DOE/CF-009

DEPARTMENT OF ENERGY

FY 2007 CONGRESSIONAL BUDGET REQUEST

BUDGET HIGHLIGHTS

FEBRUARY 2006

OFFICE OF CHIEF
FINANCIAL OFFICER

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ENERGY, SCIENCE AND SECURITY

"Scientific and technological research are a high calling for any individual. And promoting research is an important role of our federal government."

"Science and technology have never been more essential to the defense of the nation and the health of our economy."

- President George W. Bush

Over the last six years America has faced and overcome many challenges. From the Blackout of 2003 to the devastation caused by hurricanes Katrina and Rita, American families now more than ever understand the key relationship between our nation's energy security and America's economic security.

It is with this in mind, that the Department of Energy's budget for Fiscal Year (FY) 2007 was crafted. While seeking to meet America's short-term energy needs, the $23.5 billion FY 2007 budget is also focused on the future. The budget request makes bold investments to improve America's energy security while protecting our environment, puts policies in place that foster continued economic growth, spurs scientific innovation and discovery, and addresses the threat of nuclear proliferation.

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 drive economic strength and security. Developing revolutionary breakthroughs in science-driven technology lie at the heart of the Department of Energy's strategy to achieve its mission-driven goals. 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 Create a Global Nuclear Energy Partnership for Greater Energy Security in a Cleaner, Safer World**
  The Department's FY 2007 budget features $250 million to begin investments in the Global Nuclear Energy Partnership. 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.

  The Energy Information Administration 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 encourage clean development and reduce proliferation risks, 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.

- **Strategic Investments to Reduce America's Reliance on Oil and to Promote Clean Energy**

  The FY 2007 budget request emphasizes investment in alternative fuel technologies. This budget contains two new Departmental efforts (**Biofuels and Solar America Initiatives**) that can deliver significant public benefits in our lifetime. These two new activities, which will be part of the Department's **Biomass and Biorefinery Systems Research and Development** program and the **Solar Energy** program, respectively, will promote energy security by accelerating research to make alternative energy sources more cost competitive. Specifically, the FY2007 budget request proposes $149.7 million for Biomass and Biorefinery Systems Research and Development program to support **Biofuels** and $148.4 million for Solar Energy to support **Solar America**. In addition, the budget request continues to pursue the vision of reducing America's dependence on oil for transportation fuels through the development of a hydrogen economy. The budget requests a total of $288.1 million to support implementation of the **President's Hydrogen Fuel Initiative**. Finally, the FY 2007 budget provides $60.0 million for U.S. participation in **ITER**, an experimental reactor that puts us on a pathway to tapping the enormous potential of nuclear fusion as a source of plentiful, environmentally safe energy.

Given America's growing energy needs, we must also make better, more efficient use of our most abundant resource, namely coal. The Fossil Energy budget maintains an emphasis on the tremendous potential of U.S. coal resources and includes $54 million in FY 2007 for 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. The Administration remains committed to the FutureGen project and provides an additional $268 million for supporting technologies that will be used in FutureGen and similar next generation coal-fueled power plants.

The Department of Energy's budget request also focuses on other key priorities. 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. 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. 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.

To meet our **environmental cleanup** commitments left over from the Manhattan Project and the Cold War, the budget submission requests $5.8 billion to clean up legacy nuclear waste sites. To date, DOE has accelerated cleanup of 20 DOE 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 out-year context to programmatic decisions the Department expanded the development of **five-year budget plans**. A consolidated plan for the entire Department will include 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. Secretary Bodman has also 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 urgency
- Work together
- Treat people with dignity and respect
- Make the tough choices
- Keep our commitments
- Embrace risk-taking

MEETING THE DEPARTMENT'S MISSION

"To advance the national, economic, and energy security of the United States; to promote scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national nuclear weapons complex."

- U.S. Department of Energy Mission Statement

ADVANCING AMERICA'S NATIONAL SECURITY

The National Nuclear Security Administration (NNSA) continues significant efforts to meet Administration and Secretarial priorities leveraging 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 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 nations of the former Soviet Union and other countries to address nonproliferation priorities;
- Supporting naval nuclear propulsion requirements for the U.S. Navy;
- Upgrading the security infrastructure to address the 2005 Design Basis Threat;
- Providing nuclear emergency response assets in support of homeland security;
- Reducing the deferred maintenance backlog and achieving facility footprint reduction goals; and,
- Providing corporate management and oversight for NNSA programs and operations.

The FY 2007-2011 budget proposal takes no explicit action on the recent Secretary of Energy Advisory Board (SEAB) study of the weapons complex as the recommendations are under review.

Weapons Activities: The United States continues a fundamental shift in national security strategy to address the realities of the 21st century. The Administration's Nuclear Posture Review (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. Efforts are underway to consolidate the facilities and infrastructure needed for ongoing stockpile stewardship from the current Cold War configuration.

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. This includes all programs to meet the immediate needs of the stockpile, stockpile surveillance, annual assessment, and life extension programs. NNSA will continue to move ahead with the **Reliable Replacement Warhead** program to establish the path forward for stockpile transformation. The campaigns are focused on long-term vitality in science and engineering and on R&D supporting future DoD requirements. 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 $111.4 million or 6.9 percent over the FY 2006 appropriation. 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 to 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 achieved in 2005 with the agreement announced by Presidents Bush and Putin in Bratislava to accelerate U.S. and Russian efforts to improve security at a number of military warhead sites in Russia. Together with NNSA's ongoing materials protection and recovery programs, and border and port nuclear detection efforts, this agreement represents a great stride forward in reducing the threat from proliferation of warheads and weapons-usable nuclear materials.

Naval Reactors: NNSA continues to support the US. Navy's nuclear propulsion systems. The FY 2007 request of $795 million is an increase of 1.7 percent over the FY 2006 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.

ADVANCING AMERICA'S ECONOMIC AND ENERGY SECURITY

The President's 2002 National Energy Policy coupled with the Energy Policy Act of 2005, serve as the roadmap to lead the United States to a secure energy future. The FY 2007 budget request of $2.6 billion to support energy programs is a significant investment in President's Bush's pledge to promote a strong, secure economy and expand our Nation's energy supply by developing a diverse, dependable, and clean energy portfolio.

Nuclear power, which generates 20 percent of the electricity in the United States, contributes to a cleaner and more diverse energy mix. In FY 2007 a total of $632.7 million is requested for nuclear energy activities. Included in that total is $250 million that 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 l:

- Enable the expansion of emissions-free nuclear power domestically and abroad to support economic growth here at home and around the world;
- Reduce the risk of nuclear proliferation by developing and deploying the latest in proliferation resistant technologies as well as enhanced nuclear safeguards.
- Utilize new technologies to recover more energy from nuclear fuel and dramatically reduce the volume of nuclear waste; and

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 near-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 and transferring $54 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 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. According to the Energy Information Administration, total consumption of natural gas is projected to increase from 22.4 trillion cubic feet in 2004 to 27.0 trillion cubic feet in 2025. Alaska's production would be 8.2 percent of domestic consumption.

The budget request continues to shift resources away from oil and gas research and development programs, which have sufficient market incentives for private industry support, to other energy priorities. The decision reflected strategic consideration by assessing the program's technical effectiveness and comparing it to other programs which have achieved more clearly demonstrated and substantial benefits. Federal staff, paid from the program direction account, will work toward an orderly termination of the program in FY 2007.

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 the FY 2007 budget proposes to repeal the program through a separate legislative proposal.

The FY 2007 budget request of $1.2 billion for **energy efficiency and renewable energy** activities was formulated to reallocate resources to emphasize technologies with the potential for reducing our growing reliance on oil and to promote clean energy production in the U.S. The FY 2007 budget proposes $149.7 million as part of the **Biofuels Initiative** to develop affordable, domestically-produced bio-based transportation fuels, such as ethanol, and encourage the development of biorefineries. Biomass has the promise to deliver a plentiful domestic energy resource with economic benefits to the agricultural sector. The **Solar America Initiative** in FY 2007 is funded at $148.4 million, a substantial increase of $65.3 million above FY 2006 funding for solar R&D. The increase accelerates the development of solar photovoltaics, a technology that converts energy from the sun into electricity in a highly efficient manner. Further

development can help this emissions-free technology achieve efficiencies to make it more cost-competitive with other electricity generation sources.

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 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. While geothermal energy remains an important regional contributor to energy needs, the FY 2007 request realigns the Energy Efficiency and Renewable Energy budget priorities to focus on programs that will have a greater impact on national security priorities.

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 (BPA) Power Administrations, 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 approximately 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 would increase rates paid by some Power Marketing Administration customers. The rate increases are estimated to be less than 1 percent. The budget proposes that the interest rate for new obligations incurred by SEPA, SWPA and WAPA paid to the Treasury for power related investments be set at the rate government corporations borrow in the market. This proposed change would set SEPA's, SWPA's and WAPA's interest rates on Treasury-owned obligations similar to interest rates current law sets for BPA's borrowing from the U.S. Treasury. However, this change applies only to investments whose interest rates are not set by law. Existing PMA amounts owed to Treasury will continue to retain their existing interest rates. 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 direct annual appropriations from Congress because it is a revolving fund. Under the Federal Columbia River Transmission System Act of 1974, BPA funds the expense portion of its budget and repays the Federal investment with revenues from electric power and transmission rates. Beginning in FY 2007 and consistent with sound business practices, the budget provides that BPA will use any net secondary market revenues in excess of $500 million per year, to make advance amortization payments to the United States Treasury on BPA's bond obligations. This administrative action will provide BPA with needed financial flexibility to meet its future energy investment needs, including the need to build critical transmission capacity. The budget estimates a total of $924 million will be available from FY 2007 through FY 2016 from expected higher-than-historical net secondary revenues.

In addition, the FY 2007 budget reflects the agreement that Energy Northwest will refinance a portion of its debt in calendar years 2006 and 2007. The effect of refinancing these obligations will make additional funding available ($70 million in 2006 and $312 million in 2007) to reduce BPA's debt to the U.S. Treasury. During FY 2006 and FY 2007, these deficit reduction proposals will allow an additional $1.3 billion in existing U.S. Treasury borrowing authority to become available to BPA.

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 high-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.

Twenty-first century science requires sophisticated scientific facilities. Private industry has neither the resources nor the near-term incentive to make the significant investment on the scale required for scientific discovery today. 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 come from universities, and about a third of Office of Science research funds go to institutions of higher learning.

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. Our science success continues three years after

President Bush announced U.S. participation in **ITER**, a 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. Final international negotiations to implement one of the world's most complex technologies are close to being completed with our six ITER international partners. A request of $60.0 million in FY 2007 provides funding for the second year of the ITER project, which holds the promise of discovering how to harness the energy of nuclear fusion - the heartbeat of the stars - to warm our homes and fuel our economy. 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 requests $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 forefront 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 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 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 in Switzerland, 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 that have not been seen since just after the big bang that began the universe. 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, spending on ILC research and development doubles 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 the petaflop era, when computers will be so powerful that researchers will be able to attack a wide range of scientific problems through modeling and simulation that was previously impossible, 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 may 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.

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 and completed a major transformation that would enable the Department to accelerate cleanup faster than previously estimated. Working in partnership with the public, states and regulators, the Environmental Management program has made significant progress in the last four years to shift away from risk management toward risk reduction. By the end of 2006, the cleanup of thirteen DOE legacy nuclear sites, including the recently announced completion of Rocky Flats, Colorado and Fernald, Ohio will be completed. 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 and address the regulatory and legal challenges incumbent in 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, the Environmental Management program (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.

Demonstrating the importance of remaining steadfast to the operating principles of reducing risk and environmental liability, while staying focused on the mission reduce risk by cleaning up sites, the FY 2007 budget request of $5.8 billion 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 (with 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. This repository is being developed 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.

The FY 2007 budget request of $544.5 million to establish a geologic repository at Yucca Mountain reflects the Department's new operational strategy to pursue a "clean canisterized" approach to fuel handling at the repository site. This strategy will result in Yucca Mountain operating as a primarily "clean" or non-contaminated repository site minimizing radiation exposure issues to the workers, the public and the environment. The new approach will use a smaller, less complex surface facilities "footprint" which will simplify the design, licensing and construction processes. In addition, multi purpose canisters suitable for the transportation, aging, and disposal of spent nuclear fuel and high-level waste will be developed which will simplify transportation and handling operations. Operating the site based on this "clean canisterized" approach will improve the safety, operation, and long-term performance of the repository.

To further advance the Administration's commitment to the establishment of Yucca Mountain, the Department intends to submit to Congress legislation to address regulatory, funding and other issues that have been impediments 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 the Environmental Management program to LM in FY 2007. These sites include: Rocky Flats, $90.9 million; Fernald, $26.4 million; and a group of sites known as the Nevada offsites, $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.

IMPROVING MANAGEMENT FOR RESULTS

The Department of Energy has continued to make great 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 better link employee achievement to mission accomplishment.

In FY 2007, 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.

The Department streamlined its financial reporting process enabling success in meeting the accelerated financial reporting deadlines. Due to challenges associated with implementing a new financial accounting system and the start-up of consolidated finance and accounting services operation, DOE did not receive a clean audit opinion in 2005. DOE will work in 2006 to improve accounting system performance, data quality, and training, as well as operations and controls. In FY 2006 and FY 2007, DOE will expand the availability of financial data in support of decision making by further implementing 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) process continues to be used to promote improved program performance. For programs which 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 meet its many management challenges. The results are clear: the Department is more streamlined, more efficient, more results-oriented, and is committed to continue these improvements in FY 2007.

Department of Energy

Budget by Organization

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Discretionary Summary By Organization					
National Security					
Weapons	6,625,542	6,369,597	6,407,889	+38,292	+0.6%
Defense Nuclear Nonproliferation	1,507,966	1,614,839	1,726,213	+111,374	+6.9%
Naval Reactors	801,437	781,605	795,133	+13,528	+1.7%
Office of the Administrator	363,350	338,450	386,576	+48,126	+14.2%
Total, National Nuclear Security Administration	9,298,295	9,104,491	9,315,811	+211,320	+2.3%
Energy, Science and Environment					
Energy					
Energy Efficiency and Renewable Energy	1,234,313	1,173,843	1,176,421	+2,578	+0.2%
Electricity Delivery & Energy Reliability	116,053	161,878	124,928	-36,950	-22.8%
Fossil Energy	629,242	841,639	648,876	-192,763	-22.9%
Nuclear Energy, Science and Technology	503,792	535,660	632,698	+97,038	+18.1%
Total, Energy	2,483,400	2,713,020	2,582,923	-130,097	-4.8%
Science	3,635,650	3,596,391	4,101,710	+505,319	+14.1%
Environment					
Environmental Management	7,276,168	6,590,250	5,828,038	-762,212	-11.6%
Civilian Radioactive Waste Management	572,384	495,000	544,500	+49,500	+10.0%
Office of Legacy Management	77,137	77,812	200,990	+123,178	+158.3%
Total, Environment	7,925,689	7,163,062	6,573,528	-589,534	-8.2%
Total, Energy, Science and Environment	14,044,739	13,472,473	13,258,161	-214,312	-1.6%
Corporate Management					
Office of the Secretary	4,644	5,365	5,539	+174	+3.2%
Competitive Sourcing	2,480	2,464	2,982	+518	+21.0%
Cost of Work and Revenues	-39,833	-42,793	-69,318	-26,525	-62.0%
Chief Information Officer	94,581	86,616	108,822	+22,206	+25.6%
Chief Financial Officer	35,542	37,402	36,790	-612	-1.6%
Management	53,743	53,853	55,237	+1,384	+2.6%
Human Resources	17,342	17,348	22,029	+4,681	+27.0%
Board of Contract Appeals	648	644	147	-497	-77.2%
Hearings and Appeals	4,283	4,310	4,422	+112	+2.6%
Congressional and Intergovernmental Affairs	4,826	4,795	4,866	+71	+1.5%
Public Affairs	2,682	4,475	4,419	-56	-1.3%
General Counsel	21,774	23,069	24,725	+1,656	+7.2%
Policy and International Affairs	15,947	15,844	19,876	+4,032	+25.4%
Economic Impact and Diversity	5,922	6,136	5,969	-167	-2.7%
Inspector General	41,176	41,580	45,507	+3,927	+9.4%
Security	296,118	——	——	——	——
Security and Safety Performance Assurance	——	304,024	298,497	-5,527	-1.8%
Independent Oversight and Performance Assurance	24,472	——	——	——	——
Environment, Safety and Health	141,096	103,979	109,935	+5,956	+5.7%
Energy Information Administration	83,819	85,314	89,769	+4,455	+5.2%
Power Marketing Administrations	208,794	269,725	251,975	-17,750	-6.6%
Colorado River Basins	----	-23,000	-23,000	——	——
Total, Corporate Management	1,020,056	1,001,150	999,188	-1,962	-0.2%
Federal Energy Regulatory Commission	-18,452	-15,542	-16,405	-863	-5.6%
Total, Discretionary Funding	**24,344,638**	**23,562,572**	**23,556,755**	**-5,817**	**-0.0%**

Department of Energy

Budget by Appropriation

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Discretionary Summary By Appropriation					
Energy And Water Development, And Related Agencies Appropriation Summary:					
Energy Programs					
Energy supply and Conservation	1,801,815	1,812,627	1,923,361	+110,734	+6.1%
Fossil energy programs					
Clean coal technology	-160,000	-20,000	——	+20,000	+100.0%
Fossil energy research and development	560,852	592,014	469,686	-122,328	-20.7%
Naval petroleum and oil shale reserves	17,750	21,285	18,810	-2,475	-11.6%
Elk Hills school lands fund	36,000	84,000	——	-84,000	-100.0%
Strategic petroleum reserve	126,710	207,340	155,430	-51,910	-25.0%
Northeast home heating oil reserve	4,930	——	4,950	+4,950	N/A
Strategic petroleum account	43,000	-43,000	——	+43,000	+100.0%
Total, Fossil energy programs	629,242	841,639	648,876	-192,763	-22.9%
Uranium enrichment D&D fund	495,015	556,606	579,368	+22,762	+4.1%
Energy information administration	83,819	85,314	89,769	+4,455	+5.2%
Non-Defense environmental cleanup	439,601	349,687	310,358	-39,329	-11.2%
Science	3,635,650	3,596,391	4,101,710	+505,319	+14.1%
Nuclear waste disposal	343,232	148,500	156,420	+7,920	+5.3%
Departmental administration	128,598	128,519	128,825	+306	+0.2%
Inspector general	41,176	41,580	45,507	+3,927	+9.4%
Total, Energy Programs	7,598,148	7,560,863	7,984,194	+423,331	+5.6%
Atomic Energy Defense Activities					
National nuclear security administration:					
Weapons activities	6,625,542	6,369,597	6,407,889	+38,292	+0.6%
Defense nuclear nonproliferation	1,507,966	1,614,839	1,726,213	+111,374	+6.9%
Naval reactors	801,437	781,605	795,133	+13,528	+1.7%
Office of the administrator	363,350	338,450	386,576	+48,126	+14.2%
Total, National nuclear security administration	9,298,295	9,104,491	9,315,811	+211,320	+2.3%
Environmental and other defense activities:					
Defense environmental cleanup	6,800,848	6,130,447	5,390,312	-740,135	-12.1%
Other defense activities	687,149	635,578	717,788	+82,210	+12.9%
Defense nuclear waste disposal	229,152	346,500	388,080	+41,580	+12.0%
Total, Environmental & other defense activities	7,717,149	7,112,525	6,496,180	-616,345	-8.7%
Total, Atomic Energy Defense Activities	17,015,444	16,217,016	15,811,991	-405,025	-2.5%
Power marketing administrations:					
Southeastern power administration	5,158	5,544	5,723	+179	+3.2%
Southwestern power administration	29,117	29,864	31,539	+1,675	+5.6%
Western area power administration	171,715	231,652	212,213	-19,439	-8.4%
Falcon & Amistad operating & maintenance fund	2,804	2,665	2,500	-165	-6.2%
Colorado River Basins	——	-23,000	-23,000	——	——
Total, Power marketing administrations	208,794	246,725	228,975	-17,750	-7.2%
Federal energy regulatory commission	——	——	——	——	——
Subtotal, Energy And Water Development and Related Agencies	24,822,386	24,024,604	24,025,160	+556	+0.0%
Uranium enrichment D&D fund discretionary payments	-459,296	-446,490	-452,000	-5,510	-1.2%
Excess fees and recoveries, FERC	-18,452	-15,542	-16,405	-863	-5.6%
Total, Discretionary Funding	**24,344,638**	**23,562,572**	**23,556,755**	**-5,817**	**-0.0%**

SECTION 1. DEFENSE STRATEGIC GOAL

Defense Strategic Goal: To protect our national security by applying advanced science and nuclear technology to the nation's defense.

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
National Nuclear Security Administration					
Weapons	6,625,542	6,369,597	6,407,889	+38,292	+0.6%
Defense Nuclear Nonproliferation	1,507,966	1,614,839	1,726,213	+111,374	+6.9%
Naval Reactors	801,437	781,605	795,133	+13,528	+1.7%
Office of the Administrator	363,350	338,450	386,576	+48,126	+14.2%
Total, National Nuclear Security Administration	**9,298,295**	**9,104,491**	**9,315,811**	**+211,320**	**+2.3%**

The Defense Strategic Goal is supported by the following three general goals:

General Goal 1. Nuclear Weapons Stewardship: Ensure that our nuclear weapons continue to serve their essential deterrence role by maintaining and enhancing the safety, security, and reliability of the U.S. nuclear weapons stockpile.

General Goal 2. Nuclear Nonproliferation: Provide technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction; advance the technologies to detect the proliferation of weapons of mass destruction worldwide; and eliminate or secure inventories of surplus materials and infrastructure usable for nuclear weapons.

General Goal 3. Naval Reactors: Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.

The following programs contribute to these goals:

Weapons Activities

Defense Nuclear Nonproliferation

Office of the Administrator

Naval Reactors

Weapons Activities – NNSA

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Weapons Activities					
Directed stockpile work	1,351,206	1,372,327	1,410,268	+37,941	+2.8%
Campaigns	2,300,014	2,123,161	1,937,390	-185,771	-8.7%
Readiness in technical base and facilities	1,657,712	1,644,755	1,685,772	+41,017	+2.5%
Secure transportation asset	199,709	209,979	209,264	-715	-0.3%
Nuclear weapons incident response	98,427	117,608	135,354	+17,746	+15.1%
Facilities and infrastructure recapitalization program	313,722	149,365	291,218	+141,853	+95.0%
Environmental projects and operations	——	——	17,211	+17,211	N/A
Safeguards and security	751,929	797,751	754,412	-43,339	-5.4%
Subtotal, Weapons Activities	6,672,719	6,414,946	6,440,889	+25,943	+0.4%
Use of prior year balances and other adjustments	-47,177	-45,349	-33,000	+12,349	+27.2%
Total, Weapons Activities	**6,625,542**	**6,369,597**	**6,407,889**	**+38,292**	**+0.6%**

PROGRAM DESCRIPTION

One of the statutory missions of the National Nuclear Security Administration (NNSA) is to maintain and enhance the safety, security, and reliability of the U.S. nuclear weapons stockpile to meet national security requirements. The mission is carried out in partnership with the Department of Defense, with NNSA providing research, development, and production activities supporting the U.S. nuclear weapons stockpile. The programs funded within the Weapons Activities Appropriation also support national assets for the secure transportation of weapons, components and materials, assets to respond to incidents involving nuclear weapons and materials, and safeguards and security for NNSA facilities. Four NNSA organizations manage programs in this appropriation, and federal employees provide direction, management, and oversight of about 35,000 contractor employees who carry out program activities at a nationwide complex of government-owned, contractor-operated national security laboratories and nuclear weapons production facilities. Locations include Lawrence Livermore National Laboratory in California; Los Alamos National Laboratory in New Mexico; Sandia National Laboratories in California and New Mexico; Kansas City Plant in Kansas City, Missouri; Pantex Plant in Amarillo, Texas; Y-12 National Security Complex in Oak Ridge, Tennessee; Savannah River Site in Aiken, South Carolina; and the Nevada Test Site near Las Vegas, Nevada.

