 billion to meet defense-related objectives. The budget request maintains commitments to the nuclear deterrence requirements of the Administration's Nuclear Posture Review (NPR) and continues to fund an aggressive strategy to mitigate the threat of weapons of mass destruction. Key investments include:

- Transforming the nuclear weapons stockpile and infrastructure while meeting Department of Defense requirements;
- Conducting innovative programs in the former Soviet Union and other countries to address nonproliferation priorities;
- Supporting naval nuclear propulsion requirements for the nuclear Navy;
- Providing nuclear emergency response assets in support of homeland security.

Weapons Activities: The United States continues a fundamental shift in national security strategy to address the realities of the 21st century. The Administration's NPR addresses a national security environment in which threats may evolve more quickly and be less predictable and more variable than in the past. The NPR recognizes the need to transition from a threat-based nuclear deterrent with large numbers of deployed and reserve weapons, to a deterrent consisting of a smaller nuclear weapons stockpile with greater reliance on the capability and responsiveness of the Department of Defense (DOD) and NNSA infrastructure to respond to threats. The NNSA infrastructure must be able to meet new requirements in a timely and agile manner while also becoming more sustainable and affordable. As part of the goal of a responsive infrastructure, efforts are underway to both modernize and consolidate the facilities and infrastructure needed for ongoing stockpile stewardship from the current Cold War configuration. The Department is reviewing recommendations from the recent Secretary of Energy Advisory Board (SEAB) study of the nuclear weapons complex and is formulating a strategic plan for achieving a responsive infrastructure that includes consideration of those recommendations. We intend to communicate the elements of that plan to Congress this spring.

The FY 2007 budget request of $6.4 billion for **Weapons Activities** strongly supports implementation of the responsive infrastructure and the ongoing program of work that forms the backbone of the nuclear weapons deterrent as well as a robust safeguards and security program. This includes all programs to meet the immediate needs of the stockpile, stockpile surveillance, annual assessment, and life extension programs. NNSA uses world-class science resources along with industry and academia in the areas of

computation, simulation, experiments, materials science and analysis of highly complex weapons physics information. NNSA will continue to move ahead with the **Reliable Replacement Warhead** (RRW) program to establish the path forward for stockpile transformation. Success of the RRW program will, in turn, enable transformation to a more responsive infrastructure. The campaigns are focused on long-term vitality in science and engineering and on R&D supporting future DOD requirements, and include support of the first ignition experiment at the National Ignition Facility in 2010. These campaigns also represent a core investment in science and technology within DOE whose reach is felt beyond the national security arena. In addition, NNSA is implementing a responsive infrastructure of people, science and technology base, and facilities and equipment needed to support a right-sized nuclear weapons infrastructure.

Defense Nuclear Nonproliferation: Preventing weapons of mass destruction from falling into the hands of terrorists is one of this Administration's top national security priorities. The FY 2007 request of $1.7 billion strongly supports the international programs that are denying terrorists the nuclear materials, technology and expertise needed to develop or otherwise acquire nuclear weapons. The FY 2007 budget request for Defense Nuclear Nonproliferation increases by 6.9 percent the amount appropriated in FY 2006. NNSA continues unprecedented efforts to protect the U.S. and our allies from threat, including $261 million for cutting-edge **nonproliferation research and development** for improved technologies to detect and monitor nuclear proliferation and nuclear explosions worldwide. There are also major efforts focused on potential threats abroad. The budget request includes $207 million to help complete the shut down of three Russian nuclear reactors still producing 1.2 metric tons of plutonium per year and replace them with conventional fossil fuel power plants. Also, this budget requests $290 million for construction of the U.S. **Mixed Oxide Fuel Fabrication Plant** at DOE's Savannah River Site in South Carolina. This facility will dispose of 34 metric tons of U.S. surplus plutonium.

A key breakthrough in nonproliferation efforts was recently achieved with the agreement at the Bratislava meeting in 2005 to allow the United States to help Russia improve security at a number of military warhead sites. Coupled with the continuing material protection and recovery programs, **Megaports** and **Second Line of Defense**, and the successful completion of negotiations on a liability protection protocol allowing the U.S. and Russia to move ahead on disposition of surplus plutonium, NNSA is making significant strides to reduce the threat from proliferation of warheads and weapons-usable nuclear materials.

Naval Reactors: NNSA continues to support the United States Navy's nuclear propulsion systems. The FY 2007 request is an increase of 1.7 percent over the FY 2006 appropriation level. This increase allows the Naval Reactors program to develop new technologies, methods, and materials to support reactor plant design for the next generation reactors for submarines and aircraft carriers, and continue stewardship and remediation for their facilities and sites to maintain outstanding environmental performance.