The **Weapons Activities request for FY 2007 is $6.4 billion**, a reduction of 0.6 percent from the FY 2006 level. The FY 2007 request allows for continued support to meet the needs of the stockpile, stockpile surveillance, annual assessment, and Life Extension Programs. Defense Programs will continue to move ahead with the Reliable Replacement Warhead program to establish the path forward for stockpile transformation. In addition, it is implementing a responsive infrastructure of people, science and technology base, and facilities and equipment needed to support a right-sized nuclear weapons infrastructure. Programmatic requirements for test capabilities at Site 300 are being reevaluated to determine the feasibility of initializing closeout in FY 2011.

The main components of the **Weapons Activities** budget request are Directed Stockpile Work; Campaigns; Readiness in Technical Base and Facilities; Secure Transportation Asset; Nuclear Weapons Incident Response; Facilities and Infrastructure Recapitalization Program; Environmental Projects and Operations; and Safeguards and Security. These components are managed by separate NNSA organizations. The funding for Program Direction activities,

except for Secure Transportation Asset, is in the Office of the Administrator appropriation account.

Directed Stockpile Work (DSW) activities ensure the operational readiness of the nuclear weapons in the nation's stockpile through maintenance, evaluation, refurbishment, reliability assessment, weapon dismantlement and disposal, research, development, and certification activities. The administration's **Nuclear Posture Review** released in January 2002, and the revised stockpile plan submitted to Congress in June 2004, reaffirmed that future weapons refurbishment and life extension for the stockpile are consistent with overall national security policy. The FY 2007 request is organized by Life Extension Programs, Stockpile Systems, Reliable Replacement Warhead, Weapons Dismantlement and Disposition, and Stockpile Services and places a high priority on accomplishing the near-term workload and supporting technologies for the stockpile along with the long-term science and technology investments to ensure the capability and capacity to support ongoing missions.

Campaigns are focused scientific and technical efforts essential for certification, maintenance and life extension of the stockpile. They have allowed NNSA to maintain the moratorium on underground testing, and move to "science-based" certification and assessments for stewardship by relying on experiments, modeling, simulation, surveillance and historical underground nuclear testing. The **Science and Engineering Campaigns** are focused to provide the basic scientific understanding and the technologies required for the directed stockpile workload and the completion of new scientific and experimental facilities. In the **Inertial Confinement Fusion Ignition and High Yield Campaign**, the **National Ignition Facility** will focus on the 2010 ignition goal. The **Advanced Simulation and Computing Campaign** will continue to improve capabilities through development of faster computational platforms in partnership with private industry, and with state of the art techniques for calculations, modeling and simulation, and analysis of highly complex weapons physics information. The **Pit Manufacturing and Certification Campaign** continues work on reestablishing the ability to manufacture and certify the W88 pit and planning for future pit types. The **Readiness Campaign** is technology-based efforts to reestablish and enhance manufacturing and other capabilities needed to meet planned weapon component production.

Readiness in Technical Base and Facilities (RTBF) supports the underlying physical infrastructure and operational readiness required to conduct weapons activities at the eight NNSA sites: three national weapons laboratories, four production sites, and the Nevada Test Site. Over $1.2 billion is allocated annually to ensure that principal government owned, contractor operated facilities are operational, safe, secure, compliant with regulatory requirements, and able to sustain a defined level of readiness to execute tasks identified in the Campaigns and Directed Stockpile Work.

Secure Transportation Asset provides for the safe, secure movement of nuclear weapons, special nuclear materials, and weapon components between military locations and nuclear complex facilities within the United States. Program direction funds, principally for the courier workforce, are also included within this activity.

Nuclear Weapons Incident Response (NWIR) funding provides for emergency management and response activities that ensure a central point of contact and integrated response to emergencies requiring DOE assistance. Beginning in FY 2007, NWIR shows an increase in funds, which reflect the transfer of the Render Safe Research and Development Program.

Facilities and Infrastructure Recapitalization Program (FIRP) is designed to restore, rebuild, and revitalize the physical infrastructure of the nuclear weapons complex. The FIRP program addresses an integrated, prioritized list of maintenance and infrastructure projects, separate from base maintenance and infrastructure efforts under RTBF, which will

significantly increase the operational efficiency and effectiveness of the NNSA sites. It preferentially targets deferred maintenance and footprint reduction. The program is supported by the **Nuclear Posture Review**, which calls for a modernized infrastructure by upgrading key facilities with a dedicated refurbishment program.

The **Environmental Projects and Operations Program** is a new program with the mission to continue to reduce risks to human health and the environment at NNSA sites and adjacent areas, by operating and maintaining environmental cleanup systems installed by the Office of Environmental Management, and performing long-term environmental activities and analyses that assures compliance with federal, state, and local requirements.

Safeguards and Security provides funding for all physical and personnel security, and cyber security activities at the NNSA landlord sites, specifically, the three national weapons laboratories, the Nevada Test Site, and the four production plant sites. Funding for security investigations of management and operations contractors at NNSA landlord sites is included in the DOE Security program request.

PROGRAM HIGHLIGHTS

The FY 2007 request supports the requirements of the Stockpile Stewardship program as defined by Presidential Directives, Department of Defense requirements, the Nuclear Posture Review and the revised stockpile plan and will:

Support the scheduled workload for the ongoing B61, W76, W80 life extension programs as reaffirmed by the Nuclear Posture Review and the revised stockpile plan;

Support all directive scheduled activities for alterations, modifications, and limited-life component exchanges for the current stockpile; and scheduled surveillance, evaluation and dismantlement activities;

Support planned schedules for development of experimental and computational tools and related facilities and technologies necessary to support continued certification of the refurbished weapons and aging weapons components without underground nuclear testing, including final system delivery and checkout of 200-teraOPS class computer by FY 2008; and completion of the Microsystem and Engineering Sciences Applications Complex in FY 2010;

Support construction of the National Ignition Facility and the 2010 ignition goal;

Support subcritical experiments schedule;

Continue plans to certify a W88 pit by 2007;

Produce and deliver tritium by FY 2007;

Renew and sustain facilities and infrastructure through a recapitalization program to address issues that are not included in base maintenance and infrastructure efforts;

Provide safe transportation of nuclear warheads, weapons components and other DOE materials and support Nuclear Weapons Incident Response national assets;

Continue safeguard and security of our nuclear facilities, materials, and information; protection of our employees in a post-9/11 environment; implement the revised Design Basis Threat; continue the cyber security program; and a modest safeguards and security technology application program.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

Weapons Activities (FY 2006 $6,369.6; FY 2007 $6,407.9) .....+$38.3
FY 2007 request is 0.6 percent above FY 2006. This funding will provide for planned increases and maintain level funding for all other programs to meet ongoing needs of the stockpile, stockpile surveillance, annual assessment, and Life Extension programs as supported by the Nuclear Posture Review. Funding is consistent with planned program funding levels in the NNSA's Future Years Nuclear Security Program.

Directed Stockpile Work (FY 2006 $1,372.3; FY 2007 $1,410.3) ..... +$37.9
FY 2007 request is 2.8 percent above the FY 2006 level and is to ensure that the nuclear warheads and bombs in the United States nuclear weapons stockpile are safe, secure, and reliable. The Directed Stockpile Work effort has been coordinated with the Department of Defense.

Life Extension Programs for the B61, W76, and W80 (FY 2006 $297.8; FY 2007 $312.7) develops solutions to extend the life of these three warheads and correct potential technical issues.

Stockpile Systems (FY 2006 $308.7; FY 2007 $325.5) provides each weapon-type routine maintenance; periodic repair; replacement of limited life components; support the annual assessment process; resolution and timely closure of significant finding investigations; and surveillance to assure continued safety, security, and reliability.

Reliable Replacement Warhead (FY 2006 $24.8: FY 2007 $27.7) is an 18-month study approved by the Nuclear Weapons Council (NWC) to identify designs that will sustain long term confidence in a safe, secure, and reliable stockpile and enable transformation to a responsive nuclear weapons infrastructure.

Weapons Dismantlement and Disposition (FY 2006 $59.4; FY 2007 $75.0) provides for the dismantlement, characterization of components, disposal of retired warhead systems, and surveillance of retired stockpile systems. The increase will support a ramp-up in risk mitigation activities to better prepare the NNSA for meeting the aggressive objectives in the forthcoming Dismantlement Infrastructure Report.

Stockpile Services (FY 2006 $681.7; FY 2007 $669.4) support production activities; research and development activities; certification; weapon safety and security efforts; stockpile management and technology; and, starting in FY 2007, responsive infrastructure.

Science Campaign (FY 2006 $276.7; FY 2007 $263.8) ..... -$12.9
FY 2007 request is 4.7 percent below the FY 2006 level.

Primary Technology Assessment (FY 2006 $49.2; FY 2007 $50.5) supports experimental activities to develop and implement the ability to certify the nuclear safety and performance of any aged or rebuilt primaries to required levels of accuracy without nuclear testing. Funding supports the subcritical experiment schedules; diagnostic development; and radiography capability. The increase is for primary certification work for the stockpile and because of a shift in High Energy Density (HED) work from the ICF Campaign.

Test Readiness (FY 2006 $19.8; FY 2007 $14.8) will be maintained near the 24-month time period during FY 2007. In addition it will validate the readiness posture, maintain the 70 percent Authorization Basis, continue training, and begin to address infrastructure problems. The decrease reflects an increase in the time required to field a well-diagnosed nuclear test.

Dynamic Materials Properties (FY 2006 $83.1; FY 2007 $80.7) focuses on the development of accurate modeling and validation experiments for the properties and materials used within the nuclear explosives package in order to assess the safety, security, and reliability of the stockpile. The campaign activity supports experiments at the U1a Complex, JASPER, and Atlas, LANSCE and the pulsed power Z accelerator. The request includes funding for Congressionally-directed activities for cooperative agreements with the University of Nevada Las Vegas and University of Nevada Reno. Congressionally-directed activities for a laser upgrade at the Idaho Accelerator Center and funds to restore high-energy density experimental capabilities at LANL, however, are not included and are the reason for the decrease from FY 2006.

Advanced Radiography (FY 2006 $49.0; FY 2007 $36.7) supports research and development technologies for three-dimensional radiography imagery of imploding surrogate primaries and to experimentally validate computer simulations of the implosion process. This supports the certification of refurbished and replaced primaries. Long-term goal is to develop multi-axis, multi-time radiography, technology studies. The decrease in FY 2007 reflects a drawdown as Dual-Axis Radiography Hydrotest Test (DARHT) 2nd Axis project activities approach completion.

Secondary Assessment Technologies (FY 2006 $75.6; FY 2007 $81.0) provides modern computational baselines for stockpiled weapon systems (including radiation sources and dynamics and radiation flow) and for determining performance of nominal aged and rebuilt secondaries. Supports the research program to reduce risk in the life extension programs and for high energy density weapons experimentation and model development. Funding increases because of a shift in High Energy Density (HED) work from the ICF Campaign and Pulse Power Technologies Program from RTBF.

Engineering Campaign (FY 2006 $247.9; FY 2007 $160.9) ..... -$87.0
FY 2007 request is 35.1 percent below the FY 2006 level.

Enhanced Surety (FY 2006 $39.6; FY 2007 $26.7) provides validated surety (safety, security, and control) technology as options for the stockpile refurbishment/replacement program to assure that modern nuclear safety standards are fully met and a new level of use-denial performance is achieved. Decrease is consistent with limiting the scope of technology development for stockpile activities beyond the W76-1 and W80-3 LEPs including delaying work on advanced surety options for future LEPs or similar weapons development activities.

Weapons Systems Engineering Assessment Technology (FY 2006 $17.4; FY 2007 $21.2) provides the scientific understanding, experimental capability, diagnostic development and data required to develop and validate engineering computational models and develop assessment methodology for weapons design, manufacturing, qualification, and certification for the supporting R&D DSW needs to maintain the development capability of refurbishing and transforming the stockpile, as required. The increase is to

understand and assess engineering phenomena associated with new technologies, such as Microsystems, targeted for use in future LEPs and systems.

Nuclear Survivability (FY 2006 $22.2; FY 2007 $15.0) provides the tools and technologies needed to design and qualify components and subsystems to meet requirements for radiation environments (e.g. intrinsic radiation, production and surveillance radiography), space environments, and hostile environments; develops radiation-hardening approaches and hardened components; and modernizes tools for weapons outputs. The decrease reduces funding for development of engineering tools used by the Directed Stockpile Work program.

Enhanced Surveillance (FY 2006 $99.2; FY 2007 $86.5) addresses stockpile aging concerns through component and material lifetime assessments and develops predictive capabilities for early identification which includes accelerated aging studies for pit lifetime assessments. Program identifies aging issues with sufficient lead-time to ensure that NNSA can have the refurbishment capability and capacity in place when required. Program also delivers advanced diagnostics and telemetry to support flight test requirements; develops new surveillance techniques for tritium reservoirs; and supports the annual assessment of the nuclear stockpile. Decrease reflects the elimination or delay of some experimental efforts to reduce pit lifetime uncertainties, development of embedded stockpile evaluation technologies for stockpile transformation, and development of predictive capabilities needed for responsive infrastructure. The Congressionally directed University Research Program in Robotics (URPR) will continue to be funded.

Construction of the Microsystems and Engineering Sciences Applications (MESA) Complex (FY 2006 $69.6; FY 2007 $11.5) at Sandia National Laboratory, NM, will provide for the design, integration, prototyping, fabrication, and qualification of microsystems into weapons components, subsystems, and systems within the stockpile. Consistent with the planned construction schedule, FY 2007 funding requirements have decreased.

Inertial Confinement Fusion Ignition and High Yield Campaign (FY 2006 $543.6; FY 2007 $451.2)..... -$92.4

FY 2007 request is 17.0 percent below the FY 2006 level. This program develops laboratory capabilities to create and measure extreme conditions of temperature, pressure, and radiation approaching those in a nuclear explosion and conducts weapons related research. It supports NIF diagnostics and cryogenic target systems; provides for ignition target design and fabrication; ICF experimental support activities; operation of the Z accelerator at Sandia; university grants and short-pulse high-intensity laser activities. Funding for National Ignition Facility (NIF) construction (FY 2006 $140.5; FY 2007 $111.4), a decrease of $29 million, is consistent with the approved project baseline. High-Energy Petawatt Laser Development (FY 2006 $34.6; FY 2007 $2.2) is reduced, but provides for continued construction of the OMEGA Extended Performance (OMEGA EP) laser project, now a four-beam facility, at the University of Rochester Laboratory for Laser Energetics. Other Congressionally-directed activities from FY 2006, totaling $70 million, are not included; however, this is offset by an increase of $42 million for the NIF Demonstration Program to support an accelerated rate of laser component assembly, installation, testing and commissioning required for project completion, compensating for FY 2006 reductions. Also includes a shift in High Energy Density (HED) work

from the ICF Campaign to the Secondary Assessment Technologies and Primary Technology Assessment sub-programs in the Science Campaign.

Advanced Simulation and Computing Campaign
(FY 2006 $599.8; FY 2007 $618.0).....+$18.2
FY 2007 request is 3.0 percent above the FY 2006 level. It provides leading edge, high end simulation capabilities to meet weapons assessment and certification requirements, including weapon codes, weapons science, platforms, and computer facilities. This year's request is reflected in a reengineered work breakdown structure that consists of Integrated Codes, Physics and Engineering Models, Verification and Validation, Computational Systems and Software Environment, and Facility Operations and User Support. Congressionally-directed activities in FY 2006 are not included in FY 2007.

Pit Manufacturing and Certification Campaign
(FY 2006 $238.7; FY 2007 $237.6)..... -$1.1
FY 2007 request is 0.4 percent below the FY 2006 level. The campaign focuses on the manufacturing and certification of W88 pits by FY 2007. It will also accelerate an interim pit manufacturing capability that is currently being re-established at LANL. In addition, the Pit Manufacturing Capability subprogram is working to establish the capability to manufacture replacement pits other than the W88 pit and to improve manufacturing processes used to manufacture W88 pits. The Modern Pit Facility (MPF) activity has been suspended, and there is no FY 2007 funding request.

Readiness Campaign (FY 2006 $216.6; FY 2007 $206.0)..... -$10.6
FY 2007 request is 4.9 percent below the FY 2006 level. This program has the responsibility for developing or reestablishing new manufacturing processes and technologies for qualifying weapon components for reuse.

Stockpile Readiness (FY 2006 $31.1; FY 2007 $17.6) efforts are directed toward replacing, improving, or restoring production capability and revitalizing aging processes to reestablish manufacturing, inspection and other capabilities. The decrease reflects a postponement of lower priority Stockpile Readiness activities.

High Explosives and Weapons Operations (FY 2006 $16.9; FY 2007 $17.2) ensures long-term manufacturing capabilities for high explosive fabrication, including high explosive manufacturing and product requalification; and weapon assembly or disassembly operations at the Pantex Plant.

Non-Nuclear Readiness (FY 2006 $28.3; FY 2007 $31.2) provides the electrical, electronic, and mechanical production capabilities that enable arming, fuzing, firing, safety, and control of nuclear weapons. Supports modernization and readiness of capabilities including equipment purchases that support materials engineering and environmental testing related to W76 and the life extension programs. Increase reflects deployment of plastics process technology and agile machining capabilities.

Tritium Readiness (FY 2006 $86.7; FY 2007 $86.4) established and operates the Commercial Light-Water Reactor (CLWR) Tritium Production System to produce tritium, and maintains the national inventory of tritium to support the nuclear weapons stockpile. Construction of the Tritium Extraction Facility (TEF) continues with start up of facility operations planned to begin at the end of FY 2007. This facility will provide steady-state production

capability of as much as several Kg of tritium per year, but can be resized as stockpile requirements change.

Advanced Design and Production Technologies (ADAPT) (FY 2006 $53.5; FY 2007 $53.6) integrates and systematically develops new technologies and enhanced capabilities to improve the effectiveness of the production complex and to deliver qualified refurbishment products upon demand. Activities support Directed Stockpile Work schedules for development of qualified manufacturing processes and capabilities; and for the production of new and replacement parts for weapons refurbishments.

Readiness in Technical Base and Facilities (RTBF)
(FY 2006 $1,644.8; FY 2007 $1,685.8) ..... +$41.0

FY 2007 request is 2.5 percent above the FY 2006 level and is comprised of Operations and Maintenance activities and Construction projects. The FY 2006 amount included $259.2M of Congressionally directed activities, which are not included in the FY2007 requested amount. Base workload will be displaced in FY 2006 to fund these activities.

Operations of Facilities (FY 2006 $1,166.2; FY 2007 $1,203.8) provides increased funds over FY 2006 for the operation, physical infrastructure, and on-going maintenance of facilities for activities conducted in the Campaigns and Directed Stockpile Work. Approximately $300M is requested for the Los Alamos National Laboratory (+35%); $200M for the Y-12 complex (+12%); $150M for the Sandia National Laboratory (+72%); $100M for each of the Kansas City Plant (+13%), Lawrence Livermore National Laboratory (+32%), the Pantex Plant (+17%), and the Savannah River Site (+12%); and less than $100M each for the Nevada Test Site (+70%) and Institutional Site Support (+47%). The increases are partially offset by $246 million in congressionally-directed activities that are not included in the request.

Program Readiness (FY 2006 $104.7; FY 2007 $75.2) includes selected activities that support more than one NNSA facility, Campaign or Directed Stockpile Work activity including manufacturing process capabilities required to support the stockpile; and critical skill needs. Nevada Test Site readiness activities provide logistical support for laboratory staff permanently located in Nevada and the NTS Equipment Revitalization Program. Additional efforts are related to offsite monitoring, weather, cultural resources, hydrology and geology, legacy compliance for environmental issues and the Borehole Management Program. Decrease from FY 2006 reflects the transfer of the Pulsed Power Technology readiness activity to the Science campaign.

Material Recycle and Recovery (FY 2006 $72.0; FY 2007 $70.0) provides for the recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. Also funded are the Central Scrap Management Office and the Precious Metals Business Center located at Y-12 National Security Complex. Decrease reflects efficiencies realized at the Savannah River Site with the deactivation of building 232-H and relocation of its tritium gas-handling processes into building 233-H.

Containers (FY 2006 $17.1; FY 2007 $20.1) includes research, development, design, certification, testing and evaluation for shipping containers not directly associated with the life extension programs in DSW.

Storage (FY 2006 $25.0; FY 2007 $35.3) provides for storage of surplus pits, highly enriched uranium, and other weapons and nuclear materials in compliance with DOE/NNSA requirements. The increase is for the procurement of 500 additional rackable can storage boxes (RCSBs) needed to implement material transfer to the new storage facility at Y-12 and accelerated materials-consolidation initiatives needed to address the new Design Basis Threat guidance.

Construction (FY 2006 $259.9; FY 2007 $281.4) supports line item project construction and project engineering design activities from FY 2001-2007. Funding provides for continuation of all ongoing projects. A new FY 2007 project engineering and design (PED) line item of $5M has two subprojects, the Consolidate and Renovate Computing Facilities at the Kansas City Plant and the Tru Waste Facilities and LANL. The request initiates one new line item construction projects totaling $14.8M for the Radioactive Liquid Waste Treatment Facility Upgrade at LANL.

Secure Transportation Asset (FY 2006 $210.0; FY 2007 $209.3) ..... -$0.7
FY 2007 request is 0.3 percent below the FY 2006 level. Funding provides personnel, equipment, and training for the scheduling and secure transport services for the nuclear weapons complex and to meet the Secretary's Environmental Management commitments for closing former sites. STA increases from 575 to 664 FTEs.

Nuclear Weapons Incident Response (FY 2006 $117.6; FY 2007 $135.4) ....+$17.8
FY 2007 request is 15.1 percent above FY 2006. Funding provides for emergency management and response activities that ensure a central point of contact and integrated response to emergencies requiring DOE assistance, including the Nuclear Emergency Support Team (FY 2006 $76.1; FY 2007 $93.8), which responds to nuclear terrorist threats. Essentially, the increase realigns funding from Defense Nuclear Nonproliferation to NWIR for the Render Safe Research and Development Program.

Facilities and Infrastructure Recapitalization
(FY 2006 $149.4; FY 2007 $291.2) .....+$141.8
FY 2007 request is 95.0 percent above FY 2006, and provides for recapitalization, facility disposition, and infrastructure planning of the nuclear weapons complex. The increase is for additional Recapitalization funding for additional deferred maintenance reduction. In FY 2007, there is one new line item construction project at the Sandia National Laboratory for $14.4M.

Environmental Projects and Operations
(FY 2006 $0; FY 2007 $17.2).....+$17.2
Beginning in FY 2007, NNSA will be responsible for the funding and management of Long-Term Response Actions/Long-Term Stewardship (LTRA/LTS), which includes activities such as groundwater treatment; environmental monitoring of surface water, ground water, soils, and landfill remedies; reporting and liaison requirements for various states and surveillance/monitoring of contaminated decommissioned buildings that have not been demolished upon completion of Environmental Management program cleanup mission. Initial locations will be at the Kansas City Plant (KCP), Lawrence Livermore National Laboratory (LLNL), and Sandia National Laboratories (SNL).

Safeguards and Security (FY 2006 $765.8; FY 2007 $721.4)..... -$44.4
FY 2007 request is 5.8 percent below FY 2006. (Net safeguards and security estimate reflects adjustment for security charge for reimbursable work.) NNSA

employs a comprehensive and robust security posture designed to protect national security assets at NNSA sites and facilities. Decrease is in security construction projects. Starting in FY 2007, separate control levels are requested for Defense Nuclear Security and Cyber Security. Defense Nuclear Security funding of $665.7 million supports the hiring and training of additional protective force personnel; initiation of physical security system upgrades; materials control and accountability; application of emerging technologies; and heightened physical security levels at NNSA sites. Cyber Security funding request of $88.7 million is a decrease of approximately 2 percent from FY 2006 levels. Funding sustains NNSA's information infrastructure and upgrades elements to counter cyber threats from external and internal attacks using the latest available technology.

Defense Nuclear Nonproliferation – NNSA

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Defense Nuclear Nonproliferation					
Nonproliferation and verification R&D	219,836	318,780	268,887	-49,893	-15.7%
Nonproliferation and international security	143,764	74,250	127,411	+53,161	+71.6%
International nuclear materials protection and cooperation	403,451	422,730	413,182	-9,548	-2.3%
Global initiatives for proliferation prevention	40,675	39,600	——	-39,600	-100.0%
HEU transparency implementation	20,784	19,288	——	-19,288	-100.0%
Elimination of weapons-grade plutonium production program	67,331	174,423	206,654	+32,231	+18.5%
Fissile materials disposition	619,060	468,773	637,956	+169,183	+36.1%
Offsite source recovery project	7,540	——	——	——	——
Global threat reduction initiative	——	96,995	106,818	+9,823	+10.1%
Subtotal, Defense Nuclear Nonproliferation	1,522,441	1,614,839	1,760,908	+146,069	+9.0%
Use of prior year balances and other adjustments	-14,475	——	-34,695	-34,695	N/A
Total, Defense Nuclear Nonproliferation	**1,507,966**	**1,614,839**	**1,726,213**	**+111,374**	**+6.9%**

PROGRAM DESCRIPTION

NNSA's **Defense Nuclear Nonproliferation** (NN) appropriation provides funding for six programs which together provide policy and technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction; advance technologies that detect the proliferation of weapons of mass destruction worldwide; and eliminate or secure inventories of surplus materials and infrastructure usable for nuclear weapons. It addresses the danger that hostile nations or terrorist groups may acquire weapons of mass destruction or weapons-usable material, dual-use production technology, or weapons of mass destruction expertise. The total **request** for the program in **FY 2007** is **$1.73 billion**, and work will be done in the following major areas.

Nonproliferation and Verification Research and Development supports research, development, testing, and evaluation programs leading to prototype demonstrations and detection systems that strengthen the U.S. response to threats to national security and world peace posed by the proliferation of nuclear weapons and the diversion of special nuclear material. The program interfaces directly with operational agencies to provide innovative systems and technologies to meet their nonproliferation, counter-proliferation, and counter-terrorism mission responsibilities.

Nonproliferation and International Security strengthens the global nuclear nonproliferation regime by limiting sensitive exports, supporting international safeguards, improving international emergency management activities and providing policy recommendations and technical and policy advice to develop and implement U.S. policy regarding treaties, agreements, and mutual inspections. In FY 2007 this line incorporates work to redirect Russian (and other countries) nuclear weapons expertise by engaging former weapons scientists in non-military research and commercial ventures formerly under Russian Transition Initiatives (renamed in FY 2007 to Global Initiatives for Proliferation Prevention); and develops and implements transparency measures which increase confidence that Low Enriched Uranium (LEU) purchased under the 1993 U.S./Russian Highly Enriched Uranium (HEU) Purchase Agreement is derived from HEU extracted from dismantled Russian nuclear weapons and eliminated from Russian stockpiles. These transparency measures were formerly a part of the HEU Transparency Implementation program.

International Nuclear Materials Protection and Cooperation works to prevent nuclear terrorism by working in Russia and other regions of concern to secure and eliminate vulnerable nuclear weapons and weapons-usable material; and installing detection equipment at border crossings, major international seaports, and Megaports to prevent and detect the illicit transfer of nuclear material.

Elimination of Weapons-Grade Plutonium Production assists the Russian Federation to cease its production of weapons-grade plutonium by replacing plutonium-producing nuclear power reactors with fossil-fueled power plants to provide alternative supplies of heat and electricity and facilitate shutdown of the current reactors.

Fissile Materials Disposition conducts activities in the United States and Russia to dispose of surplus weapons-grade fissile materials. Activities include the design and construction of U.S. and Russian MOX Fuel Fabrication Facilities that are central to the disposition of surplus plutonium by using it as nuclear reactor fuel. Disposing of this surplus fissile material in the U.S. also helps meet compliance requirements associated with the cleanup and closure of former DOE nuclear weapons complex sites and honors commitments made to the state of South Carolina for the removal of surplus plutonium brought to the Savannah River Site for disposition.

Global Threat Reduction Initiative identifies, secures, removes and/or facilitates the disposition of high-risk nuclear and other radiological materials around the world that pose a potential threat to the U.S. and the international community. The program works to minimize the use of HEU in civil nuclear applications worldwide by converting research reactors and targets used in the production of medical isotopes to suitable LEU fuels and targets; eliminates stockpiles of Russian-origin fresh and spent nuclear fuel and U.S.-origin spent nuclear fuel in foreign research reactors through repatriation of such material to Russia and the U.S., respectively; addresses the removal of vulnerable material worldwide, including material not covered by previously existing programs; prevents proliferation of nuclear weapons by securing the weapons-grade plutonium in the spent fuel from the BN-350 fast-breeder reactor in Aktau, Kazakhstan; purchases Russian HEU fuel for use in U.S. research reactors; identifies, recovers, and stores, on an interim-basis, certain domestic radioactive sealed sources, and other radiological materials that pose a security risk to the U.S. and/or world community; and reduces the international threat posed by radiological materials that could be used in a radiological dispersal device (RDD) or "dirty bomb."

PROGRAM HIGHLIGHTS

The FY 2007 request includes $638.0 million for **Fissile Materials Disposition** in the U.S. and Russia, the level required for the construction of facilities to convert weapons-grade plutonium into fuel for nuclear reactors. Nonproliferation and Verification R&D continues activities initiated last year to provide critical basic and applied research in radiation detection to supply needed operational tools for government-wide nonproliferation, counter-proliferation and counter-terrorism objectives. MPC&A will secure weapons-use materials outside the Former Soviet Union, continue its activities to protect Naval, Strategic Rocket Force, Ministry of Defense and ROSATOM sites in Russia, and deter trafficking in illicit nuclear materials. Within MPC&A an increase for the Second Line of Defense Program will accelerate installation of radiation detection equipment at sites in the Caucuses region. The **Global Threat Reduction Initiative** (GTRI), in response to clear Presidential direction and DOE initiative in March 2005, was put into place to address the global nature of the threat and to further focus resources on high value, near term risk reduction activities. Within GTRI, the program will secure radiological materials in partner countries and the U.S against diversion for radiological dispersion devices. Construction of fossil-fueled power plants located in Seversk and Zheleznogorsk will continue, so that heat and electricity from plutonium-producing reactors can be replaced and plutonium production eliminated. The FY 2007

funding will enable NNSA to maintain a schedule that allows completion of the Seversk project in 2008 and Zheleznogorsk in 2010.

An agreement on Nuclear Security Cooperation was reached between the Presidents of the U.S. and the Russian Federation during their February 2005 Bratislava Summit. This agreement includes for the first time a comprehensive joint action plan for cooperation on security upgrades of Russian nuclear facilities at ROSATOM and Ministry of Defense sites and cooperation in the areas of nuclear regulatory development, sustainability, secure transportation, MPC&A expertise training and protective force equipment. The FY 2007 budget includes $283 million for activities identified at this summit including security upgrades at Russian nuclear warhead sites.

The **Global Partnership** against the Spread of Weapons and Materials of Mass Destruction, formed at the Kananaskis Summit in June 2002 recommitted the G8 nations (U.S., Canada, France, Germany, Italy, Japan, Russia, and the United Kingdom) to address nonproliferation, disarmament, counter-terrorism, and nuclear safety issues. The G8 countries have pledged $20 billion over 10 years to support cooperative efforts and have invited other similarly motivated countries to participate in this partnership. President Bush has committed the U.S. to provide $10 billion over 10 years to be matched by $10 billion from the other members, confirming that proliferation concerns are of the highest government priority; and that this program's work is of paramount importance for the security of the nation and the world. The FY 2007 request provides $675 million toward the total U.S. commitment to the Global Partnership.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Defense Nuclear Nonproliferation (FY 2006 $1,614.8; FY 2007 $1,726.2) .....+$111.4

Nonproliferation and Verification R&D (FY 2006 $318.8; FY 2007 $268.9)..... -$49.9
FY 2007 request continues efforts in Proliferation Detection, Nuclear Explosion Monitoring, and Supporting Activities.

Proliferation Detection (FY 2006 $177.5; FY 2007 $148.2) ..... -$29.3
Decrease primarily reflects the completion of the Congressionally-directed projects in FY 2006. Funding sustains an FY 2006 increase in critical basic and applied research in radiation detection; and sets new research in motion to significantly reduce detector size, while increasing sensitivity. This work supports the program's core nonproliferation mission, but also supports fundamental research necessary for the U.S. government's Homeland Security and Intelligence missions. As such, the program will provide significant synergy across multiple agencies and missions.

Nuclear Explosion Monitoring (FY 2006 $125.4; FY 2007 $106.6)..... -$18.8
Decrease primarily reflects the impact of the congressionally-directed one-time increase and direction for FY 2006 Nuclear Explosion Monitoring projects.

Supporting Activities (FY 2006 $3.0; FY 2007 $6.2) ..... +$3.2
Increase is due to the upgrade and expansion of technology for project management.

300 Area Replacement Research Facility (FY 2006 $12.9; FY 2007 $7.9)..... -$5.0
Decrease is due to revised project schedule that continues PED work through FY 2007 and plans to start construction in FY 2008.

Nonproliferation and International Security (FY 2006 74.3; FY 2007 $127.4)..... +53.2
FY 2007 request includes:

Dismantlement and Transparency (FY 2006 $0; FY 2007 $38.97) .....+$39.0
Increase reflects realignment of HEU Transparency Implementation (HEU TIP) activities into this program. Now include sub-activities of Global Regimes, Warhead and Fissile Materials Transparency and Nuclear Noncompliance Verification (includes HEU TIP).

Global Security Engagement and Cooperation (FY 2006 $0; FY 2007 $50.2)+$50.2
Increase is due to realignment of the NIS program and transfer of Global Initiatives for Proliferation Prevention (GIPP) into this program. Now includes sub-activities of Regional Security, International Cooperation, International Nonproliferation Export Control Program, and GIPP.

International Regimes and Agreements (FY 2006 $0; FY 2007 $31.8).....+$31.8
Increase due to realignment of the NIS program that includes an additional $3.0 for enhanced interdiction activities offset by reductions in Nuclear Safeguards and Export Control Licensing programs.

Treaties and Agreements (FY 2006 $1.9; FY 2007 $1.9) .....-$0
Maintains support for emerging nonproliferation issues and development of future treaties and agreements work.

International Emergency Management and Cooperation (FY 2006 $4.8; FY 2007 $4.4) ..... -$0.4
Decrease reflects the completion of the Kazakhstan BN-350 Reactor Shutdown, completion of emergency management assistance to Ukraine, and delayed completion of projects with China, India and Pakistan.

Nonproliferation Policy (FY 2006 $21.9; FY 2007 $0)..... -$21.9
Decrease reflects realignment of activities within NIS.

International Safeguards
(FY 2006 $25.9; FY 2007 $0) ..... -$25.9
Decrease reflects realignment of activities within NIS.

Export Control
(FY 2006 $19.6; FY 2007 $0) ..... -$19.6
Decrease reflects realignment of activities within NIS.

International Nuclear Materials Protection and Cooperation
(FY 2006 $422.7; FY 2007 $413.2)..... -$9.5

Navy Complex (FY 2006 $16.0; FY 2007 $17.3)..... +$1.3
Increase provides additional sustainability support to some sites with installed MPC&A upgrades in preparation for future transfer of this responsibility to Russia.

Strategic Rocket Forces (FY 2006 $120.2; FY 2007 $129.2)..... +$9.0
Increase due to the addition of six Strategic Rocket Forces and two 12th Main Directorate sites for MPC&A cooperation in FY 2006.

Rosatom Weapons Complex (FY 2006 $85.2; FY 2007 $56.5) ..... -$28.7
Decrease due to the completion of comprehensive physical protection upgrades at one guarded area within Arzamas -16; completion of the rapid upgrades at building 1A at Plant 20 within Mayak; completion of the Tomsk-7 entry control points at the Radiochemical Plant, Conversion Plant, Chemical Metallurgical Plant, and the Reactor Plant; completion of the physical protection and MC&A upgrades at the Calcination Point within the Radiochemical Plant at the Krasnoyarsk-26 (K-26) facility; and completion of the construction phase of the Plutonium Storage Facility at K-26.

Civilian Nuclear Sites (FY 2006 $46.8; FY 2007 $21.2)..... -$25.6
Decrease due to the completion of initial MPC&A upgrades to one country outside of the Former Soviet Union, partially offset by an increase in MPC&A sustainability assistance requirements to several Rosatom Civilian sites.

Material Consolidation and Conversion (FY 2006 $27.7; FY 2007 $16.8)..... -$10.9
Decrease due to a lower projected availability of excess HEU to be down blended to LEU.

National Programs and Sustainability (FY 2006 $29.7; FY 2007 $48.1) .....+$18.4
Increase due to the acceleration of projects critical to the sustainability of effective MPC&A operations in the Russian Federation including: development of regulations, Rostexhnadzor/Rosatom self-inspections of nuclear material physical protection and material control and accounting and secure transportation of special nuclear material.

Second Line of Defense (SLD) (FY 2006 $97.0, FY 2007 $124.0) .....+$27.0
SLD, includes the **Megaports Program** (FY 2006 $73.2, FY 2007 $40.1). Increase in the Core program due to the acceleration of installations of radiation detection equipment at sites in Caucuses region, offset by a decrease in the Megaports program due to acceleration of installations in FY 2006 by completing the installation of radiation detection equipment at five additional ports.

Global Initiatives for Proliferation Prevention (FY 2006 $39.6; FY 2007 $0)..... -$39.6
Apparent decrease reflects realignment into Nonproliferation and International Security program. Actual GIPP decrease in transferred amount (-$11.5 million) due to the reduced activity in Sarov and Snezhinsk, and deferral of work on two commercial venture projects.

HEU Transparency Implementation (FY 2006 $19.3; FY 2007 $0) ..... -$19.3
Apparent decrease reflects realignment into Nonproliferation and International Security. Actual decrease in the transferred activity of $1.7 million through limiting visits, performing less analysis, and reducing the onsite presence of U.S. monitors at Russian Facilities

Elimination of Weapons-Grade Plutonium Production
(FY 2006 $174.4; FY 2007 $206.7) .....+$32.2
Increased funding for Zheleznogorsk to meet a FY 2011 (December 2010) completion date for plutonium production reactor shutdown.

Fissile Materials Disposition (FY 2006 $468.8; FY 2007 $638.0) .....+$169.2
Funding allocated to construction activities for U.S. plutonium disposition via conversion to mixed oxide fuel for consumption in commercial reactors; and to the U.S. uranium disposition program.

U.S. Surplus Fissile Materials Disposition
(FY 2006 $434.6; FY 2007 $603.3) .....+$168.7
Overall increase reflects increases in O&M and in construction activities to reflect the peak construction year for the MOX Fuel Fabrication Facility, as follows:

Operation and Maintenance (FY 2006 $193.1; FY 2007 $235.1) .....+$42.0
Funding reflects a decrease for U.S. Uranium Disposition (FY 2006 $91.5; FY 2007 $86.9) due to completion of processing of 6 MTs of surplus HEU that was added in FY 2005 to the Off-specification HEU Blend-Down Project; and ramping up of activities related to the MOX facility since this is a peak construction year.

Construction (FY 2006 $241.6; FY 2007 $368.2) .....+$126.7
Increased funding for the U.S. MOX Fuel Fabrication Facility (FFF) (FY 2006 $217.8; FY 2007 $289.5) at the Savannah River Site, South Carolina since this is a peak construction year. Increased funding for the Pit Disassembly and Conversion Facility (PDCF) (FY 2006 $23.8; FY 2007 $78.7) due to procure equipment for the training module and design the Waste Facility.

Russian Plutonium Disposition (FY 2006 $34.2; FY 2007 $34.7)..... +$0.5
Level funding allows plutonium disposition activities in Russia to continue through the use of prior year balances/appropriations.

Global Threat Reduction Initiative (FY 2006 $97.0; FY 2007 $106.8)..... +$9.8
Increase is to accelerate high value near term threat reduction components of this work in keeping with Presidential direction and associated DOE initiatives.

Reduced Enrichment for Research and Test Reactors (RERTR)
(FY 2006 $24.7; FY 2007 $32.2)..... +$7.5
Increase reflects transfer of mission from the Office of Nuclear Energy to convert domestic research reactors under the RERTR program. In FY 2007, the program will begin efforts to convert two of five domestic reactors for which LEU fuel is available.

Russian Research Reactor Fuel Return (RRRFR)
(FY 2006 $14.7; FY 2007 $30.0).....+$15.3
Increase reflects the estimated cost of returning Russian-origin HEU spent fuel from five countries.

Kazakhstan Spent Fuel (FY 2006 $8.0; FY 2007 $3.9) ..... -$4.1
Decrease reflects completion of a major procurement of casks in FY 2006.

U.S. Foreign Research Reactor Spent Nuclear Fuel (FRRSNF)
(FY 2006 $8.1; FY 2007 $6.3)..... -$1.8
Decrease reflects the reduced cost of returning spent fuel assemblies.

U.S. Radiological Threat Reduction (FY 2006 $12.6; FY 2007 $9.4) ..... -$3.2
Decrease reflects a reduction in efforts to recover United States sealed sources and allows funding of higher priority non-proliferation programs.

International Radiological Threat Reduction
(FY 2006 $23.9; FY 2007 $18.3)..... -$5.6
Decrease in favor of higher priority nuclear material recovery activities reflects reduced security enhancement efforts in new countries and cross-cutting efforts such as regulatory, IAEA/Interpol assistance and RTG recovery.

Emerging Threats (FY 2006 $5.0; FY 2007 $5.7)..... +$0.7
Increase reflects estimated cost associated with removing/securing gap materials from four facilities.

Global Reactor Security (FY 2006 $0; FY 2007 $1.0)..... +$1.0
Increase reflects the cost of providing upgrades to one nuclear facility.

Use of Prior-Year Balances/Appropriations (FY 2006 $0; FY 2007 -$34.7)..... -$34.7
Reflects application of funding appropriated in FY 1999, P.L. 105-277 for expenditures in the Russian Federation to implement a U.S/Russian accord for disposition of excess weapons plutonium. Funds will be used for the Fissile Materials Disposition program.

Office of the Administrator – NNSA

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of The Administrator					
Office of the administrator	363,350	345,346	386,576	+41,230	+11.9%
Use of prior year balances and other adjustments	——	-6,896	——	+6,896	+100.0%
Total, Office Of The Administrator	**363,350**	**338,450**	**386,576**	**+48,126**	**+14.2%**

PROGRAM DESCRIPTION

The NNSA **Office of the Administrator** account provides the corporate direction, federal personnel, and resources necessary to plan, manage, and oversee the operation of the National Nuclear Security Administration (NNSA) under the direction of DOE's Under Secretary for Nuclear Security. The workforce is comprised of a highly educated and skilled cadre of federal managers overseeing the operations of the defense mission activities and performing many specialized duties including leading emergency response teams and safeguards and security oversight. The Naval Reactors and Secure Transportation Asset programs retain separately funded program direction accounts.

The organizational structure implemented in FY 2004 relies on eight site offices reporting directly to the NNSA Administrator through the principal deputy. The federal site offices that oversee NNSA contractor operations are located at Lawrence Livermore, Los Alamos, and Sandia National Laboratories; Pantex and Kansas City plants; Y-12 National Security Complex; Savannah River Site; and the Nevada Test Site. The NNSA Service Center in Albuquerque provides procurement, human resources, and other support to the site offices. Total **FY 2007 request** for this program is **$386.6 million**.

PROGRAM HIGHLIGHTS

The NNSA supports the **President's Management Agenda** by creating a more robust and effective NNSA organization through improved human capital and financial management. The FY 2007 request reflects: applying advanced science and nuclear technology to the Nation's defense; maintaining and enhancing the safety, security and reliability of the U.S. nuclear weapons stockpile; providing technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Office of the Administrator (FY 2006 $338.5; FY 2007 $386.6).....+$48.1
FY 2007 request increases primarily to support salaries and benefits for expanded federal staffing to support Defense Nuclear Nonproliferation, facility representatives and safety personnel at the Site Offices, the Future Leaders Program, and positions transferred to the NNSA from other organizations (77 additional FTEs). Other Related Expenses also increase to support Information Technology and the International Offices. Unlike FY 2006, the FY 2007 request increased, because no prior-year balances were available to offset planned program activities.

Naval Reactors

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Naval Reactors					
Naval reactors development	772,173	751,608	763,948	+12,340	+1.6%
Program direction	29,264	29,997	31,185	+1,188	+4.0%
Total, Naval Reactors	**801,437**	**781,605**	**795,133**	**+13,528**	**+1.7%**

PROGRAM DESCRIPTION

The **Naval Reactors** (NR) program has responsibility for all naval nuclear propulsion work, beginning with technology development, continuing through design, construction, testing, operation, maintenance, and, ultimately, reactor plant disposal. The total **request** for the program in **FY 2007** is **$795.1 million**.

The program's efforts ensure the safe operation of reactor plants in nuclear-powered submarines and aircraft carriers, which comprise 40 percent of the Navy's total combatants. The program's long-term development work ensures that nuclear propulsion technology can meet requirements to maintain and upgrade current capabilities, as well as meet future threats to U.S. security.

The NR program also fulfills the Navy's needs for new reactors to meet evolving national defense requirements. This includes the development and delivery of the next-generation reactor for the Navy's new VIRGINIA-class submarine and the design and development of a new reactor for the CVN 21-class aircraft carrier. These new plants will be more affordable and have improved power capabilities, increased endurance, and added dependability compared to current plants.

PROGRAM HIGHLIGHTS

The FY 2007 request provides $795 million for Naval Reactors; an increase of $13.5 million above the FY 2006 current appropriation. Funding supports continuing efforts to ensure the safety and reliability of the 104 operating naval reactor plants, to upgrade and improve existing reactor plants, and to develop new reactor plants for the VIRGINIA-class submarine and CVN 21-class aircraft carrier programs.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Naval Reactors Development (FY 2006 $751.6; FY 2007 $763.9) .....+$12.3
Increase in Operations and Maintenance is partially offset by decrease in construction funding, as follows:

Operations and Maintenance (FY 2006 $721.5; FY 2007 $761.2).....+$39.7
Increases in Reactor Technology and Analysis, Materials Development and Verification, Evaluation and Servicing, ATR Operations and Support and Facility Operations; partially offset by a decrease in Plant Technology as follows:

Plant Technology (FY 2006 $142.4; FY 2007 $130.5) ..... -$11.9
Decrease due to completion of pre-production design of OHIO-class Generic I&C system equipment and other platform I&C development work.

Reactor Technology and Analysis (FY 2006 $201.9; FY 2007 $212.1) .+$10.2
Increase due to a delay in TTC work from FY 2006 to FY 2007.

Evaluation and Servicing (FY 2006 $162.8; FY 2007 $179.3) ..... +$16.5
Increase due to initiation of basket design for shipment and long-term storage of D2W spent fuel in the spent fuel canister transportation cask and development of D2W basket alignment and handling equipment (+$5.9); and initiation of D1G-2 spent fuel canister technical information package and design support for S8G and D1G-2 spent fuel basket procurement (+$10.6).

Materials Development and Verification
(FY 2006 $106.0; FY 2007 $117.7) .....+$11.7
Increase due to implementation of finite-element replacement code for core mechanical analysis (+$5.1) and additional destructive and non-destructive testing and evaluation of irradiated fuel, poison, cladding, and plant materials at the low-level exam facility and Radioactive Material Laboratory (+$6.6).