Safeguards and Security: The Defense Nuclear Security program is responding to a revision in threat guidance affecting **physical security** at all NNSA sites. Meeting the new Design Basis Threat will require further upgrades to equipment, personnel and facilities. NNSA is committed to completing these upgrades. The FY 2007 budget request for Cyber Security program activities, protecting information and IT infrastructure, is essentially level with the FY 2006 funding level. The FY 2007 Request includes funding for the **DOE Diskless Conversion** initiative. Meeting the post-9/11 security requirements has required a significant long-term investment, reflecting DOE's continuing commitment to meet these requirements.

ENSURING A CLEAN ENVIRONMENT

Just as important as advances in national security, energy independence, and scientific discovery are the Department's programs that protect human health and the environment by cleaning up Cold War legacy waste and improving management of spent nuclear fuel through the establishment of the national permanent nuclear waste repository at Yucca Mountain, Nevada. Like many of the Department's major programs, the environmental cleanup program and the nuclear waste repository activities have undergone management and programmatic reforms to further improve operations and implement effective and efficient practices.

To deliver on the Department's environmental cleanup commitments following 50 years of nuclear research and production from the Cold War, in 2002 the Environmental Management program underwent a major transformation that would enable the Department to perform its cleanup activities faster than previously estimated. Working in partnership with the public, states and regulators, the Environmental Management (EM) program has made significant progress in the last four years to shift away from risk management toward risk reduction. By the end of FY 2006, the cleanup of a total of eighty-six DOE nuclear legacy sites will be complete. This includes the recently announced completion of Rocky Flats and the anticipated FY 2006 completion of Fernald and Columbus sites in Ohio. While encouraged by the results demonstrated thus far, the program continues to stay focused on the mission and is working aggressively to enhance and refine project management approaches while addressing the regulatory and legal challenges associated with this complex environmental cleanup program.

In FY 2007, the budget includes $5.8 billion to continue environmental cleanup with a focus on site completion, with eight sites or areas to be completed in the 2007 to 2009 timeframe. This budget request is reduced from the FY 2006 budget request of $6.5 billion primarily reflecting cleanup completion at some sites in FY 2006 and the subsequent transfer of post-closure work activities. As cleanup work is completed over the next five years at sites without a continuing mission, EM will transfer long-term surveillance and monitoring activities and management of pension and benefit programs to the Office of Legacy Management. For those with continuing missions, these activities will be transferred to the cognizant program office.

The $5.8 billion budget request remains focused on EM's mission of reducing risk by cleaning up sites–consequently also reducing environmental liability–and will support the following key activities:

- Stabilizing radioactive tank waste in preparation for disposition (about 30 percent of the FY 2007 request for EM);
- Dispositioning transuranic and low-level wastes (about 15 percent of the request for EM);
- Storing and safeguarding nuclear materials (about 15 percent of the request for EM);
- Decontaminating and decommissioning excess facilities (about 20 percent of the request for EM); and
- Remediating major areas of our large sites (Hanford, Savannah River Site, Idaho National Laboratory, and Oak Ridge Reservation) (about 10 percent of the request for EM)

One of the significant cleanup challenges is the management and treatment of high-level radioactive liquid waste at the **Hanford Waste Treatment and Immobilization Plant** (WTP). In FY 2007, $690 million is proposed for the WTP project. The plant is a critical component of the program's plans to clean up 53 million gallons of radioactive waste currently stored in 177 aging underground storage tanks.

By June 2006, the U.S. Army Corps of Engineers is expected to complete an independent cost validation, deploying more than 25 professionals experienced in cost estimating, design, construction, and commissioning. The Department plans to utilize the results from several reviews to validate cost and schedule for this project.

The Department, while responsible for the cleanup and disposal of high-level radioactive waste generated from the Cold War, is also responsible for managing and disposing of commercial spent nuclear fuel in a safe and environmentally sound manner. The latter responsibility is the mission of DOE's **Office of Civilian Radioactive Waste Management** (RW).

The Nation's commercial and defense high-level radioactive waste and spent nuclear fuel will be safely isolated in a geologic repository to minimize risk to human health and the environment. The FY 2007 budget requests $544.5 million to establish a geologic repository at **Yucca Mountain**, Nevada. This Administration is strongly committed to establishing Yucca Mountain as the Nation's first permanent repository for high-level waste and spent nuclear fuel. Licensing and developing a repository for the disposal of these materials will help set the stage for an expansion of nuclear power through the President's GNEP initiative, which could help to diversify our energy supply and support our economic future. Permanent geological disposal at Yucca Mountain offers the safest, most environmentally sound solution for dealing with this challenge.