ATR Operations and Test Support
(FY 2006 $57.4; FY 2007 $64.6)..... +$7.2
Actual Naval Reactors ATR funding requirements decrease in FY 2007 when the effect of funding transfer from the Office of Nuclear Energy, Science and Technology is taken into account.

Facility Operations (FY 2006 $51.1; FY 2007 $57.0)..... +$5.9
Increase due to installation of the Composite Test Device (CTD) which will be used to test the instrumentation and Control design for future S8G reactor plants (+$2.0), Radioactive Materials Laboratory (RML) roof and ventilation upgrades (+$2.9) and a reduction in FY 2006 due to funding transfer to the ATR Operations and Test Support (+$1.0).

Construction (FY 2006 $30.1; FY 2007 $2.8)..... -$27.3
Reflects decreased funding of Central Office Building #2, West Mifflin, Pennsylvania (-$6.9); the Materials Development Facility Building, Schenectady, New York (-$8.5), and Advanced Test Reactor Support (-$13.4); partially offset by an increase to the Research Technology Complex (+$1.5).

Program Direction (FY 2006 $30.0; FY 2007 $31.2)..... +$1.2
Increase reflects salary increases for inflation and achievement of the FY 2007 FTE target of 204 FTEs, and increased ADP requirements for NR Headquarters' internal classified local area network.

SECTION 2. ENERGY STRATEGIC GOAL

Energy Strategic Goal: To protect our national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy.

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Energy Security					
Energy Efficiency and Renewable Energy	1,234,313	1,173,843	1,176,421	+2,578	+0.2%
Electricity Delivery & Energy Reliability	116,053	161,878	124,928	-36,950	-22.8%
Fossil Energy	629,242	841,639	648,876	-192,763	-22.9%
Nuclear Energy, Science and Technology	503,792	535,660	632,698	+97,038	+18.1%
Energy Information Administration	83,819	85,314	89,769	+4,455	+5.2%
Power Marketing Administrations	208,794	269,725	251,975	-17,750	-6.6%
Colorado River Basins	——	-23,000	-23,000	——	——
Total, Energy Security	**2,776,013**	**3,045,059**	**2,901,667**	**-143,392**	**-4.7%**

The Energy Strategic Goal is supported by the following general goal:

General Goal 4. Energy Security: Improve energy security by developing technologies that foster a diverse supply of reliable, affordable, and environmentally sound energy by providing for reliable delivery of energy, guarding against energy emergencies, exploring advanced technologies that make a fundamental improvement in our mix of energy options, and improving energy efficiency.

The following programs contribute to this goal:

Energy Efficiency and Renewable Energy

Electric Transmission and Distribution

Fossil Energy

Nuclear Energy, Science and Technology

Energy Information Administration

Power Marketing Administrations

Energy Efficiency and Renewable Energy

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Energy Efficiency and Renewable Energy					
Energy Supply					
Hydrogen technology	166,772	155,627	195,801	+40,174	+25.8%
Biomass and biorefinery systems R&D	87,471	90,718	149,687	+58,969	+65.0%
Solar energy	84,255	83,113	148,372	+65,259	+78.5%
Wind energy	40,631	38,857	43,819	+4,962	+12.8%
Geothermal technology	25,256	23,066	——	-23,066	-100.0%
Hydropower	4,880	495	——	-495	-100.0%
Vehicle technologies	161,326	182,104	166,024	-16,080	-8.8%
Building technologies	65,155	69,266	77,329	+8,063	+11.6%
Industrial technologies	73,371	56,855	45,563	-11,292	-19.9%
Distributed energy resources	59,069	——	——	——	——
Federal energy management program	19,882	18,974	16,906	-2,068	-10.9%
Facilities and infrastructure	11,389	26,052	5,935	-20,117	-77.2%
Weatherization and intergovernmental activities					
Weatherization assistance grants	228,160	242,550	164,198	-78,352	-32.3%
State energy program grants	44,176	35,640	49,457	+13,817	+38.8%
State energy activities	2,320	495	——	-495	-100.0%
Gateway deployment	33,930	25,400	——	-25,400	-100.0%
International renewable energy program	6,449	3,871	2,473	-1,398	-36.1%
Tribal energy activities	5,457	3,960	3,957	-3	-0.1%
Renewable energy production incentive	4,960	4,950	4,946	-4	-0.1%
Total, Weatherization and intergovernmental activities	325,452	316,866	225,031	-91,835	-29.0%
Program direction	98,215	98,529	91,024	-7,505	-7.6%
Program support	16,837	13,321	10,930	-2,391	-17.9%
Subtotal, Energy Efficiency and Renewable Energy	1,239,961	1,173,843	1,176,421	+2,578	+0.2%
Use of prior year balances and other adjustments	-5,648	——	——	——	——
Total, Energy Efficiency And Renewable Energy	**1,234,313**	**1,173,843**	**1,176,421**	**+2,578**	**+0.2%**

The **Office of Energy Efficiency and Renewable Energy** (EERE) conducts research, development, and deployment activities in partnership with industry to advance a diverse supply of reliable and affordable energy efficiency and clean power technologies and practices. The FY 2007 budget request emphasizes research on alternatives that will decrease our nation's dependence on foreign oil and accelerate development of clean electricity supply options.

PROGRAM DESCRIPTION

EERE's **Energy Supply and Conservation** activities promote the development and use of clean, reliable, efficient, and cost-effective power technologies to meet growing national energy needs, to reduce dependence on foreign energy sources, and to enhance energy security. The **FY 2007 budget request** is **$1,176.4 million**, an increase of $2.6 million, or 0.2% above the FY 2006 appropriation.

The **Hydrogen Technology** program, aligned with the Energy Policy Act of 2005, focuses on hydrogen production, delivery, storage, and fuel cell technologies. This program supports President Bush's 5-year, $1.2 billion **Hydrogen Fuel Initiative** to reverse America's growing dependence on foreign oil by accelerating the development of hydrogen fuel cell vehicle and infrastructure technologies. The program will enable a commercialization decision by industry on fuel cell vehicles and hydrogen infrastructure by 2015. A positive commercialization decision in 2015 could lead to market introduction of hydrogen fuel cell vehicles by 2020. The overall request for the President's Hydrogen Fuel Initiative in FY 2007 is $289.5 million; other organizations also contribute to this Presidential Initiative, including:

basic hydrogen research in the Office of Science; coal-based hydrogen production research in the Office of Fossil Energy; nuclear-based hydrogen production research in the Office of Nuclear Energy, Science and Technology; and hydrogen safety-related activities at the U.S. Department of Transportation.

The **Biomass and Biorefinery Systems R&D** program includes a new Departmental Initiative. The Biofuels Initiative will accelerate critical research, development and deployment resulting in industrial-scale validation of biorefinery pathways. The program focuses on three areas: (1) Platforms R&D, to reduce the cost of outputs and byproducts from biochemical and thermochemical processes; (2) Utilization of Platform Outputs, to develop technologies and processes that co-produce liquid and gaseous fuels, chemicals and materials, and/or heat and power, and integrate those technologies and processes into biorefinery configurations; and (3) Feedstock Infrastructure, to develop cost-effective biomass harvesting, storage and delivery systems, and to develop energy crops supply suitable for diverse regions and climates.

The **Solar Energy** program focuses on R&D to enable cost effective development of solar power that will reduce our demand for natural gas and promote a cleaner environment. Through the Department's new **Solar America Initiative** (SAI), the Solar Program will help accelerate the market competitiveness of solar electricity from photovoltaic (PV) systems. In the SAI, industry-led teams will compete to deliver PV systems that are less expensive, more efficient, and highly reliable. By focusing on PV technology manufacturing issues while advancing systems integration, SAI will promote deployment of 5-10 gigawatts (GW) of new grid-connected electricity generating capacity by 2015. The Solar Energy program's concentrating solar power activities will also be focused on lowering the cost of solar power through larger-scale centralized generation.

The **Wind Energy** program leads the nation's effort to develop and promote the use of advanced technologies to harness our abundant homeland wind resources. The program focus is on developing low wind speed utility scale technology, through leveraged partnerships with industry, to substantially increase the economically viable wind resource base across the country. The program explores innovative applications that will open new markets for wind technology, including offshore development.

Since 1974, the **Geothermal Technology** program has worked in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply. These efforts have led to the installation of more than 2,534 MW of domestic geothermal power. The Department plans to conclude the Geothermal Technology program in FY 2007 and transfer results of its research and development work related to geothermal technology to industry and state and local governments.

The **Vehicle Technologies** program supports the **FreedomCAR and Fuel Partnership** and the **21st Century Truck Partnership**, to enable light- and heavy-duty highway transportation to become more efficient. Technology research includes advanced lightweight materials, advanced batteries, improved power electronics, electric motors, and advanced combustion engines and fuels. These technologies contribute to reducing the Nation's use of oil. In FY 2007, the program is increasing research on technologies needed for cost effective plug-in hybrid vehicles (i.e. those that can be plugged in and recharged from the electrical grid.)

Building Technologies (BT) program develops technologies, techniques and tools for making residential and commercial buildings more energy efficient, productive, and affordable. The portfolio of activities includes efforts to improve the energy efficiency of building components and equipment, including the advancement of solid state lighting technologies for general illumination, and their effective integration using whole-building-system-design techniques; the development of energy efficient building codes and equipment standards; and integration of clean renewable energy systems into building design and operation.

Industrial Technologies program (ITP) works to reduce the energy intensity of the U.S. industrial sector through a coordinated program of research and development, validation, and dissemination of energy-efficiency technologies and operating practices.

The **Federal Energy Management Program** (FEMP) advances energy efficiency and water conservation and promotes the use of renewable energy in federal agencies, including the Department of Energy. FEMP also evaluates and reports the progress in these areas to the President and Congress.

The **Facilities and Infrastructure** activity supports capital investments to support a world-class research and development program at the National Renewable Energy Lab (NREL).

The **Weatherization and Intergovernmental Activities** program deploys energy efficient and renewable energy products into the marketplace, and funds Weatherization Assistance and State Energy Program grants. **Weatherization Assistance Grants** deliver cost-effective, energy efficiency investments for low-income households. The **State Energy Program** supports energy efficiency projects in states and communities through formula grants. The **International Renewable Energy Program** promotes market transformation in international markets to increase installation of U.S. developed technologies. **Tribal Energy Activities** builds partnerships with tribal governments and provides technical and financial assistance for energy efficiency and renewable energy projects, and for long range energy planning. The **Renewable Energy Production Incentive** provides incentive payments to qualifying facilities for the production of renewable energy.

The **Program Direction** account provides the personnel and overhead resources to operate and manage the programs described above.

The **Program Support** account provides for program measurement and strategic direction, as well as for technology advancement and outreach. Planning, Analysis and Evaluation activities provide timely information to inform decisions for portfolio investment decisions and address the President's Management Agenda. Technical Advancement and Outreach activities provide the public with accurate information on energy efficiency and renewable energy technologies to help the public make better energy choices.

PROGRAM HIGHLIGHTS

The FY 2007 request proposes several program shifts to more efficiently and effectively meet national energy needs. These budget shifts reflect application of the R&D Investment Criteria and the Program Assessment Rating Tool developed as part of the President's Management Agenda.

The request proposes two initiatives to promote energy security for the United States by fundamentally changing the way the nation powers its cars, homes and business:

- Funding for Biomass and Biorefinery Systems R&D is increased by $59.0 million overall and includes the **Biofuels Initiative**. The FY 2007 request expands Feedstock Infrastructure to initiate regional feedstock development partnerships, increases support for core Platform R&D, and significantly expands Utilization of Platform Outputs. Today 3.9 billion gallons of ethanol are produced from the starch in corn crops. The goal of the initiative is to foster the production of biofuels equivalent to 30 percent of today's gasoline consumption, or roughly 60 billion gallons of ethanol, by 2030. The initiative focuses on research to make cost competitive ethanol produced from the cellulosic biomass found in agricultural crops and residues, woody plants and grasses.

- The Solar Program is increased by $65.3 million and supports the **Solar America Initiative** (SAI). SAI will accelerate the development of solar photovoltaics (PV), an emissions-free solution helping the Nation's growing demand for electricity. Key PV technologies with the greatest potential for cost competitiveness in this accelerated time frame will be selected for aggressive development.

The **Hydrogen Technology** program is increased by $40.2 million to support the President's **Hydrogen Fuel Initiative**. The funding increase supports the development of critical path technologies for the hydrogen economy: more compact, light weight, lower cost, safe and efficient storage systems; lower cost and durable materials for fuel cells; and lower cost hydrogen production and delivery systems.

The **Geothermal Technologies** program will be closed out in FY 2007 (-$23.1 million). While geothermal energy remains an important regional contributor to energy needs of the nation, current EERE priorities are focused on technology development with broadly applicable and more readily accelerated public benefits.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Hydrogen Technology (FY 2006 $155.6; FY 2007 $195.8).....+$40.2
Funding supports the President's Hydrogen Fuel Initiative. The increase supports a bolstered research and development effort focused on critical path technologies in fuel cells, hydrogen storage, and hydrogen production, as well as data collection and testing of hydrogen fuel cell vehicles. Additionally, no funds are requested to continue congressionally-directed activities (-$42.5).

Biomass and Biorefinery Systems R&D (FY 2006 $90.7; FY 2007 $149.7).....+$59.0
Increased funding supports the Department's Biofuels Initiative to expand domestic production of renewable biofuels and displace imported petroleum. The increase in Feedstock Infrastructure supports cost reduction of biomass feedstocks, enabling the use of the available and potential feedstocks identified in the joint USDA/DOE Billion Ton Study (+$9.5). Increase in Platform R&D will enable biorefineries to utilize all components of the feedstock, resulting in clean synthesis gas and sugar intermediates that can be converted to fuels and products (+$35.4). The increase in Utilization of Platform Outputs will accelerate validation of the industrial-scale, cost-shared integrated biorefinery concept (+$47.9). No funds will be requested for congressionally-directed activities (-$51.8).

Solar Energy (FY 2006 $83.1; FY 2007 $148.4).....+$65.3
In FY 2007, there is an increase in Photovoltaic Energy Systems (+$79.5) to support the Solar America Initiative to accelerate program contributions critical to national objectives. The request closes out the Solar Heating and Lighting activity (-$1.5), as the majority of the activity's goal have been met and the technology is sufficiently developed that it can now be transferred to industry. No funds will be requested for congressionally directed activities (-$14.3).

Industrial Technologies (FY 2006 $56.9; FY 2007 $45.6)..... -$11.3
During FY 2007, activities with specific industries (forest products, glass, metal casting, supporting industries, aluminum, mining, and chemicals) and crosscutting activities (materials and Industrial Assessment Centers) will focus on the successful completion of existing projects with the highest potential future energy efficiency and environmental benefits. New projects will be selected that are unlikely to be undertaken without federal support that significantly reduce energy intensity and that are in alignment with the Administration's R&D Investment Criteria.

Facilities and Infrastructure (FY 2006 $26.0; FY 2007 $5.9) .....-$20.1
Net change reflects completion of the Science and Technology Facility at NREL in 2006 (-$10.4), and no funds for the Research Support Facility (-$9.9).

Weatherization and Intergovernmental Activities
(FY 2006 $316.9; FY 2007 $225.0)……–$91.8

The reduced Weatherization funding request supports core funding needed to sustain critical services. This will enable greater investments in advanced R&D within the EERE portfolio that can address critical national priorities: reducing dependence on foreign oil; accelerating the development of clean electricity supply options; and developing highly efficient new technologies and products for our homes and buildings. (-$78.40) Increased State Energy Program funds will help State and local governments improve energy emergency preparedness and help states implement provisions of the 2005 Energy Policy Act as appropriate. (+$13.8) Gateway activities have either been transferred to program areas to improve coordination and linkages with technology development activities (Rebuild America, Energy Efficiency Information and Outreach, Clean Cities, ENERGY STAR®) or discontinued (Building Codes Training and Assistance and Inventions and Innovations). (-$25.4)

Program Direction (FY 2006 $98.5; FY 2007 $91.0) ……-$7.5
Decrease reflects consolidation of the six former Regional Offices into the two Project Management Center locations.

Office of Electricity Delivery and Energy Reliability

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Electricity Delivery & Energy Reliability					
Energy Supply and Conservation					
Research and development					
High temperature superconductivity R&D	53,034	49,995	45,468	-4,527	-9.1%
Transmission reliability R&D	15,163	12,870	——	-12,870	-100.0%
Electricity distribution transformation R&D	5,418	60,059	——	-60,059	-100.0%
Energy storage R&D	3,969	2,970	——	-2,970	-100.0%
Gridwise	6,267	5,445	——	-5,445	-100.0%
Gridworks	5,303	4,950	——	-4,950	-100.0%
Visualization and controls	——	——	17,551	+17,551	N/A
Energy storage and power electronics	——	——	2,965	+2,965	N/A
Distributed energy resources	——	——	29,652	+29,652	N/A
Total, Research and development	89,154	136,289	95,636	-40,653	-29.8%
Electricity restructuring	19,842	12,276	——	-12,276	-100.0%
Operations and analysis	——	——	12,009	+12,009	N/A
Program direction	8,135	13,313	17,283	+3,970	+29.8%
Contruction	769	——	——	——	——
Subtotal, Electricity delivery and energy reliability	117,900	161,878	124,928	-36,950	-22.8%
Use of prior year balances and other adjustments	-1,847	——	——	——	——
Total, Electricity Delivery & Energy Reliability	**116,053**	**161,878**	**124,928**	**-36,950**	**-22.8%**

PROGRAM DESCRIPTION

The **Office of Electricity Delivery and Energy Reliability** (OE) leads a national effort to modernize and expand the U.S. electricity delivery system to ensure a more reliable and robust electricity supply, and to reduce the likelihood and impact of reliability events, including blackouts. This effort is accomplished through research, development, demonstration, policy, technology transfer, and education and outreach activities in partnership with industries, businesses, utilities, states, other federal programs and agencies, universities, national laboratories, and stakeholders. OE's primary focus consists of two subprograms: **Research and Development**, and **Operations and Analysis**. To accomplish these efforts, **OE requests $124.9 million for FY 2007**.

The **Research and Development** subprogram has the following activities:

The **High Temperature Superconductivity R&D** program pursues improvements to the efficiency and reliability of the nation's electric delivery system. The goal of this research is to develop operational wire and power prototypes that are half the size and deliver half the energy losses of conventional equipment of the same power rating by 2016.

The **Visualization and Controls R&D** program develops communication and control systems which support adaptive, intelligent grid operations, and which integrate distributed energy devices. These advances will improve the reliability and efficiency of the electric delivery system and increase the utilization of transmission and distribution assets.

The **Energy Storage and Power Electronics R&D** program pursues advancements that reduce the adverse effects of electricity disturbances.

The **Distributed Energy R&D** program develops a diverse array of cost-competitive, integrated distributed-generation and thermal energy technologies. It also supports the use of these technologies in residential, business, and

industrial applications to improve electricity reliability and reduce conventional environmental effects.

The **Operations and Analysis** subprogram has the following activities:

The **Permitting, Siting, and Analysis** activity uses education, outreach, and analysis to help states, regional electric grid operators, and federal agencies to develop and improve policies, market mechanisms, regulations, state laws, and programs. Increased infrastructure investment by transmission owners and utilities should result as this activity implements the mandatory requirements in corridor designation and line permitting of the National Energy Policy Act of 2005.

The **Infrastructure Security and Energy Restoration** activity coordinates the Department's response to energy emergencies, prevents unauthorized use of the energy infrastructure, and helps all levels of government and the private sector recover from energy supply disruptions.

PROGRAM HIGHLIGHTS

Beginning in FY 2007, the structure of OE has been updated to capitalize on the complimentary synergies and programmatic alignments that have emerged since the merger of its predecessor organizations. As such, the FY 2007 program will be comprised of three activities: Research and Development; Permitting, Siting and Analysis; and Infrastructure Security and Energy Restoration.

The R&D subprogram will demonstrate several major new systems in FY 2007, including superconducting cable operating at greater than 10KV within a utility system, a first of a kind phasor measurement-based system for reactive power control, several energy storage devices in grid settings, and a packaged Cooling, Heating, and Power system exhibiting 70 percent efficiency.

The Permitting, Siting and Analysis subprogram is leading federal efforts to implement several sections of the Energy Policy Act of 2005, including a national analysis of electric transmission congestion, the designation of national interest electric transmission corridors, and the designation of multi-purpose energy corridors on federal lands.

Working with the Department of Homeland Security, the Infrastructure Security and Energy Restoration subprogram assists states with energy security activities and distribution plans, conducts exercises and educational activities to improve energy security practices, and develops models and simulations to track emerging energy sector problems.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Office of Electricity Delivery and Energy Reliability (FY 2006 $161.9; FY 2007 $124.9)..... -$37.0

Research and Development

High Temperature Superconductivity (FY 2006 $50.0; FY 2007 $45.5)..... -$4.5
Decrease reflects a net adjustment to provide for a return to program funding levels consistent with FY 2006 enacted funding (+$10.1). There is no new work planned for existing congressionally directed activities (-$14.6).

Transmission Reliability (FY 2006 $12.9; FY 2007 $0) ..... -$12.9
Reflects the budget structure change and a shift of activity to Visualization and Controls (-$4.2). There is no new work planned for existing congressionally directed activities (-$8.7).

Electricity Distribution Transformation (FY 2006 $60.1; FY 2007 $0) ..... -$60.1
Reflects the budget structure change and a shift of activity to Visualization and Controls (-$1.5) and to Distributed Energy (-$28.8). There is no new work planned for existing congressionally directed activities (-$29.8).

Energy Storage (FY 2006 $3.0; FY 2007 $0)..... -$3.0
Reflects the budget structure change and a shift of activity to Energy Storage and Power Electronics (-$1.5). There is no new work planned for existing congressionally directed activities (-$1.5).

GridWise (FY 2006 $5.4; FY 2007 $0)..... -$5.4
Reflects the budget structure change and a shift of activity to Visualization and Controls ($-3.0). There is no new work planned for existing congressionally directed activities (-$2.4).

GridWorks (FY 2006 $5.0; FY 2007 $0) ..... -$5.0
Reflects the budget structure change and a shift of activity to Visualization and Controls (-$2.2). There is no new work planned for existing congressionally directed activities (-$2.8).

Visualization and Controls (FY 2006 $0; FY 2007 $17.6) .....+$17.6
Reflects the budget structure change and a shift of activity from Transmission Reliability (+$4.2), Electricity Distribution Transformation (+$1.5), and the transfer of critical projects from the GridWorks (+$2.2) and GridWise (+$3.0) activities. Increase supports the Department's efforts to modernize the nation's transmission and distribution infrastructure through accelerated development of advanced control methodologies and research of visualization tools (+$6.7).

Energy Storage and Power Electronics (FY 2006 $0; FY 2007 $3.0)..... +$3.0
Reflects the budget structure change and a shift of activity from Energy Storage (+$3.0) and the completion of projects with the States of California and New York. These completions will enable funding to be redirected toward work on the development of novel storage and power electronics systems.

Distributed Energy (FY 2006 $0; FY 2007 $29.7) .....+$29.7
Reflects the budget structure change and a shift of activity from Electricity Distribution Transformation (+$29.7). This activity supports key developmental work on next-generation distributed power equipment and integrated systems research.

Electricity Restructuring

Electricity Restructuring (FY 2006 $12.3; FY 2007 $0)..... -$12.3
Reflects the budget structure change and a shift of activity to Operations and Analysis (-$8.8). There is no new work planned for existing congressionally directed activities (-$3.5).

Operations and Analysis

Permitting, Siting, and Analysis (FY 2006 $0; FY 2007 $5.9) ..... +$5.9
Increase reflects the transfer of activity from Electricity Restructuring (+$5.9). The funding supports new activities prescribed in the National Energy Policy Act of 2005, and addresses legacy responsibilities: to provide technical assistance to regional electric grid operators and state public utility commissions, to monitor the actions of the Electric Reliability Organization (formerly NERC), and to grant and amend Presidential permits associated with electric transmission facilities at U.S. international borders.

Infrastructure Security and Energy Restoration (FY 2006 $0; FY 2007 $6.1)..... +$6.1
Increase reflects the transfer of activity from Electricity Restructuring (+$6.1). The funding supports enhancing the security and reliability of the energy infrastructure as directed in HSPD-7, HSPD-8, and the Stafford Act. This program coordinates all DOE efforts as the Lead Sector Specific Agency for protecting the nation's critical energy infrastructure.

Program Direction

Program Direction (FY 2006 $13.3; FY 2007 $17.3)..... +$4.0
Increase supports salary and related expenses for 10 FTEs (70 FTEs total) ($1.7). These staff will support OE's expanded mission in Infrastructure Security and Energy Restoration: 6 FTEs at the National Energy Technology Laboratory and 4 FTEs at DOE headquarters. This increase also reflects general pay increases, promotions, and within-grade increases (+$0.4), travel (+$0.2), support services (+$0.9), and other related expenses (+$0.8).

Fossil Energy

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Fossil energy programs					
Clean coal technology	-160,000	-20,000	——	+20,000	+100.0%
Fossil energy research and development	560,852	592,014	469,686	-122,328	-20.7%
Naval petroleum and oil shale reserves	17,750	21,285	18,810	-2,475	-11.6%
Elk Hills school lands fund	36,000	84,000	——	-84,000	-100.0%
Strategic petroleum reserve	126,710	207,340	155,430	-51,910	-25.0%
Northeast home heating oil reserve	4,930	——	4,950	+4,950	N/A
Strategic petroleum account	43,000	-43,000	——	+43,000	+100.0%
Total, Fossil energy programs	**629,242**	**841,639**	**648,876**	**-192,763**	**-22.9%**

The **Office of Fossil Energy** is responsible for managing Fossil Energy Research and Development, Clean Coal Technology, and the Elk Hills School Lands Fund, and for operating the Strategic Petroleum Reserve, the Northeast Home Heating Oil Reserve, and the Naval Petroleum Reserve. Each of these activities is in a separate appropriation account. The information that follows is presented in separate sections for each account.

PROGRAM DESCRIPTION

Fossil Research and Development

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Fossil Energy Research And Development					
Coal	342,502	376,198	330,119	-46,079	-12.2%
Natural gas technologies	43,632	32,670	——	-32,670	-100.0%
Petroleum - Oil technologies	32,985	31,680	——	-31,680	-100.0%
Program direction	105,602	105,872	129,196	+23,324	+22.0%
Plant and capital equipment	6,902	19,800	——	-19,800	-100.0%
Fossil energy environmental restoration	9,467	9,504	9,715	+211	+2.2%
Import/export authorization	1,774	1,781	——	-1,781	-100.0%
Advanced metallurgical research	9,861	7,920	——	-7,920	-100.0%
National academy of sciences program review	493	——	——	——	——
Special recruitment programs	656	649	656	+7	+1.1%
Cooperative research and development	8,052	5,940	——	-5,940	-100.0%
Subtotal, Fossil Energy Research and Development	561,926	592,014	469,686	-122,328	-20.7%
Use of prior year balances	-1,074	——	——	——	——
Total, Fossil Energy Research And Development	**560,852**	**592,014**	**469,686**	**-122,328**	**-20.7%**

The **Fossil Energy Research and Development** program goal is to ensure that economic benefits of moderately priced power generation from fossil fuels are compatible with the public's expectation for exceptional environmental quality and reduced energy security risks. In support of this goal, the mission of the program is to create public benefits that enhance U.S. economic, environmental, and energy security by: (1) managing and performing energy-related research that reduces market barriers to the reliable, efficient, and environmentally sound use of fossil fuels for power generation and conversion to other fuels such as hydrogen; (2) partnering with industry and others to advance clean and efficient fossil energy technologies toward commercialization; and (3) supporting the development of information and policy options that benefit the public by ensuring access to adequate supplies of affordable and clean energy.

The United States relies on fossil fuels for about 85 percent of the energy it consumes. The Energy Information Administration's, *2006 Annual Energy Outlook,* projects that fossil fuel

reliance could exceed 86 percent in 2030. To address this situation the program works to promote development of fossil fuel energy systems and practices to provide current and future generations with energy that is clean, efficient, reasonably priced, and reliable.

The Coal program is comprised of the **President's Coal Research Initiative** (which includes the **Clean Coal Power Initiative, FutureGen,** and the core coal research and development program) and Fuel Cells. The following table shows funding levels for the activities in the Coal Program:

	(dollars in thousands)		
	FY 2005 Approp.	**FY 2006 Approp.**	**FY 2007 Request**
President's Coal Research Initiative:			
Clean Coal Power Initiative	47,944	49,500	4,957
FutureGen	17,258	17,820	54,000
Fuels & Power Systems *(excluding Fuel Cells & U.S./China)* [1]	200,954	246,514	207,810
Program Direction *(Coal Program Specific Activities)* [2]	0	0	13,942
Subtotal, President's Coal Research Initiative	**266,156**	**313,834**	**280,709**
Other Coal Related Activities:			
Fuels Cells	75,360	61,380	63,352
U.S./China Energy & Envrironmental Center	986	984	0
Program Direction *(Coal Program Specific Activities)* [2]	0	0	595
Subtotal, Other Coal Related Activities[3]	**76,346**	**62,364**	**63,947**

[1] The President's Coal Research Initiative does not include funding for Fuel Cells and U.S./China.

[2] Beginning in FY 2007, the in-house activities supporting the coal program will be funded within the program direction account per the direction in P.L. 109-103.

[3] Does not include Clean Coal Technology account, presented subsequently in this section.

The **Clean Coal Power Initiative** (CCPI) is a cooperative, cost-shared program between the government and industry to rapidly demonstrate emerging technologies in coal-based power generation in order to help accelerate their commercialization. The nation's power generators, equipment manufacturers, and coal producers help identify the most critical barriers to coal's use in the power sector. Technologies will be selected with the goal of accelerating development and deployment of coal technologies that will economically meet environmental standards, while increasing the efficiency and reliability of coal power plants.

The **FutureGen** project will establish the capability and feasibility of co-producing electricity and hydrogen from coal with near-zero atmospheric emissions; including those from carbon (carbon sequestration is an integral component of the project). The FutureGen project will employ a public/private partnership to demonstrate technology ultimately leading to near-zero atmospheric emission plants (including carbon) that are fuel-flexible and capable of multi-product output and electrical efficiencies over 60 percent, including a cost of electricity at no more than a ten percent increase over that of comparable plants without carbon sequestration, that use coal, biomass, or petroleum coke. The project could help retain the strategic value of coal – our most abundant and lowest cost domestic energy resource. The clean coal R&D effort (described below) will focus on all the key technologies needed for FutureGen – such as carbon sequestration, membrane technologies for oxygen and hydrogen separation, advanced turbines, fuel cells, coal-to-hydrogen conversion gasifier related technologies, and other technologies. Some Clean Coal Power Initiative activities complement FutureGen and will help drive down the costs of Integrated Gasification Combined Cycle (IGCC) systems and other technologies for near-zero atmospheric emission plants.

The **Fuels and Power systems** program provides important research for FutureGen to reduce dramatically coal power plant emissions (especially mercury) and significantly improve efficiency to reduce carbon emissions, leading to a viable near-zero atmospheric emissions coal energy system.

The **Innovations for Existing Plants (IEP)** program has a near- to mid- term focus to improve overall power plant efficiency and developing advanced cost-effective environmental control technologies, with a focus on mercury, for retrofitting existing power plants and other coal technologies including those developed in support of the FutureGen project.

The **Integrated Gasification Combined Cycle (IGCC)** program will continue to develop technologies for gas stream purification to meet quality requirements for use with fuel cells and conversion processes, impurity tolerant hydrogen separation technology, enhance process efficiency, and reduce costs and energy requirements for producing oxygen using advanced technologies such as membranes.

The **Advanced Turbines** program is focused on creating the technology base for turbines that will permit the design of near-zero atmospheric emission IGCC plants and a class of FutureGen plants with carbon capture and sequestration (e.g. FutureGen). Building on prior successes in the Natural Gas-based Advanced Turbine Systems Program, the Advanced Turbine program research focuses on developing enabling technology for high efficiency hydrogen and syngas turbines for advanced gasification systems that will permit the design of near-zero atmospheric emission FutureGen plants with carbon capture and sequestration.

The **Carbon Sequestration** program is developing a portfolio of technologies that hold great potential to reduce greenhouse gas emissions. The program will focus primarily on developing capture and separation technologies that dramatically lower the costs and energy requirements for reducing carbon dioxide emissions from fossil based (especially coal) energy plants.

The program goal is to research and develop a portfolio of safe and cost-effective greenhouse gas capture, storage, and mitigation technologies by 2012, leading to substantial market penetration beyond 2012. Technology developments within the Sequestration program are expected to contribute significantly to the President's goal of developing technologies to substantially reduce greenhouse gas emissions in the long term, and would play a critical role necessary to stabilize greenhouse gas emissions in the United States.

The mission of the **Fuels** program is to conduct the research necessary to promote the transition to a hydrogen economy. Research will target cost reduction and increased efficiency of hydrogen production from coal feedstocks as part of the President's Hydrogen Fuel Initiative and in support of the FutureGen project.

Advanced Research projects seek a greater understanding of the physical, chemical, biological, and thermodynamic barriers that limit the use of coal and other fossil fuels. The program funds two categories of activity. The first includes applied research programs to develop the technology base needed for the development of super-clean, very high efficiency coal-based power and coal-based fuel systems. The second is a set of crosscutting studies and assessment activities in environmental, technical and economic analyses, coal technology export, and integrated program support.

The objectives of the **Fuel Cells** activity are to provide the technology-based development of low-cost, scalable, and fuel flexible fuel cell systems that can operate in central coal-based power systems as well as having applications in other electric utility (both central and distributed), industrial, and commercial/residential markets.

The FY 2007 budget proposes to terminate the **Oil Technology and Natural Gas Technologies** research and development programs. Federal staff, paid from the program direction account, will continue to work toward an orderly termination of the program.

Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund

The Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund was created by the Energy Policy Act of 2005 (Public Law 109-58) as a mandatory program beginning in FY 2007. The program would be funded from mandatory federal revenues from oil and gas leases. The budget proposes to repeal the program through a future legislative proposal, consistent with the decision to terminate the discretionary Oil and Gas programs.

Clean Coal Technology

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Clean Coal Technology					
Deferral of unobligated balances, FY 2005	——	257,000	——	-257,000	-100.0%
Advance appropriation	97,000	——	——	——	——
Deferral of unobligated balances, FY 2007	——	-257,000	257,000	+514,000	+200.0%
Rescission	——	——	-203,000	-203,000	N/A
Rescission, uncommitted balances	——	-20,000	——	+20,000	+100.0%
Transfer to Fossil R&D (FutureGen)	——	——	-54,000	-54,000	N/A
Deferral	-257,000	——	——	——	——
Total, Clean Coal Technology	**-160,000**	**-20,000**	**——**	**+20,000**	**+100.0%**

The **Clean Coal Technology** program is an effort jointly funded by the U.S. government and industry to demonstrate the most promising advanced coal-based technologies to use coal cleanly, efficiently (including reducing CO_2 emissions), and to meet domestic energy needs inexpensively. The program also generates the data needed for the marketplace to judge the commercial potential of these technologies. The program recognizes that the vast and relatively inexpensive U.S. coal reserves are critical energy resources, which can provide a significant economic advantage to the nation. However, these benefits will only be realized when coal can be used in ways which are environmentally responsible and when advanced technology can achieve significantly higher efficiencies than existing commercial power plants.

Elk Hills School Lands Fund

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Elk Hills School Lands Fund					
California teachers' pension fund payment	——	48,000	——	-48,000	-100.0%
Advance appropriation for previous years	36,000	36,000	——	-36,000	-100.0%
Total, Elk Hills School Lands Fund	**36,000**	**84,000**	**——**	**-84,000**	**-100.0%**

The National Defense Authorization Act for FY 1996, Public Law 104-106, authorized the settlement of longstanding "school lands" claims to certain **Elk Hills** lands by the State of California. The settlement agreement between DOE and California, dated October 11, 1996, provides for payment, subject to appropriation, of 9 percent of the net sales proceeds generated from the divestment of the government's interest in the Elk Hills Reserve. Under the terms of the Act, a contingency fund containing 9 percent of the net proceeds of sale was established in the U.S. Treasury and was reserved for payment to California.

Strategic Petroleum Reserve

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Strategic Petroleum Reserve					
SPR - Facilities development	126,710	207,340	155,430	-51,910	-25.0%
Strategic Petroleum Account					
SPR - Oil acquisition	43,000	-43,000	——	+43,000	+100.0%
Total, Strategic Petroleum Reserve	**169,710**	**164,340**	**155,430**	**-8,910**	**-5.4%**

The **Strategic Petroleum Reserve** (SPR) mission is to provide the United States with adequate strategic and economic protection against disruptions in oil supplies. The SPR maintains the capability to transition from operational readiness to drawdown at a sustained rate of 4.4 million barrels per day for 90 days within 13-15 days of Presidential notification. Funding in FY 2007 allows the SPR to maintain this continual readiness posture through a comprehensive program of systems maintenance, exercises, and tests.

The Strategic Petroleum Reserve (SPR) Petroleum Account, created by the Energy Policy and Conservation Act, is the source of funds to acquire, transport, and inject oil into the Strategic Petroleum Reserve. Funds in the SPR Petroleum Account are also used for incremental drawdown and other related miscellaneous costs.

Northeast Home Heating Oil Reserve

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Northeast Home Heating Oil Reserve					
Northeast home heating oil reserve	**4,930**	**——**	**4,950**	**+4,950**	**N/A**

On July 10, 2000 the President directed DOE to establish a heating oil reserve in the Northeast capable of assuring home heating oil supply for the Northeast states during times of very low inventories and significant threats to immediate supply. The 2-million-barrel Reserve protects the Northeast against a supply disruption for up to 10 days, the time required for ships to carry heating oil from the Gulf of Mexico to New York Harbor for distribution.

Naval Petroleum and Oil Shale Reserves

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Naval Petroleum & Oil Shale Reserves					
Production operations	8,555	——	10,514	+10,514	N/A
Management	9,195	——	8,296	+8,296	N/A
Naval petroleum & oil shale reserves	——	21,285	——	-21,285	-100.0%
Total, Naval Petroleum & Oil Shale Reserves	**17,750**	**21,285**	**18,810**	**-2,475**	**-11.6%**

The Naval Petroleum and Oil Shale Reserve (NPOSR) mission is to complete environmental remediation activities and determine the equity finalization of NPR-1, and to operate NPR-3 until its economic limit is reached, while providing the Rocky Mountain Oil Field Test Center as a field demonstration facility. Since the Naval Petroleum and Oil Shale Reserve (NPOSR) no longer served the national defense purpose envisioned in the early 1900s, the National Defense Authorization Act for FY 1996 (P.L. 104-106) required the sale of the government's interest in Naval Petroleum Reserve 1 (NPR-1). To comply with this requirement, the Elk Hills field in California was sold to Occidental Petroleum Corporation in 1998. Subsequently, the Department transferred two of the Naval Oil Shale Reserves (NOSR-1 and NOSR-3), both in Colorado to the Department of the Interior's (DOI) Bureau of Land Management. In January 2000, the Department returned the NOSR-2 site to the Northern Ute Indian Tribe. The Energy Policy Act of 2005 transferred administrative jurisdiction and environmental remediation of

Naval Petroleum Reserve 2 (NPR-2) in California to the Department of the Interior. DOE retains the Naval Petroleum Reserve 3 (NPR-3) in Wyoming (Teapot Dome field).

PROGRAM HIGHLIGHTS

Fossil Energy Research and Development

The goal of the President's Coal Research Initiative is to conduct research and development on coal-related technologies that will improve the competitiveness of domestic coal in future energy supply markets. The administration strongly supports coal as an important part of our energy portfolio. This request carries out the President's commitment to spend $2 billion on clean coal research over 10 years.

The Fossil Energy Research and Development program continues to incorporate criteria into the program and project selection process consistent with the President's Management Agenda that directs the application of specific criteria to DOE's applied research and development investments. The FY 2007 budget request takes into consideration the National Energy Policy Act of 2005 and maintains core research and development with an emphasis on cost sharing and industry collaboration. As a result of the evaluations under the Research and Development Investment Criteria, as well as the Program Assessment Rating Tool, program activities throughout FERD have been focused on emphasizing research and development activities that support FutureGen as FER&D's highest priority.

As directed by the Energy and Water Appropriation Conference report language, beginning in the FY 2007, the FER&D Program is reflecting all salary and related expenses of federal employees in one program direction account versus the programmatic accounts.
In FY 2007 federal staff, paid from the program direction account, will continue to work toward an orderly termination of the Natural Gas Technologies and the Oil Technology programs.

Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund

The FY 2007 Budget proposes to repeal the program through a future legislative proposal.

Clean Coal Technology

The budget proposes to cancel $203 million in prior-year balances and request advanced appropriations of $203 million of forward funding for FutureGen in FY 2008 and beyond, which fulfills a similar role of demonstrating advanced coal-based technologies. These balances are no longer needed to complete active projects in the Clean Coal Technology program. The budget also proposes to transfer $54 million from Clean Coal Technology to the Fossil Energy Research and Development program for work on the FutureGen project to develop a coal-fueled, near-zero atmospheric emissions electricity and hydrogen generation plant. With the request for the advance appropriation for FutureGen, the administration remains committed to the FutureGen project.

Elk Hills School Lands Fund

The first installment payment of the settlement agreement was appropriated in FY 1999. While no appropriation was provided in FY 2000, the act provided an advance appropriation of $36.0 million that became available in FY 2001 (second installment). The next four installments of $36 million were paid at the beginning of FY 2002, FY 2003, FY 2004, and FY 2005 respectively. A seventh payment of $84 million was made in FY 2006.

No funding is requested in FY 2007. The timing and levels of any future budget request are dependent on the schedule and results of the equity finalization process.

Strategic Petroleum Reserve

The Strategic Petroleum Reserve reached its highest crude oil inventory level of 700 MMB in August 2005. Post Hurricanes Rita and Katrina, the Reserve loaned 9.8 MMB of crude oil via exchanges and sold 11.0 MMB via a Presidentially-directed drawdown. At the end of FY 2005, the Reserve's inventory was 693.7 MMB. During FY 2006, inventory will be restored by 10.3 MMB as the oil loaned (plus 0.5 million premium barrels) is returned. The Department will repurchase the oil that was sold in FY 2006 in a manner that will not impact the supply or price of crude oil.

The Department instituted its authority to transfer funding to the SPR Petroleum Account from any funds available – in this case the SPR Facilities Account in order to proceed with the drawdown as directed by the President. In accordance with the legislative language, the funds will be replenished to the SPR Facilities Account in FY 2006 from oil sale receipts.

The Energy Policy Act of 2005 (the Act) directed the Secretary to select sites necessary to expand the SPR from its current 727-million-barrel capacity to 1 billion barrels no later than 1 year after enactment. The first in a series of public scoping meetings began on October 11, 2005, and ended on December 7, 2005. A new site will be selected from the group of sites previously assessed in the Draft Environmental Impact Statement, DOE/EIS-0165-D, or other sites as proposed by a state where a site has been previously studied by the DOE. New site candidates being considered are Stratton Ridge, TX; Chacahoula, LA; Clovelly, LA; Richton, MS; and Bruinsburg, MS.

Northeast Home Heating Oil Reserve

During FY 2006, program activities were financed using prior year balances. In FY 2007, the program continues to lease commercial storage space in New York Harbor, New Haven, CT and Providence, RI. Additional activities include quality assurance reviews, auction platform assessments, exercises and tests.

Naval Petroleum Reserve

The NPOSR mission has evolved to complete environmental remediation activities and determine the equity finalization of NPR-1. The program continues post-sale activity related to the settlement of ownership equity shares with the former unit partner in the NPR-1 field, Chevron U.S.A., Inc.

The NPR-3 primary focus has been to apply conventional oil field management and operations to produce the stripper field to its economic limit. Revenues in FY 2007 are estimated at $6.6 million. Co-located with NPR-3, the Rocky Mountain Oilfield Testing Center (RMOTC) provides opportunities for field testing and demonstration of upstream and environmental products.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Fossil Energy Research and Development

Coal (FY 2006 $376.2; FY 2007 $330.1)..... -$46.1

Clean Coal Power Initiative (FY 2006 $49.5; FY 2007 $5.0) ..... -$44.5
Budget restricts the addition of new funds to CCPI so that the program can take steps to improve the use of funds already provided for projects (over $500

million) and potential future funds. FY 2007 funding will go towards accumulating sufficient funds for the next CCPI solicitation.

FutureGen (FY 2006 $17.8; FY 2007 $54.0) .....+$36.2
FY 2007 funding will support detailed plant design and procurement activities, in addition to a continuation of ongoing permitting, preliminary design, and site characterization efforts. This funding request keeps the program on schedule as outlined in the FutureGen Report to Congress.

Innovations for Existing Plants (FY 2006 $25.1; FY 2007 $16.0)..... -$9.1
FY 2007 activities focus on advanced, low-cost emission control and compliance technology to meet new and more stringent emissions regulations, especially for mercury. Funding for Fine Particulate Control/Air Toxics reflects a reduction in programmatic work (-$0.6M) plus the transfer of salaries and expenses of federal employees to program direction (-$1.7M) for a net reduction of (-$2.3M). Other reductions include: Super Clean Systems (-$1.0M); National Labs (-$1.8M); By-Products and Water Management (-$2.5M). Congressionally-directed activities are not funded (-$1.5M). Promulgation of the Clean Air Interstate Rule and the Clean Air Mercury Rule in 2005 provided a market incentive for developing many advanced, cost-effective emissions controls and should reduce the need for federally funded R&D for existing plants, as determined by the Research and Development Investment Criteria.

Integrated Gasification Combined Cycle (FY 2006 $55.9; FY 2007 $54.0)..... -$1.9
FY 2007 activities focus on advanced, lower-cost, improved performance technologies for gasification systems, low-cost gas stream cleaning and conditioning, advanced oxygen production, gas separation, and low-cost carbon capture compatibility. Funding for Gasification Systems Technology reflects a reduction in programmatic work (-$0.2M) plus the transfer of salaries and expenses of federal employees to program direction (-$1.6M) for a net reduction of -$1.8M. Other changes include a minor reduction in Vision 21 (-$0.4M) which is offset by a slight increase in System Analysis/Product Integration (+$0.3M).

Advanced Turbines (FY 2006 $17.8; FY 2007 $12.8)..... -$5.0
FY 2007 activities focus on advanced technology development for coal based hydrogen turbines with high efficiency and ultra-low emissions in support of near-zero atmospheric emission coal plants as represented by FutureGen. Funding for Hydrogen Turbines reflects a reduction in programmatic work (-$0.6M) plus the transfer of salaries and expenses of federal employees to program direction (-$1.9M) for a net reduction of -$2.5M. No funding is provided for congressionally-directed activities (-$2.5M)

Carbon Sequestration (FY 2006 $66.3; FY 2007 $73.9)..... +$7.6
FY 2007 activities focus on greenhouse gas control technologies, including low- cost carbon dioxide separation and capture, and monitoring, measurements and verification technologies as well as field testing and systems development for carbon sequestration. Funding for Greenhouse Gas Control reflects an increase of (+$20.6M) which is offset by the transfer of salaries and expenses for federal employees to program direction (-$4.2M) for a net increase of +$16.4M. Other changes include an increase in Focus Area for Carbon Sequestration Science (+$1.2M) and reductions in the Center for Zero Emissions Research and Technology. No funding is provided for congressionally-directed activities (-$9.9M).