To further advance the Administration's commitment to the establishment of Yucca Mountain, the Department intends to submit to Congress legislation to address land withdrawal, funding and other issues that are important to the program's success.

As the Environmental Management program completes cleanup of sites throughout the DOE complex, management of post closure activities at these sites will transfer to the **Office of Legacy Management** (LM). In FY 2007, $201.0 million is proposed to provide long-term surveillance and maintenance, long-term response actions, oversight and payment of pensions and benefits for former contractor retirees, and records management activities at closure sites transferred to LM. The majority of funding ($122.4 million) is associated with the transfer of post closure responsibilities and funding of three major sites from EM to LM in FY 2007. These sites are: Rocky Flats, $90.8 million; Fernald, $26.5 million; and a group of sites known as the Nevada off sites, $5.1 million. The cumulative effect of these three transfers results in a 150 percent increase in the Legacy Management budget matched by a corresponding decrease in the Environmental Management budget.

PROMOTING CONSERVATION

I would also like to briefly mention to you the work that the Department has been doing to promote energy conservation. As part of our "Easy Ways to Save Energy" campaign, senior leaders in the Energy Department, including myself, traveled the country to help American families and businesses better deal with limited supplies and high energy prices. We went to places like Home Depot and Lowe's to showcase simple, readily-available energy savers that Americans can put into use right now. The campaign also includes Public Service Announcements--in English and Spanish--which were sent to 4,500 stations. In addition, we have distributed more than 20,000 EnergySavers booklets, with tips for saving energy and money in the home. We've also dispatched teams of energy efficiency experts to help identify energy-saving options at large federal facilities and private industrial plants.

IMPROVING MANAGEMENT FOR RESULTS IN OUR LIFETIME

Underpinning and supporting all of the programs above, the Department of Energy has continued to make strides in meeting President Bush's challenge to become more efficient, more effective, more results-oriented, and more accountable for performance. Over the past four years, the President's Management Agenda (PMA) has been the framework for organizing the Department's management reform efforts.

To better manage human capital, the Department implemented a performance management system to link employee achievement at all levels with mission accomplishment. In FY 2006, DOE will publish, communicate and implement a revised five-year Human Capital Management Strategic Plan as well as a formal leadership succession plan. The Department completed six competitive sourcing studies and has

three others underway. The completed studies encompass over 1,300 Federal and 1,000 contractor positions with $532.6 million in expected savings. During FY 2007, DOE anticipates studying approximately 100 to 300 positions.

In FY 2006 and FY 2007, DOE will expand the availability of financial data in support of decision-making by continuing to implement the Integrated Management Navigation (I-MANAGE) system, specifically in the areas of budget and procurement through the Integrated Data Warehouse (IDW). The Department continues to apply Earned Value Management principles to each of its major information technology investments. In addition, DOE is partnering with other government agencies to develop a standardized and integrated human resources information system, and to develop a consolidated grants management system.

The Department continued its effort to institutionalize multi-year planning and strengthen the link between program performance and resource allocation decisions. The Program Assessment Rating Tool (PART) continues to be used to promote improved program performance. For programs that have not formally been reviewed by OMB, the PART process has been used for internal self-assessment.

A number of important milestones were reached in Real Property Management including the approval of the Asset Management Plan (AMP) by the Deputy Secretary. The AMP outlines an overall framework for the strategic management of the Department's $77 billion portfolio of Real Property Assets. Additionally, the 20,000 real property records in the Facilities Information Management System, the Department's repository of real property information, were populated and updated as required by the Federal Real Property Council for support of the Federal Real Property Profile. This information will be used to support real property management decisions department-wide.

As these examples indicate, the Department of Energy is using the PMA to address its many management challenges. The Department is working to become more streamlined, more efficient, and more results-oriented in FY 2007.

CONCLUSION

The Administration recognizes that energy is central to our economic and national security. Indeed, energy helps drive the global economy and has a significant impact on our quality of life and the health of our people and our environment. The FY 2007 budget request balances the need to address short-term challenges while planning for long-term actions. The request evidences the fact that our basic science research must remain strong if we are to remain competitive with our global partners. The request contains bold new initiatives in nuclear, biomass, and solar energy. It continues the President's strong commitment to clean coal, hydrogen, and fusion. The request honors our commitment to deal with civilian nuclear waste, as well as legacy waste from the Cold War, and to further our already successful nonproliferation programs in order to help ensure a safer world for generations to come.