Fuels (FY 2006 $28.7; FY 2007 $22.1)..... -$6.6
FY 2007 activities focus on research on low-cost hydrogen from clean coal in support of the President's Hydrogen Fuel Initiative. The funding for the President's Hydrogen

Fuel Initiative includes an increase of (+$2.0M) for programmatic work which is offset by the transfer of salaries and expenses of federal employees to program direction (-$1.5M) for a net increase of +$0.5M. No funding is provided for congressionally-directed activities (-$7.1M).

Advanced Research (FY 2006 $52.6; FY 2007 $28.9)..... -$23.7
FY 2007 activities focus on activities aimed at innovations and advanced concepts that support development of highly efficient and clean power plants focusing on the reduction or elimination of adverse environmental impacts for coal use. Funding for coal utilization science increased (+$2.7M) for programmatic work which was offset by the transfer of salaries and expenses to program direction (-$1.2M) for a net increase of +$1.5M. Materials has a slight reduction (-$0.05M) plus the transfer of federal employee expenses to program direction (-$0.3M) for a net reduction of -$0.4M. Bioprocessing of Coal is reduced (-$0.2M) for programmatic work and (-$0.1M) for program direction for a net reduction of -$0.3M. Focus Area for Computational Energy Science reflects the transfer of -$1.4M to program direction. Other changes include: various reductions in Advanced Research work (-$0.7M) and no funding for congressionally-directed activities (-$22.4M)

Fuel Cells (FY 2006 $61.4; FY 2007 $63.4)..... +$2.0
In FY 2007, the program will continue the second phase of the three phase SECA (3-10kW) program aimed at $400/kW, and continue to work on SECA Coal Based Fuel Cell projects focused on scaling solid-oxide fuel cells for FutureGen class central generation. The Budget reflects reductions in Advanced Research (-$7.9M) and in Congressionally directed activities (-$10.4M). In addition, funding for Innovative Systems Concepts/SECA was increased by (+$20.9M) which is offset by the transfer of (-$0.6M) to program direction for federal expenses for a net increase of +$20.3M.

U.S./China Energy and Environmental Center (FY 2006 $1.0; FY 2007 $0).... -$1.0
Concluded planned activities. No new activities will be conducted in FY 2007.

Natural Gas Technologies (FY 2006 $32.7; FY 2007 $0)..... -$32.7
No new activities will be conducted in FY 2007. In FY 2007 federal staff, paid from the program direction account, will continue to work toward an orderly termination of the Natural Gas Technologies and the Oil Technology programs.

Petroleum – Oil Technology (FY 2006 $31.7; FY 2007 $0)..... -$31.7
No new activities will be conducted in FY 2007. In FY 2007 federal staff, paid from the program direction account, will continue to work toward an orderly termination of the Natural Gas Technologies and the Oil Technology programs.

Cooperative Research and Development (FY 2006 $5.9; FY 2007 $0)..... -$5.9
No new activities will be conducted in FY 2007. The Department anticipates that these centers can compete successfully for Fossil Energy funding through the competitive solicitation process.

Environmental Restoration (FY 2006 $9.5; FY 2007 $9.7)..... +$0.2
Essentially level with FY 2006. Requested funding will support compliance with applicable federal, state, and local ES&H regulations.

Import/Export Authorization (FY 2006 $1.8; FY 2007 $0.0)..... -$1.8
Reflects the transfer of the entire line (-$1.8M) to program direction to fund salaries and expenses of federal employees.

Advanced Metallurgical Research (FY 2006 $7.9; FY 2007 $0)..... -$7.9
Reflects the transfer of the entire line to program direction to fund salaries and expenses of federal employees.

Program Direction (FY 2006 $105.9; FY 2007 $129.2).....+$23.3
Per the FY 2006 Energy and Water Development Appropriation conference report language, funding from the various program elements that support federal employees was transferred to program direction beginning in FY 2007. Funding transferred includes: Fuels and Power Systems (+$14.5M); Import/Export Authorization (+$1.8M); and Advanced Metallurgical Research (+$8.0M). Transfers were offset by a (-$1.0M) reduction in other program direction activities.

Plant and Capital Equipment (FY 2006 $19.8; FY 2007 $0) ..... -$19.8
Decrease reflects the completion of the building projects at the National Energy Technology Laboratory sites.

Clean Coal Technology

Clean Coal Technology (FY 2006 -$20.0 FY 2007 $0) .....+$20.0
Budget proposes to cancel $203 million in prior-year balances and request advanced appropriations of $203 million of forward funding for FutureGen in FY 2008 and beyond which fulfills a similar role of demonstrating advanced coal-based technologies. These balances are no longer needed to complete active projects in the Clean Coal Technology program. Budget also proposes to transfer $54 million from Clean Coal Technology to the Fossil Energy Research and Development program for work on the FutureGen project to develop a coal-fueled, near-zero atmospheric emissions electricity and hydrogen generation plant. With the request of the advance appropriation for FutureGen, the Administration remains committed to the FutureGen project.

Strategic Petroleum Reserve

Strategic Petroleum Reserve (FY 2006 $207.3; FY 2007 $155.4)..... -$51.9
Decrease reflects completion in FY 2006 of deferred activities to finance the Hurricane Katrina Drawdown; the completion of site modifications for the degas plant move; and completion of NEPA activities to support site selection for expansion of the SPR.

Strategic Petroleum Account (FY 2006 -$43.0; FY 2007 $0) .....+$43.0
Reflects the return of financing to the SPR Facilities Account from the revenues realized during the Hurricane Katrina drawdown.

Naval Petroleum Reserve

Naval Petroleum and Oil Shale Reserves (FY 2006 $21.3; FY 2007 $18.8)..... -$2.5
Decrease reflects fewer scheduled well workovers and pipeline maintenance and repair activities at NPR-3 as well as fewer testing and demonstration projects of new technologies for independent oil producers.

Northeast Home Heating Oil Reserve

Northeast Home Heating Oil Reserve (FY 2006 $0; FY 2007 $5.0)..... +$5.0
In FY 2007, the program continues to lease commercial storage space in New York Harbor, New Haven, CT and Providence, RI. Additional activities include quality assurance reviews, auction platform assessments, exercises and tests.

Nuclear Energy, Science and Technology

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Nuclear Energy, Science And Technology					
Energy Supply and Conservation					
University reactor infrastructure and education assistance	23,810	26,730	——	-26,730	-100.0%
Research and development	168,350	223,740	347,132	+123,392	+55.1%
Infrastructure	248,986	241,060	145,012	-96,048	-39.8%
Spent nuclear fuel management	6,681	——	——	——	——
Program direction	60,076	60,498	67,608	+7,110	+11.8%
Transfer from state department	14,000	——	——	——	——
Subtotal, Energy Supply and Conservation	521,903	552,028	559,752	+7,724	+1.4%
Use of prior year balances and other adjustments	-128,564	-136,029	----	136,029	+100.0%
Total, Energy Supply and Conservation	521,903	552,028	559,752	+7,724	+1.4%
Other Defense Activities					
Infrastructure	78,381	91,872	75,949	-15,923	-17.3%
Spent nuclear fuel management	1,488	——	——	——	——
Program direction	33,587	30,792	——	-30,792	-100.0%
Subtotal, Other Defense Activities	113,456	122,664	75,949	-46,715	-38.1%
Use of prior year balances and other adjustments	-3,003	-3,003	-3,003	——	——
Total, Other Defense Activities	110,453	119,661	72,946	-46,715	-39.0%
Total, Nuclear Energy, Science And Technology	**503,792**	**535,660**	**632,698**	**+97,038**	**+18.1%**

The **Office of Nuclear Energy, Science and Technology** (NE) is funded in two accounts within the Energy and Water Development Appropriations: Energy Supply and Conservation and Other Defense Activities. All funding for research and development and landlord activities for the Idaho National Laboratory is requested in the Energy Supply and Conservation account. Funding for Safeguards and Security is requested within Other Defense Activities. Within the two accounts, DOE is requesting a total of $632.7 million for NE activities in FY 2007.

PROGRAM DESCRIPTION

NE leads the government's efforts to develop new nuclear energy generation technologies to meet energy and climate goals; develop advanced, proliferation-resistant nuclear fuel technologies that maximize energy from nuclear fuel; and maintain and enhance the national nuclear infrastructure. NE serves the present and future energy needs of the country by managing the safe operation and maintenance of our critical nuclear infrastructure that provides nuclear technology goods and services. A key mission of DOE's nuclear energy research and development program is to lead the U.S. and international research community in planning and conducting applied research to chart the way toward the next leap in technology. The aim of these efforts and those of industry and our overseas partners is to enable nuclear energy to fulfill its promise as a safe, advanced, inexpensive and environmentally benign approach to providing reliable energy to all of the world's people.

The programs within NE fully support development of new nuclear generation technologies that may provide significant improvements in sustainability, economics, safety and reliability, proliferation resistance, and physical protection. Through the **Advanced Fuel Cycle Initiative**, DOE seeks to develop advanced, proliferation resistant nuclear fuel technologies that maximize the energy produced from nuclear fuel while minimizing wastes. Associated with this program, the **Global Nuclear Energy Partnership** will further provide for the expansion of nuclear power plants in the United States and around the world, in addition to promoting nuclear nonproliferation goals and helping resolve nuclear waste disposal issues.

The **Nuclear Power 2010** program supports technology development and demonstration activities that advance the "National Energy Policy" goals for enhancing long-term U.S. energy independence and reliability and expanding the contribution of nuclear power to the nation's energy portfolio. In addition, the **Generation IV Nuclear Energy Systems Initiative** establishes a basis for expansive cooperation with our international partners to develop next-generation reactor and fuel cycle systems that represent a significant leap in economic performance, safety, and proliferation-resistance. Finally, the **Nuclear Hydrogen Initiative** will develop advanced technologies that can be used in tandem with next-generation nuclear energy plants to generate economic, commercial quantities of hydrogen to support a sustainable, clean energy future for the United States.

PROGRAM HIGHLIGHTS

The FY 2007 request supports innovative applications of nuclear technology to develop new nuclear generation technologies and advanced energy products, develop advanced proliferation-resistant nuclear fuel technologies that maximize energy output, and maintain and enhance national nuclear capabilities to meet future challenges.

The **Advanced Fuel Cycle Initiative**, which is integral to the Generation IV Nuclear Energy Systems effort, aims to develop a better, more efficient and proliferation-resistant nuclear fuel cycle. This research and development program is focusing on methods to reduce the volume and long-term toxicity of high-level waste from spent nuclear fuel, reduce the long-term proliferation threat posed by civilian inventories of plutonium in spent fuel, and provide for proliferation-resistant technologies to recover the energy content in spent nuclear fuel. The focus of this initiative will be the **Global Nuclear Energy Partnership** (GNEP).

GNEP will accelerate the work being done under the AFCI program. Advanced recycling technologies can extract highly radioactive elements of commercial spent nuclear fuel and use that material as fuel in fast spectrum reactors to generate additional electricity. The extracted material, which includes all transuranic elements (e.g., plutonium, neptunium, americium and curium), would be consumed by fast reactors to reduce significantly the quantity of material requiring disposal in a repository and to produce power. The plutonium would remain bound with other highly radioactive isotopes, thereby preserving its proliferation resistance and reducing security concerns. With the transuranic materials separated and used for fuel, the volume of waste that would require disposal in a repository would be reduced by 80 percent.

Improving the way spent nuclear fuel is managed in this manner will facilitate the expansion of civilian nuclear power in the United States and encourage civilian nuclear power in foreign countries to evolve in a more proliferation-resistant manner. Once these recycling technologies are proven, the United States and other countries having the established infrastructure could arrange to supply nuclear fuel to countries seeking the energy benefits of civilian nuclear power, and the spent nuclear fuel could be returned to partner countries for eventual disposal in international repositories. In this way, foreign countries could obtain the benefits of nuclear energy without needing to design, build, and operate uranium enrichment or recycling technologies to process and store the waste.

The **Nuclear Power 2010** program is requesting funding of $54.0 million in FY 2007 to complete the issuance of three Early Site Permits by the U.S. Nuclear Regulatory Commission (NRC). In addition, the program will complete the industry cost-shared project initiated in FY 2003 to develop generic guidance for the Construction and Operating License (COL) application preparation, to resolve generic COL regulatory issues and continue the implementation phase of the two New Nuclear Plant Licensing Demonstration Projects awarded in FY 2005.

The goal of the **Generation IV Nuclear Energy Systems Initiative** (Gen IV) is to address the fundamental research and development issues necessary to establish the viability of

next-generation nuclear energy system concepts. The 2007 budget provides $31.4 million for the Gen IV initiative to expand research and development that could help achieve the desired goals of sustainability, economics, and proliferation resistance.

The **Nuclear Hydrogen Initiative** (NHI), with funding of $18.7 million, will conduct research and development on enabling technologies, demonstrate nuclear-based hydrogen production technologies, and develop technologies that will apply heat from Generation IV nuclear energy systems to produce hydrogen. DOE's Offices of Nuclear Energy, Fossil Energy, Science, and Energy Efficiency and Renewable Energy are working together to provide the technological underpinnings of the **Hydrogen Fuel Initiative**. Research and development work carried out by NHI may enable the United States to generate hydrogen at a scale and cost that would support a future hydrogen-based economy.

The **Radiological Facilities Management** program maintains irreplaceable DOE nuclear technology facilities in a safe, secure, environmentally compliant and cost-effective manner to support national priorities, including the provision of radioisotope power systems that can generate electrical power in remote harsh environments for space exploration. This program also supports the medical isotope production infrastructure and research reactor infrastructure.

The **Idaho Facilities Management** program provides INL with the site-wide infrastructure required to support the laboratory's research and development programs. The Department has developed a detailed INL Ten Year Site Plan that will guide its investments in INL's infrastructure over the next decade. It is the government's objective to develop INL into a world-class nuclear energy research and development center by 2015.

The **Idaho Site-Wide Safeguards and Security** program protects DOE interests from theft, diversion, sabotage, espionage, unauthorized access, compromise, and other hostile acts, which could cause unacceptable adverse impacts on national security, program continuity, the health and safety of employees, the public, or the environment at the INL.

Program Direction provides the federal staffing resources and associated costs required to provide overall direction and execution of the Department's Nuclear Energy program.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

University Reactor Infrastructure and Education Assistance
(FY 2006 $26.7; FY 2007 $0) ..... -$26.7
Enrollment target levels of this program have already been met and students no longer need to be encouraged to enter into nuclear related disciplines. Consequently, the Department has determined it no longer requires funding for this program. The FY 2007 Budget includes $2.9 million to provide fresh reactor fuel to universities and dispose of spent fuel from university reactors under Research Reactor Infrastructure, within Radiological Facilities Management.

Nuclear Power 2010 (FY 2006 $65.3; FY 2007 $54.0) ..... -$11.3
Changes to COL Project baselines resulting from later than planned project starts and additional appropriations from FY 2006 resulted in a decrease of $13.1 million. $1.8 million in additional funds are requested to develop the regulations, criteria, and process under which the Department would accept, evaluate, and approve applications for standby support contracts from sponsors of new nuclear power plants.

Generation IV Nuclear Energy Systems Initiative
(FY 2006 $54.5; FY 2007 $31.4)..... -$23.1
Decrease reflects a reduction in R&D activities due to a change in focus to emphasize other research and development activities such as near-term deployment of new nuclear plants and enhanced waste minimization efforts.

Nuclear Hydrogen Initiative (FY 2006 $24.8; FY 2007 $18.7)..... -$6.1
Decrease reflects reduced development costs for the S-I thermochemical and high-temperature electrolysis hydrogen production methods as the laboratory-scale experiments move out of the construction phase into the testing phase.

Advanced Fuel Cycle Initiative (FY 2006 $79.2; FY 2007 $243.0).....+$163.8
Beginning in FY 2007, the Advanced Fuel Cycle Initiative program will be re-focused and accelerated toward near-term demonstration, at engineering scale, of the most promising technologies developed. In FY 2007, under the Global Nuclear Energy Partnership (GNEP), the Department will initiate work towards conducting an engineering scale demonstration of the UREX+ separations process (operational 2011) and developing an advanced fuel cycle facility capable of laboratory development of advanced separations and fuel manufacturing technologies (operational 2016). Over the coming year, NE will collaborate with international and private parties to refine the GNEP concept and gauge interest in a demonstration of the sodium cooled reactor technology, which would serve as the fast Advanced Burner Reactor component of GNEP (operational 2014).

Radiological Facilities Management (FY 2006 $54.0; FY 2007 $49.7) ..... -$4.3
Cumulative change in funding is due to an increase of $1.4 million for maintaining and upgrading the Medical Isotope Infrastructure, an increase of $2.9 million to provide fuel for university research reactors, and the discontinuation of work toward the consolidation of nuclear activities related to the production of radioisotope power sources (-$8.4 million) within Space and Defense Infrastructure.

Idaho Facilities Management (FY 2006 $112.7; FY 2007 $95.3) ..... -$17.4
Decrease reflects reductions in funding for base operations, general plant projects, capital equipment purchases and the Science and Technology Complex utility corridor, as a result of higher priorities. Decrease also reflects one-time IT investments for FY 2006, the transfer of monies from Naval Reactors to support operation of the Advanced Test Reactor (ATR), and the deferral of Gas Test Loop activities due to technical difficulties. Increased funding is requested for the ATR Life Extension Project and routine maintenance and repair.

Idaho Site-Wide Safeguards and Security (FY 2006 $74.3; FY 2007 $76.0)..... +$1.7
Increase represents an increase in funding for activities related to the implementation of the Federal Information Process Standard (FIP 201), along with information security and material control and accountability activities.

Program Direction (FY 2006 $60.5; FY 2007 $67.6)..... +$7.1
Increase represents a 2.5 percent escalation in accordance with established guidelines and funds for promotions and within-grade salary increases. In addition, the increase includes funds required to implement the acceleration of the Advanced Fuel Cycle Initiative, including salaries and benefits for an additional 10 FTEs, support service contractor support, and Working Capital Fund costs and training.

Energy Information Administration

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Energy Information Administration					
National energy information system	**83,819**	**85,314**	**89,769**	**+4,455**	**+5.2%**

PROGRAM DESCRIPTION

The **Energy Information Administration** (EIA) is an independent statistical agency that collects, analyzes, produces, and disseminates policy-neutral energy data, analyses, and forecasts covering the full range of fuels and a wide variety of energy issues. Topics include energy reserves, production, consumption, distribution, prices, technology, and related international economic and financial markets. Many of EIA's activities are required by statute.

PROGRAM HIGHLIGHTS

The EIA FY 2007 program request is $89.8 million, which is a $4.5-million increase over the FY 2006 appropriation of $85.3 million. EIA's base program includes the maintenance of a comprehensive energy database fully supported by a secure data transmission, access, and processing capability; the operation of modeling systems for both near- and mid-term energy market analysis and forecasting; and dissemination of its energy data and analyses to a wide variety of customers in the public and private sectors through the National Energy Information Center.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

Energy Information Administration (FY 2006 $85.3; FY 2007 $89.8)..... +$4.5
Increased funding provides for an additional 6 FTEs to allow improvements in international oil and gas markets data and energy security efforts, redesign key petroleum and natural gas surveys to improve data reliability and quality, restart the Foreign Energy Supply Assessment Program, and begin scoping activities for design requirements of the next generation U.S. Energy Model.

Power Marketing Administrations

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Power Marketing Administrations					
Southeastern Power Administration					
Southeastern power administration	53,358	52,742	53,726	+984	+1.9%
Less alternative financing (for PPW)	-14,200	-14,485	-13,611	+874	+6.0%
Offsetting collections (P.L. 106-377)	-34,000	-32,713	-34,392	-1,679	-5.1%
Total, Southeastern Power Administration	5,158	5,544	5,723	+179	+3.2%
Southwestern Power Administration					
Southwestern power administration	40,317	42,264	45,139	+2,875	+6.8%
Less alternative financing (for PPW)	-8,300	-9,400	-10,600	-1,200	-12.8%
Offsetting collections (P.L. 106-377)	-2,900	-3,000	-3,000	——	——
Total, Southwestern Power Administration	29,117	29,864	31,539	+1,675	+5.6%
Western Area Power Administration					
Western area power administration	508,614	572,949	688,511	+115,562	+20.2%
Less alternative financing (for O & M)	——	——	-1,091	-1,091	N/A
Less alternative financing (for Construction)	-105,631	-58,135	-33,928	+24,207	+41.6%
Less alternative financing (for Program Direction)	——	——	-9,643	-9,643	N/A
Less alternative financing (for PPW)	——	——	-153,079	-153,079	N/A
Offsetting collections (P.L. 106-377)	-227,600	-279,000	-274,852	+4,148	+1.5%
Offsetting collections (P.L. 98-381)	-3,668	-4,162	-3,705	+457	+11.0%
Total, Western Area Power Administration	171,715	231,652	212,213	-19,439	-8.4%
Falcon and Amistad Operating and Maintenance Fund					
Operation and maintenance	2,804	2,665	2,500	-165	-6.2%
Total, Power Marketing Administrations	**208,794**	**269,725**	**251,975**	**-17,750**	**-6.6%**

PROGRAM DESCRIPTION

The four **Power Marketing Administrations** (PMAs) sell electricity primarily generated by hydropower projects located at federal dams, contributing to the reliability of the nation's electricity supply and grid. Preference in the sale of power is given to public entities and electric cooperatives. Revenues from the sale of federal power and transmission services are used to repay all related power costs.

The **Southeastern Power Administration** (Southeastern) markets and delivers all available federal hydroelectric power from 22 U.S. Army Corps of Engineers (Corps) multipurpose projects to preference customers in an eleven-state area in the southeastern United States. Southeastern does not own or operate any transmission facilities, and contracts with regional utilities that own electric transmission systems to deliver the federal hydropower to Southeastern's customers.

The **Southwestern Power Administration** (Southwestern) markets and delivers all available federal hydroelectric power from 24 Corps hydroelectric power projects and participates with other water resource users in an effort to balance diverse interests with power needs. To deliver power to its customers, Southwestern maintains 1,380 miles of high-voltage transmission lines, 24 substations, and 47 microwave and VHF radio sites. The President's budget request for Southwestern provides for maintenance, additions, replacements, and interconnections assuring a dependable and reliable federal power system, which is an integral part of the nation's electrical grid.

The **Western Area Power Administration** (Western) markets and transmits federal power to a 1.3-million-square-mile service area in 15 central and western states from 56

federally-owned hydroelectric power plants primarily operated by the U.S. Department of the Interior's Bureau of Reclamation (Bureau), the Corps, and the International Boundary and Water Commission. Western also markets the United States' entitlement from a Navajo coal-fired power plant near Page, Arizona.

The **Bonneville Power Administration** (Bonneville) provides electric power, transmission, and energy services to a 300,000-square-mile service area in eight states in the Pacific Northwest. Bonneville wholesales the power produced at 31 federal projects operated by the Corps and the Bureau and from certain non-federal generating facilities. Bonneville, which is self-financed with revenues, funds the expense portion of its budget, and the power operations and maintenance costs of the Bureau and the Corps in the Federal Columbia River Power System. The capital portion of the budget is funded mostly through borrowing from the U.S. Treasury with some non-federal financing and is repaid with market-determined interest from its revenues.

PROGRAM HIGHLIGHTS

Starting in FY 2007, the budget provides that the interest rate *(agency rate)* for certain new obligations incurred by Southeastern, Southwestern, and Western Area Power Administration paid to the Treasury for power related investments will be at rates similar to those for governmental corporations and to the interest rate current law sets for Bonneville's borrowing from the U.S. Treasury. However, this change applies only to investments whose interest rates are not already covered in existing law. All those PMA investments that are currently in service will continue to retain existing interest rates. This change is expected to increase total receipts to the U.S. Treasury, beginning in FY 2007, by approximately $2-3 million annually.

The Bonneville Power Administration (BPA), unlike the three PMAs, is "self-financed" by the rate payers of the Pacific Northwest and receives no direct, annual appropriations from Congress. Under the Federal Columbia River Transmission System Act of 1974, Bonneville funds the expense portion of its budget and repays the federal investment with revenues from electric power and transmission rates. Beginning in FY 2007 and consistent with sound business practices required under this Act, Bonneville will use any net secondary market revenues in excess of $500 million per year, to make advance amortization payments to the U.S. Treasury on Bonneville's bond obligations. Secondary market revenues are obtained through Bonneville's sale of electric power not needed to serve its wholesale firm power customers both inside the Pacific Northwest, and outside that area, such as in the State of California. The budget provides a total of $924 million from FY 2007 through FY 2016 from these higher-than-historical net secondary revenues. Long-term power and transmission service customers of Bonneville should benefit from these advance amortization payments both through lower long-term rates than would otherwise be the case, and through improved and upgraded capital facilities. This administrative action will help to provide Bonneville with needed financial flexibility to meet its future energy investment needs, including critical transmission capacity.

In addition, the FY 2007 budget provides that Energy Northwest in coordination with Bonneville will refinance a portion of its debt in calendar year 2006 and 2007. The effect of refinancing these federal obligations will free up cash ($70 million in 2006 and $312 million in 2007) that will be used to pay down Bonneville's federal debt. The combined total of these deficit reducing proposals covering the period of FY 2006 through FY 2011 will be to allow an additional $1.3 billion in existing U.S. Treasury borrowing authority to become available for Bonneville Power Administration.

Finally, the Administration proposed legislation in June 2005, which would count certain non-traditional financing transactions, along with other debt-like transactions, toward Bonneville's U.S. Treasury borrowing authority limit, assuming the legislation transmitted to Congress is

enacted. The legislation also includes a correlative $200-million increase in Bonneville's U.S. Treasury borrowing authority cap in FY 2009. The administration will continue to evaluate the appropriate Bonneville borrowing authority level and will propose any changes in that limit on borrowing authority in future years that are necessary and prudent to ensure that Bonneville is able to meet its long-term capital investment needs.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

Southeastern Power Administration (FY 2006 $5.5; FY 2007 $5.7)..... +$0.2

Program Direction (FY 2006 $5.5; FY 2007 $5.7) ..... +$0.2
Increase reflects the full effect of the FY 2006 pay raise to the base and the partial effect of the FY 2007 pay raise.

Purchase Power and Wheeling (FY 2006 $47.2; FY 2007 $48.0)..... +$0.8
(FY 2006 alternative financing $14.5; use of receipts $32.7; FY 2007 alternative financing $13.6; use of receipts $34.4)
FY 2007 request provides for the purchase and delivery of energy to meet limited peaking power contractual obligations. Federal power receipts as well as alternative financing methods, including net billing, bill crediting, and customer advances will be used to fully offset the costs of system support and other contractual services. Customers will provide other resources and/or purchases for the remainder of their firm loads.

Southwestern Power Administration (FY 2006 $29.9; FY 2007 $31.5) ..... +$1.6

Operations and Maintenance (FY 2006 $7.0; FY 2007 $7.1)..... +$0.1
Increase supports substation equipment replacements, including power circuit breakers, disconnect switches, relays, and a transformer, and the replacement of special purpose vehicles used in the maintenance and repair of the transmission system and facilities.

Program Direction (FY 2006 $19.8; FY 2007 $20.8)..... +$1.0
Change reflects an increase in federal salaries and benefits and mission-related travel to maintain the transmission system.

Purchase Power and Wheeling (FY 2006 $12.4; FY 2007 $13.6) ..... +$1.2
(FY 2006 alternative financing $9.4; use of receipts $3.0; FY 2007 alternative financing $10.6; use of receipts $3.0 (+1.2))
The budget request for Southwestern's for FY 2007 is slightly above the 2006 level and is based on the average hydropower generation under normal operating conditions, a pre-Katrina pricing regime and the availability of energy banking arrangements. Increased amount of alternative financing will offset the costs of purchase power and wheeling, system support and other contractual obligations. When hydro generation is below normal, Southwestern will utilize the Continuing Fund to defray emergency expenses to ensure continuity of electric service.

Construction (FY 2006 $3.1; FY 2007 $3.6)..... +$0.5
Increase reflects a requirement for communication equipment replacement, installation, and modification. It also supports installation and modification of microwave towers at various sites in the Oklahoma region necessary to complete the backbone of the communication path between substations and generating plants, eliminating single point failures, thus resulting in improved reliability.

Western Area Power Administration (FY 2006 $231.7; FY 2007 $212.2) ..... -$19.4
FY 2007 Construction, Rehabilitation, Operation, and Maintenance program level is $688.5 (compared to $572.9 in FY 2006) and will be funded by $212.2 in budget authority; and $274.9 in offsetting collections for Purchase Power and Wheeling; $3.7 through a reimbursable agreement with the Bureau of Reclamation using offsetting collections from P.L. 98-381 from the Colorado River Dam Fund; and $197.7 of alternative financing.

Purchase Power and Wheeling (FY 2006 $321.4; FY 2007 $427.9).....+**$106.5**
(FY 2006 alternative financing $42.4; use of receipts $279.0; FY 2007 alternative financing $153.1; use of receipts $274.9)
FY 2007 increased purchase power and wheeling needs are funded relying on the increased use of alternative financing mechanisms. Customers are encouraged to increase participation in energy markets, enabling them to meet, on their own, the cost of firming and wheeling their portion of the federal hydropower resource.

Program Direction (FY 2006 $143.7; FY 2007 $147.8)..... +$4.1
Increase reflects the full effect of the FY 2006 pay raise in the base and the partial effect of the FY 2007 pay raise.

Construction and Rehabilitation (FY 2006 $53.9; FY 2007 $60.2) ..... +$6.3
Increase provides funding for the replacement of control boards, transformers, transmission lines and to rebuild the 146-mile Cheyenne-Miracle Mile transmission line.

Operation and Maintenance (**FY 2006 $47.3; FY 2007 $45.7)..... -$1.6**
Decrease reflects completion of replacements and additions of electrical equipment and the purchase of a replacement helicopter in FY 2006. Western will continue maintenance on their aging infrastructure.

Utah Reclamation Mitigation & Conservation (FY 2006 $6.6; FY 2007 $6.9).+$0.3
FY 2007 request provides for Western's annual transfer of funding to the Utah Reclamation Mitigation and Conservation account from the Construction Rehabilitation, Operations and Maintenance account.

Offsetting Collections (**FY 2006 -$283.2; FY 2007 -$278.6) ..... +$4.6**
In FY 2007, Western will continue to use receipts to fund a portion of Purchase Power and Wheeling program expenses (-$274.9) and use Colorado River Dam Fund receipts (-$3.7) to support Boulder Canyon Project activities.

Alternative Financing (FY 2006 -$58.1; FY 2007 -$197.7).....-**$139.6**
In FY 2007, alternative financing methods, primarily cash advances from customers, will be used to offset Program Direction (-$9.6); Operation and maintenance (-$1.1); Construction (-$33.9); and Purchase Power and Wheeling (-$153.1) to allow Western to continue to meet their annual operations and maintenance requirements and purchase power and wheeling needs.

Bonneville Power Administration (self financed through revenues)
Budget Obligations (FY 2006 $3,144; FY 2007 $3,036) .....-$108.0
No direct annual appropriations are received from Congress. In FY 2007, total requirements of all Bonneville programs include estimated budget obligations of $3,036 million. This amount includes operating expenses of $2,464 million and total capital investments that require budget obligations of $572 million, $477 million using existing borrowing authority and $95 million in projects funded in advance. These investments provide electric utility and general plant associated with the Federal Columbia River Power System's transmission services, capital equipment, hydroelectric projects, conservation, and capital investments in environment, fish, and wildlife. Increase in capital investments primarily reflects the

Transmission Business Line's fiscal year shifts in materials and construction costs associated with the infrastructure projects, upgrades and improvements to transmission facilities and increased emphasis on completion of customer funded projects. Also in FY 2007, Bonneville plans to begin several new fishery facilities as required by the Pacific Northwest Electric Power Planning and Conservation Act (Regional Act) that would each have a life expectancy greater than 15 years.

Power Business Line-Capital (FY 2006 $210.0; FY 2007 $201.0) ..... -$9.0
FY 2007 budget provides for additions, improvements, and replacements of existing U.S. Bureau of Reclamation and U.S. Army Corps of Engineers' hydroelectric projects in the Pacific Northwest to improve power system reliability. In FY 2007, the conservation and energy efficiency subprogram is decreased (-$12.0) due to Bonneville's efforts to work with its delivery partners to reduce conservation costs, and a slight increase in associated project costs (+$3.0) due to reallocation of funding requirements based on the need to maintain a minimum level of generation each year.

Transmission Business Line-Capital (FY 2006 $200.7; FY 2007 251.5) .....+$50.8
Increase in FY 2007 provides for all transmission additions, upgrades, and replacements to the federal transmission system. The system replacement plan includes replacement of high-risk, obsolete, and maintenance-intensive facilities and equipment to reduce the chance of equipment failure by: (1) replacing high voltage transformers and power circuit breakers; (2) replacing risky, outdated and obsolete control and communications equipment and system; and (3) replacing all existing high-risk equipment and facilities affecting the safety and reliability of the transmission system. The FY 2007 budget provides for other transmission system additions, upgrades, and replacements commitments.

SECTION 3. SCIENCE STRATEGIC GOAL

Science Strategic Goal: To protect our national and economic security by providing world-class scientific research capacity and advancing scientific knowledge.

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Science	**3,635,650**	**3,596,391**	**4,101,710**	**+505,319**	**+14.1%**

The Science Strategic Goal is supported by the following general goal:

General Goal 5. World-Class Scientific Research Capacity: Provide world-class scientific research capacity needed to: ensure the success of Department missions in national and energy security; advance the frontiers of knowledge in physical sciences and areas of biological, medical, environmental, and computational sciences; or provide world-class research facilities for the nation's science enterprise.

The Science program contributes directly to this goal.

Science

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Science					
Science					
High energy physics	722,906	716,694	775,099	+58,405	+8.1%
Nuclear physics	394,549	367,034	454,060	+87,026	+23.7%
Biological and environmental research	566,597	579,831	510,263	-69,568	-12.0%
Basic energy sciences	1,083,616	1,134,557	1,420,980	+286,423	+25.2%
Advanced scientific computing research	226,180	234,684	318,654	+83,970	+35.8%
Science laboratories infrastructure	37,498	41,684	50,888	+9,204	+22.1%
Fusion energy sciences program	266,947	287,644	318,950	+31,306	+10.9%
Safeguards and security	72,773	73,630	76,592	+2,962	+4.0%
Science program direction	154,031	159,118	170,877	+11,759	+7.4%
Workforce development for teachers and scientists	7,599	7,120	10,952	+3,832	+53.8%
Small business innovation research (SBIR)	113,621	——	——	——	——
Subtotal, Science	3,646,317	3,601,996	4,107,315	+505,319	+14.0%
Use of prior year balances and other adjustments	-10,667	-5,605	-5,605	——	——
Total, Office Of Science	**3,635,650**	**3,596,391**	**4,101,710**	**+505,319**	**+14.1%**

PROGRAM DESCRIPTION

The mission of the **Science** program is to deliver the discoveries and scientific tools that transform our understanding of energy and matter and advance the national, economic, and energy security of the United States. Science is one of the primary sponsors of basic research in the United States, leading the nation in supporting the physical sciences in a broad array of research subjects in order to improve our energy security and in addressing issues ancillary to energy, such as climate change, genomics, and life sciences.

The Science program funds energy related basic research in the following areas: fundamental research in energy, matter, and the basic forces of nature; health and environmental consequences of energy production, development and use; fundamental science that supports the foundations for new energy technologies and environmental mitigation; a knowledge base for fusion as a potential future energy source; and advanced computational and networking tools critical to research. Science participates in a number of the Administration's ongoing research and development priorities, including hydrogen, fusion energy, nanoscale science, information technology, and climate change science and technology. Beginning with the FY 2007 budget, the Science program, along with the National Science Foundation and National Institute of Standards and Technology, will play a critical role in the President's American Competitiveness Initiative. The total budget **request** is **$4.102 billion** in **FY 2007**.

In support of its mission, the Science program has responsibilities in three main areas: selection and management of research; operation of world-class, state-of-the-art scientific facilities; and design and construction of new facilities. Further, Science activities support the **President's Management Agenda** by using the research and development investment criteria in evaluating and managing its basic research portfolio.

The **High Energy Physics** (HEP) program conducts basic research on the nature of matter and energy at its most fundamental level, seeking to understand the universe by investigating the basic constituents of matter and the forces binding them together. The research program is primarily

carried out at three major scientific user facilities: the **Tevatron Collider** and the **Neutrinos at the Main Injector (NuMI) at Fermilab** in Illinois, and the **B-Factory at Stanford Linear Accelerator Center (SLAC)** in California. HEP is participating in the construction of the **Large Hadron Collider** in Switzerland. It also funds non-accelerator physics that investigates dark energy and dark matter, supernovae, solar neutrinos, black holes, and other topics.

The **Nuclear Physics** (NP) program conducts research to understand the structure and interactions of atomic nuclei and the fundamental forces and particles of nature in nuclear matter in terms of their fundamental constituents. NP funds two large national user accelerator facilities, the **Thomas Jefferson National Accelerator Facility (TJNAF)** in Newport News, Virginia, and the **Relativistic Heavy Ion Collider (RHIC)** at Brookhaven National Laboratory in Upton, New York; and two smaller user facilities, the **Holifield Radioactive Ion Beam Facility (HRIBF)** at Oak Ridge National Laboratory and **Argonne Tandem Linac Accelerator System (ATLAS)** at Argonne National Laboratory. It also supports several other laboratory and university facilities, and a program of non-accelerator physics, including neutrino oscillations at the Sudbury Neutrino Observatory and the KamLAND in Japan.

The **Biological and Environmental Research** (BER) program provides the discoveries in environmental and biomedical arenas that promote national security through improved energy production and use, supports the President's National Energy Plan, and conducts research to protect our environment. There are four subprograms. **Life Sciences** foster fundamental research in the biological and life sciences to underpin the Department's mission needs; it includes the DOE Human Genome and Genomics: GTL programs. **Climate Change Research** will enable scientifically based predictions and assessments of the potential effects of greenhouse gas on climate and the environment, and funds DOE participation in the nation's Climate Change Science Program (CCSP). **Environmental Remediation** conducts biological and environmental research needed to underpin the Department's mission for environmental quality, and supports clean-up and restoration of the nation's nuclear weapons production sites. Using DOE research and technologies, the **Medical Applications and Measurement Science** program develops diagnostic and therapeutic tools for disease diagnosis and treatment.

The **Basic Energy Sciences** (BES) program supports research and operates facilities to provide the foundation for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use. There are two BES subprograms. **Materials Sciences and Engineering** supports basic research to explore the scientific foundations for the development of materials that improve their efficiency, economy, environmental acceptability, and safety for energy generation, conservation, transmission, and use. Applications include lighter, stronger materials to increase fuel economy in automobiles, alloys and ceramics that improve the efficiency of combustion engines, and more efficient photovoltaic materials for solar energy conversion. **Chemical Sciences, Geosciences and Energy Biosciences** supports research crucial for improving combustion systems, solar photoconversion processes, and for applications to renewable fuel resources, environmental remediation, and photosynthesis. The $1.4 billion (total project cost) **Spallation Neutron Source** at Oak Ridge National Laboratory, the world's most powerful neutron scattering facility, will be in its first full year of operations in FY 2007. Four of the five **Nanoscale Science Research Centers**, part of the National Nanotechnology initiative, will be fully operational in FY 2007. Construction is also underway on the next-generation $379 million (total project cost) **Linac Coherent Light Source** at SLAC.

The **Advanced Scientific Computing Research** (ASCR) program delivers forefront computational and networking capabilities to scientists nationwide that enable them to extend the frontiers of science. Leadership in scientific computation is a cornerstone of the Department's strategy to ensure the security of the nation, and to succeed in its science, energy, environmental quality, and national security missions. ASCR funds the **National Energy Research Scientific Computing Center (NERSC)** at Lawrence Berkeley National Laboratory (supporting over 2,000 users), the **Energy Sciences Network** that links Science researchers and facilities, and the

Leadership Computing Facilities (LCFs) which provide world leading, high performance sustained computing capabilities to researchers on an open, competitive basis.

Fusion is the energy source of the stars and our own sun. The **Fusion Energy Sciences** (FES) program is the national research effort to advance plasma science, fusion science, and fusion technology—the knowledge base required for an economically and environmentally attractive fusion energy source. Facilities include the **DIII-D** at General Atomics in San Diego, **the Alcator C-Mod** at MIT, and the **National Spherical Tokamak Experiment** at the **Princeton Plasma Physics Laboratory (PPPL)**. Assembly of the **National Compact Stellarator Experiment (NCSX)** is ongoing at PPPL. DOE is also participating in the President's initiative on **ITER**, an international burning plasma fusion experiment.

PROGRAM HIGHLIGHTS

As part of the President's American Competitiveness Initiative, the FY 2007 Science request totals $4.1 billion, an increase of about 18% over the FY 2006 level after adjustment for one-time Congressionally-directed projects in the Energy and Water Development Appropriations bill. Within this augmented budget, most research programs and facility operations are restored to near optimal levels, and there are several increases for construction projects and selected research activities..

High Energy Physics (HEP) gives priority to operation of the **Fermilab** and **SLAC** facilities. Fermilab will focus on investigating particles and forces at the current energy frontier, including enhanced research on neutrino physics. SLAC continues its research on charge-parity violation, which may explain the preponderance of matter over antimatter in the universe. Project engineering and design is begun on the Electron Neutrino Appearance (EvA) project, a detector for electron-type neutrinos (+$10.3M). DOE, participating with the European Center for Nuclear Research (CERN), will complete U.S. fabrication projects for the **Large Hadron Collider** (LHC) in FY 2007, and then become a partner in its research program. Research and development is increased to $60.0 million on the **International Linear Collider (ILC)**, an accelerator which would enable the extension of particle physics research beyond what is feasible at the LHC. HEP also has a program of non-accelerator physics, including research on neutrinos and dark matter and dark energy.

Nuclear Physics (NP) increases support in FY 2007 for operations and research by approximately 21% compared to FY 2006, funding overall operations of the four National User Facilities and research efforts at universities and laboratories at approximately FY 2005 levels. The request supports initiation of research efforts in the CERN LHC heavy ion program, the start of project engineering and design for the 12 GeV CEBAF Upgrade project ($7.0 million), and start of construction on the Electron Beam Ion Source at RHIC ($7.4 million).

Biological and Environmental Research (BER) has several high visibility activities. The microbe based **Genomics: GTL** program research increases by $49.8 million for additional research on imaging and characterization of complex microbial communities for energy and environmental applications, including hydrogen production. The **Human Genome** program increases by $11.7 million to support enhanced operations at the Joint Genome Institute. **Climate Change Research** is maintained at 5% below FY 2006 levels. Funding for **Medical Applications** research is maintained; congressionally-directed projects from FY 2006 ($128.7 million) are completed, and no additional funding is requested in FY 2007.

The **Basic Energy Sciences** (BES) program increases by 25% in FY 2007. Construction of the **Spallation Neutron Source** (SNS) is completed in 2006; funding for operations of the SNS increases by $99.7 million. **Nanoscale Science** has an increase of $50.9 million over FY 2006**,** the President's **Hydrogen Initiative** is funded at $50.0 million, and other energy technology related research increases by $47.0 million. Funding is provided for Project Engineering and Design (PED) for the National Synchrotron Light Source II project (NSLS II) (+$20.0M) and the Advanced

Light Source (ALS) User Building (+$3.0M); and for PED and construction of the **Linac Coherent Light Source (LCLS)** ($105.9 million).

Advanced Scientific Computing Research (ASCR) increases funding for its Leadership Computing Facilities by $48.8 million to enable world-leading capability computing at two sites. Funding for the production computing facility, or NERSC, increases by $17.3 million to enhance capacity and address oversubscription issues, and funding is requested to improve the capabilities of ESnet (+$3.8M).

The **Fusion Energy Sciences** (FES) program will increase funding for research and operation of domestic research facilities at DIII-D, Alcator C-Mod and the National Spherical Torus Experiment (+$4.2M). The United States will be a full partner in the international ITER project, with funding of $60.0 million in FY 2007. Fabrication of the **National Compact Stellarator Experiment** at PPPL is continued.

The **Science Laboratories Infrastructure** (SLI) program increases funding for four new construction starts, including $7.5 million for the Lawrence Berkeley National Laboratory seismic safety upgrade project. Funding for General Plant Projects to refurbish and rehabilitate general purpose infrastructure will be supported in other Science program budgets in FY 2007. FY 2007 funding of $71.0 million for **Safeguards and Security** is a modest increase over the FY 2006 level of $68.0 million. **Program Direction** requests additional funding to support total staffing of 1,014 FTEs at headquarters and field sites. An increase in **Workforce Development for Teachers and Scientists** provides more training support at the DOE labs for middle school science and mathematics teachers.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

High Energy Physics (FY 2006 $716.7; FY 2007 $775.1).....+$58.4
The FY 2007 focus continues to be on facilities and associated research at Fermilab (+$3.3M), and at SLAC (+$0.5M). The Fermilab Tevatron will operate 4,560 hours in FY 2007, an increase of 6%. SLAC will operate 5,200 hours in FY 2007, the same as in FY 2006. ..... +$3.8

LHC project is completed in FY 2007 (-$4.3M), and support for the facility increases (+$4.2M) -$0.1

Funding for Non-Accelerator Physics using underground, ground-based, or space-based facilities increases (+$11.3M), and Theoretical Physics also increases (+$3.9M). In Advanced Technology R&D, support for the ILC is doubled (+$30.0M). PED for the Electron Neutrino Appearance (EvA) Detector begins in FY 2007 (+$10.3M). Other changes total -$0.8 million..... +$54.7

Nuclear Physics (FY 2006 $367.0; FY 2007 $454.0).....+$87.0
Research and operations at **TJNAF**, **RHIC**, **HRIBF**, and **ATLAS** continue to dominate funding in FY 2007 and are supported at approximately FY 2005 levels. TJNAF operations are increased to 4,985 hours (+46%) (+$10.8 million), and RHIC will operate for 4,080 hours in FY 2007 (+$30.3 million). HRIBF and ATLAS operations also increase (+$7.7M).....+$48.8

University and other national laboratory research and other activities increase to approximately FY 2005 levels. .....+$25.7

Construction funding supports the 12 GeV CEBAF upgrade (+$7.0M) and the EBIS project (+$5.5M). .....+$12.5

Biological and Environmental Research (FY 2006 $579.8; FY 2007 $510.3).....-$69.5
In Life Sciences, **Genomics: GTL** (FY 2006 $85.5; FY 2006 $135.3) and **Human Genome** (FY 2006 $62.9; FY 2007 $74.6) are the two largest activities. Other research is increased by +$0.7 million. .....+$62.2

Climate Change Research concludes Ocean Sciences and Ocean Carbon sequestration research (-$4.9M), and scales back modeling (-$1.5M) and Climate Change Response (-$1.8M). Other changes total +$1.6 million. ..... -$6.6

In **Environmental Research**, high-level waste research is concluded (-$1.8M), and funding for operation of the Environmental and Molecular Sciences Laboratory (EMSL) is increased (+$5.3M). **Medical Applications and Measurement Science** does not continue FY 2006 congressionally-directed projects (-$128.6M). ..... -$125.1

Basic Energy Sciences (FY 2006 $1,134.6; FY 2007 $1,421.0) ..... +$286.4
Materials Sciences and Engineering increase funding for **Nanoscale Science** research (+$24.2M), the **President's Hydrogen Initiative** (+$11.5M), and basic research related to energy technologies (+$24.6M). New instrumentation projects are provided for the LCLS and SNS (+$20.0M), and other research decreases a total of -$6.5 million. Facilities Operations includes increases for R&D on the NSLS II (+$25.0M), the SNS (+$99.7M) the NSRCs (+$35.5M), the LCLS and increased support at SLAC (+$22.8M), and optimal operation of all other facilities (+$9.7M). ..... +$266.5

Chemical Sciences, Geosciences, and Biosciences increase funding for **Nanoscale Science** research (+$22.2M), the **President's Hydrogen Initiative** (+$6.0M), and basic research related to energy technologies (+$22.4M). Other research decreases -$3.2 million. Funding for operation of the Combustion Research Facility increases by +$0.5 million. ..... +$47.9

Construction funding increases for the LCLS (+$23.6M), and PED for the NSLS II (+$20.0M), and the ALS User Building (+$3.0M). Offsets are from the completion of the SNS (-$41.3M) and NSRCs (-$30.9) and reduced funding for the LCLS PED (-$2.4M). ..... -$28.0

Advanced Scientific Computing Research (FY 2006 234.7; FY 2007 $318.7)..... +$84.0
Funding for Computational Partnerships increases by +$11.9 million. Other changes total +$2.2 million. ..... +$14.1

Funding for the Production Computing Facility, NERSC, increases to provide additional high performance computer capacity (+$17.3M). The Leadership Computing Facility (LCF) at ORNL will provide 250 teraflops of peak performance capability by the end of FY 2007 (+$26.3M), and the new LCF at ANL will provide 100 teraflops of peak performance capability by the end of FY 2007 (+$22.5M). The Energy Sciences Network (ESnet) will be substantially upgraded in FY 2007 (+$3.8M). ..... +$69.9

Fusion Energy Sciences (FY 2006 $287.6; FY 07 $318.9)..... +$31.3
Funding increases for research and operation of the domestic research facilities (+$4.2M). The assembly of the National Compact Stellarator Experiment (NCSX) continues, following the approved baseline (-$1.1M). The domestic Science and Enabling R&D programs are reduced slightly and redirected to support ITER (-$6.7M). ..... -$3.6

With site selection for ITER completed, funding for the ITER MIE Project (FY 2006 $19.3; FY 2007 $60.0) increases. ITER preparations will be completed in FY 2006 with official acceptance of the ITER Agreement and initiation of the ITER MIE Project (-$5.8M). ..... +$34.9

Science Laboratories Infrastructure (FY 2006 $41.7; FY 2007 $50.9)..... +$9.2
Increases are for General Purpose Facility new starts (+$2.3M), the SLAC Safety and Reliability Improvement (+$0.5M), the LBNL Seismic Upgrade (+$7.5M), Bevatron demolition (+$3.1M), and Oak Ridge Landlord (+$0.1M). Offsets are from reductions for General Plant Projects (-$3.0M), other ES&H and Excess Facility projects (-$1.3).

Safeguards and Security (FY 2006 $68.0; FY 2007 $71.0)..... +$3.0
Funding increases primarily for cyber security to remedy critical deficiencies. In addition, the focus shifts in FY 2007 to protective forces, as one-time security system upgrades and improvement of entry points are completed in FY 2006.

Program Direction (FY 2006 $159.1; FY 2007 $170.9).....+$11.8
Funding for salaries and benefits for headquarters and field staffing increases by $8.8 million to support 15 additional FTEs (total FY 2007 staffing of 1,014 FTEs) and anticipated pay increases. An additional $3.0 million is requested for travel, support services, and other related expenses.

Workforce Development for Teachers and Scientist (FY 2006 $7.1; FY 2007 $11.0)..... +$3.9
Increase will support additional Science Undergraduate Laboratory Internships (+$0.3M), and significantly enhance the number of teachers supported in the Laboratory Science Teacher Professional Development program, with an emphasis on Middle School teachers (+$3.8M). Other changes total -$0.2 million.

SECTION 4. ENVIRONMENT STRATEGIC GOAL

Environment Strategic Goal: To protect the environment by providing a responsible resolution to the environmental legacy of the Cold War and by providing for the permanent disposal of the nation's high-level radioactive waste.

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Environment					
Environmental Management	7,276,168	6,590,250	5,828,038	-762,212	-11.6%
Civilian Radioactive Waste Management	572,384	495,000	544,500	+49,500	+10.0%
Office of Legacy Management	77,137	77,812	200,990	+123,178	+158.3%
Total, Environment	**7,925,689**	**7,163,062**	**6,573,528**	**-589,534**	**-8.2%**

The Environment Strategic Goal is supported by the following two general goals:

General Goal 6. Environmental Management: Accelerate cleanup of nuclear weapons manufacturing and testing sites, completing cleanup of 108 contaminated sites by 2025.

General Goal 7. Nuclear Waste: License and construct a permanent repository for nuclear waste at Yucca Mountain and begin acceptance of waste by 2010.

The following programs contribute to these goals:

Environmental Management

Defense Environmental Cleanup

Non-Defense Environmental Cleanup

Uranium Enrichment Decontamination and Decommissioning Fund

Legacy Management

Civilian Radioactive Waste Management

Environmental Management

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Environmental Management					
Defense Environmental Cleanup	6,800,848	6,130,447	5,390,312	-740,135	-12.1%
Non-Defense Environmental Cleanup	439,601	349,687	310,358	-39,329	-11.2%
Uranium Enrichment D&D Fund	495,015	556,606	579,368	+22,762	+4.1%
Subtotal, Environmental management	7,735,464	7,036,740	6,280,038	-756,702	-10.8%
Uranium Enrichment D&D Fund Discretionary Payment	-459,296	-446,490	-452,000	-5,510	-1.2%
Total, Environmental Management	**7,276,168**	**6,590,250**	**5,828,038**	**-762,212**	**-11.6%**

PROGRAM DESCRIPTION

The **Environmental Management** (EM) program was created in 1989 to safely manage the cleanup of the environmental legacy from 50 years of nuclear weapons production and government-sponsored nuclear energy research at sites around the country. The program manages the remediation of sites contaminated by defense and civilian activities and receives appropriations in separate defense and non-defense accounts. The EM program has been working to focus the program on risk reduction rather than risk management and complete cleanup more efficiently and cost effectively. To continue progress, DOE is **requesting** a total of **$5.8 billion** in **FY 2007**.

EM is requesting program funds in three appropriation accounts: **Defense Environmental Cleanup** (FY 2006 $6.2 billion; FY 2007 $5.4 billion); **Non-Defense Environmental Completion** (FY 2006 $349.7 million; FY 2007 $310.4 million); and **Uranium Enrichment Decontamination and Decommissioning Fund** (FY 2006 $556.6 million; FY 2007 $579.4 million). The FY 2007 request reflects a new, site-oriented structure begun in FY 2006 at the direction of Congress.

PROGRAM HIGHLIGHTS

The FY 2007 budget request totals $5.8 billion. This is a 12-percent decrease from the FY 2006 appropriation, primarily reflecting the completion of physical cleanup of the Rocky Flats Environmental Technology Site in Colorado early in FY 2006 and anticipated completion of the Fernald site in Ohio and four additional sites later in 2006.

This budget request continues the initiatives undertaken by this Administration to transform and revitalize the cleanup program. It will allow the program to continue to protect workers, public health and safety, and the environment; continue surveillance, maintenance, and support activities needed to maintain waste, materials, facilities, and sites in a safe and stable condition; and protect nuclear materials from unauthorized activities. The FY 2007 request continues progress in completing cleanup projects in accordance with applicable laws and regulatory agreements by providing for the stabilization of radioactive tank waste; disposition of waste, including shipments of transuranic waste to the Waste Isolation Pilot Plant; decontamination and decommissioning of excess facilities; and remediation of contaminated soil and water. Responsibility for administration of sites after closure will transfer to the Office of Legacy Management or to the mission program for post-closure care.

Defense Environmental Cleanup

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Defense Environmental Cleanup					
Closure sites	1,109,752	1,018,338	320,937	-697,401	-68.5%
Hanford site	924,589	772,873	804,716	+31,843	+4.1%
Office of River Protection	1,059,240	846,946	964,127	+117,181	+13.8%
Idaho National Laboratory	534,060	532,862	512,604	-20,258	-3.8%
NNSA sites and Nevada off-sites	334,049	299,447	232,068	-67,379	-22.5%
Oak Ridge Reservation	279,313	238,413	159,862	-78,551	-32.9%
Savannah River site	1,291,242	1,178,720	1,084,394	-94,326	-8.0%
Waste Isolation Pilot Plant	227,758	228,331	213,278	-15,053	-6.6%
Program direction	270,016	241,386	291,216	+49,830	+20.6%
Program support	24,892	32,519	37,881	+5,362	+16.5%
Safeguards and Security	262,942	284,357	295,840	+11,483	+4.0%
Technology development	58,207	29,765	21,389	-8,376	-28.1%
Uranium enrichment D&D fund contribution	459,296	446,490	452,000	+5,510	+1.2%
Subtotal, Defense environmental cleanup	6,835,356	6,150,447	5,390,312	-760,135	-12.4%
Use of prior year balances and other adjustments	-34,508	-20,000	——	+20,000	+100.0%
Total, Defense Environmental Cleanup	**6,800,848**	**6,130,447**	**5,390,312**	**-740,135**	**-12.1%**

PROGRAM DESCRIPTION

The **FY 2007 request** for the **Defense Environmental Cleanup** appropriation is **$5.4 billion**. This appropriation supports the largest portion of the Environmental Management mission, with the goal of completing cleanup of the defense weapons production or research activities legacy. Upon completion, sites or portions of sites will be turned over to other DOE program landlords or to the Office of Legacy Management program for long-term surveillance and maintenance. Defense Environmental Cleanup provides funding in accounts that for the most part are organized by site or location, such as the Savannah River Site. It also includes funding for Safeguards and Security, Technology Development and Deployment, Program Support and Program Direction. This appropriation includes funding for projects at the Idaho National Laboratory, Oak Ridge Reservation, Defense Closure sites (Fernald, Miamisburg, Ashtabula, Columbus and Rocky Flats, and post-closure administration activities), the Hanford Site, the Savannah River Site, the Waste Isolation Pilot Plant (WIPP), and legacy cleanup at National Nuclear Security Administration (NNSA) sites.

The FY 2007 budget request reflects a new, site-oriented structure begun in FY 2006 at the direction of Congress. The Defense Environmental Cleanup Appropriation combines activities previously funded in Defense Site Acceleration Completion and Defense Environmental Services Appropriations.

The reduction in the FY 2007 request from the FY 2006 appropriation primarily reflects the completion of cleanup at several sites in FY 2006 and the shift of responsibility for post-closure activities to other Departmental offices. These include the Rocky Flats site in Colorado, the Fernald and Columbus sites in Ohio, and three sites managed by NNSA (Kansas City Plant, MO; Lawrence Livermore National Laboratory-Main Site, CA; and Sandia National Laboratory, NM).

Closure Sites (FY 2006 $1,018.3, FY 2007 $320.9).....-$697.4
Request supports cleanup and closure activities at the **Ashtabula, Fernald and Miamisburg (Mound) sites in Ohio, and Rocky Flats in Colorado**. The decrease in this account reflects completed cleanup at the Rocky Flats site in FY 2006 and anticipated completion at Ashtabula, Columbus and Fernald later in 2006. Responsibility for post-closure administration at Rocky Flats, Fernald, and Columbus, including long-term stewardship of the remedy, contractor post-retirement benefits (e.g., pensions, medical benefits, life insurance), and records management will transfer to the Office of Legacy Management in FY 2007. The FY 2007 request includes:

- $7M for **Rocky Flats** to support ongoing litigation liabilities and regulatory completion;
- $267M for **Fernald** for fee payment**,** with physical completion anticipated in 2006, and administrative activities such as contract closeout litigation settlements; and
- $46M for the **Miamisburg** site to support ongoing work at Operable Unit 1 as a result of Congressional direction in FY 2006; long-term stewardship; and post-closure administration and post-closure costs associated with post-retirement benefits.

Hanford Site (Richland) (FY 2006 $772.9; FY 2007 $804.7).....+$31.8
Richland Operations Office manages Hanford site cleanup activities associated with the production of nuclear materials during the Cold War, including soil and groundwater remediation, facility D&D, stabilization and disposition of nuclear materials and spent nuclear fuel, and waste disposition for wastes other than high-level waste, which is managed by the Office of River Protection. Request for defense-related Hanford activities is funded in two control points: 2012 Completion Projects ($423.6M) and 2035 Completion Projects ($381.1M).

Request provides an increase for spent nuclear fuel activities at **K Basins** because of increased requirements due to sludge and debris conditions, and new techniques for containerization developed to address contractor performance problems (+$23M). There are also increases for the **River Corridor Closure project** for D&D of facilities and remediation of chemical and radioactive contaminants in soils and groundwater along the Columbia River (+$44M); for increased treatment and disposal of low-level mixed waste and repackaging of transuranic waste; and remediation activities required to meet compliance requirements in FY 2007 and maintenance projects. Request continues to safely maintain the **Plutonium Finishing Plant Complex** and storage of special nuclear materials and completion of the dismantlement of the 241-Z facility, but defers major decontamination and decommissioning activities until 2010 (-$115M). There is also a decrease in the request for Environmental Restoration Disposal Facility operations because of lower waste disposal volumes (-$2M).

Office of River Protection (FY 2006 $846.9; FY 2007 $964.1).....+$117.2
Office of River Protection's primary goal is the safe management and treatment of approximately 53 million gallons of high-level radioactive liquid waste in the 177 underground storage tanks at Hanford. Funding for River Protection activities is funded in two control points: the Waste Treatment and Immobilization Project ($690M) and Tank Farm Activities ($274.1M).

The **Waste Treatment and Immobilization Plant** (WTP) has experienced significant seismic, technical and project management issues that impact the cost and schedule of the project. The Department has slowed the project to address these problems and anticipates having a new, validated baseline in the summer of FY 2006. The FY 2007 request increases funding by $169M to support the ramp-up of construction of the High-Level Waste Facility

and the Pretreatment Facility, which are both on the critical path for completion of the plant. As of December 2005, design of the project was 57 percent complete, and construction was 32 percent complete.

In FY 2006, Congress appropriated funding for the WTP in five separate construction line items: Low-Activity Waste Facility ($77.8M); Analytical Laboratory ($21.8M); Balance of Facilities ($48.9M); High-Level Waste Facility ($253.7M); and Pretreatment Facility ($287.8M).

Office of River Protection also manages the stabilization of approximately 53 million gallons of high-level radioactive waste stored in 177 underground tanks at Hanford; develops waste retrieval and transfer systems to support disposition of the waste; and carries out interim closure of tanks. FY 2007 request maintains the tank farm in a safe and compliant manner, continues operation of the 222-S Laboratory and the 242-A Evaporator, and continues Single Shell Tank retrievals. Decrease of $52M for Tank Farm activities reflects the completion of the Bulk Vitrification Research, Development and Demonstration Project and a reduction in the number of Single Shell Tank retrievals.

Idaho National Laboratory (FY 2006 $532.9; FY 2007 $512.6)..... -$20.3
FY 2007 request continues the safe management and disposition of high-level radioactive waste, transuranic waste and spent nuclear fuel, as well as remediation activities and the disposal of on-site mixed low-level, hazardous, and other wastes. The request provides $31M to continue construction of the **Sodium Bearing Waste Treatment Facility.** It includes increases for continuing operations at the **Advanced Mixed Waste Treatment Project (**AMWTP) and for deactivation, decontamination and decommissioning (D&D) activities at four reactor facilities and other high-risk nuclear facilities. These increases are offset by decreases in funding for the Sodium Bearing Waste Treatment Facility since most long-lead procurements were funded in FY 2006; D&D of non-nuclear facilities, reflecting completion of demolitions at the Test Area North; FY 2006 completions of remote-handled transuranic facility modification and transuranic waste drum retrieval; and reduced removal and remediation activities, as well as reductions in support functions and indirect costs.

NNSA Sites (FY 2006 $299.4; FY 2007 $232.1)..... -$67.4
Request provides for cleanup of the legacy of environmental contamination and waste at National Nuclear Security Administration (NNSA) sites. Sites included are **Lawrence Livermore National Laboratory-Site 300** ($11.6M), **Los Alamos National Laboratory** ($90.6M), **Nevada Test Site** ($79.7M), **Pantex** ($23.7M), and **Separations Process Research Unit** ($24.5M), as well as community support activities.

The reduced request is primarily due to the completion of cleanup at three NNSA sites in FY 2006: **Kansas City Plant, Lawrence Livermore-Main Site, and Sandia National Laboratory**. NNSA will take over responsibility for any long-term stewardship at these sites in FY 2007. In addition, responsibility for the Nevada Off-sites program, which addresses contamination at former nuclear testing sites, will transfer to Legacy Management in FY 2007.

The reduction of $50M for **Los Alamos National Laboratory** reflects changes in the cleanup strategy to address groundwater concerns in the canyons and a shift from physical Consent Order milestones in FY 2006 to investigative report milestones. This is offset in part by an increase for the start of D&D activities at several facilities in Technical Area-21.

The request for **Nevada Test Site** (-$4.5M) supports operation of the low-level waste disposal facility, ongoing characterization and remediation activities, and waste disposition, including completing disposition of all transuranic waste in FY 2007.

The FY 2007 request for **Pantex** increases by $4.3M to support site-wide remediation activities, on track for completion in 2008. There is also an increase of $18M that supports

the start of nuclear facilities D&D and soil and groundwater remediation at the **Separations Process Research Unit**, NY.

Oak Ridge Reservation (FY 2006 $238.4; FY 2007 $159.9)……-$78.5
FY 2007 request supports treatment and disposal of defense-funded decommissioning, legacy waste management activities, including operation of the **Toxic Substances Control Act (TSCA) Incinerator,** processing of contact-handled waste at the **Transuranic Waste Treatment Facility**; and remediation activities at the **Oak Ridge Reservation**, which includes Oak Ridge National Laboratory, Y-12 Plant, East Tennessee Technology Park (ETTP) and several offsite locations. Reduced funding reflects completion of cleanup at **Melton Valley** and other waste disposition activities (-$66M). It also provides for surveillance and maintenance of Building 3019 to continue safe storage of uranium-233.

Savannah River (FY 2006 $1,178.7; FY 2006 $1,084.4)……-$94.3
Savannah River Site is responsible for stabilization, treatment and disposition of legacy nuclear materials and wastes, spent nuclear fuels, and remediation of contaminated media resulting from nuclear materials produced during the Cold War. Funding for Savannah River activities is funded in three control points: 2012 Completion Projects ($236.1M), 2035 Completion Projects ($277.3M) and Tank Farm Activities ($570.9M).

The FY 2007 request supports management and stabilization of "at risk" spent nuclear fuel and nuclear materials in the **H Area** in support of Defense Nuclear Facilities Safety Board recommendations and NNSA-funded efforts to blend highly enriched uranium to low enriched uranium. The F-Canyon complex will be maintained in a minimum surveillance and monitoring condition.

The FY 2007 request continues storage of stabilized nuclear materials in the **K-Area Material Storage** facilities. It includes $24M for ongoing design and construction of a 3013 Container Surveillance Capability in Building 105-K. The site continues other important missions such as stabilizing and safe storage of spent nuclear fuel; and management and disposition of all waste types, including transuranic waste shipped to the Waste Isolation Pilot Plant for disposal.

The request continues progress in the management and disposition of high-level waste. It supports vitrification of high-level tank waste at the **Defense Waste Processing Facility** (250 canisters in FY 2007); cleanup of contaminated soil and groundwater; and decommissioning of contaminated nuclear facilities. It also includes $37.5M to continue design to address seismic and other technical issues and $25.7M to begin construction of the **Salt Waste Processing Facility**.

The decrease for the Savannah River Site primarily reflects completion of the deactivation of F-Canyon and associated facilities; and completion of operations in the F-Area plutonium storage facility and the consolidation in one building in K-Area. It also reflects phased completion of transuranic waste activities and lower waste stream volumes and reductions in facility D&D activities to accommodate higher priority activity. The FY 2007 request also includes increases for high-level waste activities and acceleration of some remediation projects.

Waste Isolation Pilot Plant (FY 2006 $228.3; FY 2007 $213.3) …… -$15.1
Funding supports the National Transuranic Waste Program, managed by Carlsbad Field Office, including the operation of the **Waste Isolation Pilot Plant** (WIPP), the national repository for defense-generated transuranic waste, near Carlsbad, New Mexico. FY 2007 will be the first full year of disposal of remote-handled waste, with a resulting increase to support remote-handled operations. This is offset by decreases in characterization services

deployed at other DOE sites, now funded in the generators' site budget; and completion of procurement of remote-handled casks in FY 2006.

Program Direction (FY 2006 $241.4; FY 2007 $291.2).....+$49.8
Request supports the federal workforce responsible for the overall direction and administrative support of the EM program, including both headquarters and field personnel. It provides funding for salaries, benefits, travel, training, support services, and other related expenses for 1,495 FTEs; 1,052 of these FTEs are located in field offices, 293 in Headquarters, and 142 FTEs are assigned to the EM Consolidated Business Center. The request reflects the transfer of 13 FTEs to the NNSA to support management of newly generated waste, transferred to NNSA in FY 2006, and long-term response actions for NNSA sites that completed cleanup in FY 2006. Program staffing also includes 8 FTEs associated with the Central Technical Authority that provides nuclear safety oversight for the Department. Request includes increases for personnel costs and reflects the use of prior-year balances to meet requirements in FY 2006 that are no longer available in FY 2007.

Program Support (FY 2006 $32.5; FY 2007 $37.9) ..... +$5.4
FY 2007 request supports continued policy, management, and technical support of the EM program, including efforts to accomplish workforce planning; conduct crosscutting program analysis; and provide a central information database for the program. Increase supports audits conducted by the Defense Contracts Audit Agency, and the development of the Environmental Impact Statement for disposal of Greater-Than-Class-C waste.

Safeguards and Security (FY 2006 $284.4; FY 2007 $295.8).....+$11.4
Request ensures appropriate levels of protection for EM facilities and cleanup sites. FY 2007 request provides for protection of DOE security concerns, anticipates evolving threats, and maintains a balance of the security mission with the operation of the Waste Isolation Pilot Plant, East Tennessee Technology Park, Fernald, West Valley, Paducah, Portsmouth, Hanford, and Savannah River sites. Increase is for the Savannah River Site for security upgrades to the K-Area complex to support consolidation of materials, as well as additional protective forces.

Technology Development and Deployment (FY 2006 $29.8; FY 2007 $21.4) ..... -$8.4
Provides technical solutions and alternative technologies to enable accelerated cleanup. Areas of investment are critical high-return activities. The Technology Development and Deployment program addresses technology needs identified by the sites, enabling them to accelerate their cleanup schedules. It also provides risk reduction assistance to support sites' risk-based end state visions. Decrease reflects discontinuation of congressionally directed projects included in the FY 2006 appropriations.

D&D Fund Deposit (FY 2006 $446.5; FY 2007 $452.0)..... +$5.5
Provides EM program's contribution to the Uranium Enrichment Decontamination and Decommissioning Fund. The increase primarily reflects the 1 percent rescission applied to the FY 2006 appropriations.

Non-Defense Environmental Cleanup

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Non-Defense Environmental Cleanup					
West Valley demonstration project	73,628	76,329	73,400	-2,929	-3.8%
Gaseous diffusion plants	143,962	48,325	74,860	+26,535	+54.9%
Depleted uranium hexafluoride conversion, 02-U-101	99,200	84,945	32,556	-52,389	-61.7%
Fast flux test reactor facility (WA)	45,715	45,652	34,843	-10,809	-23.7%
Small sites	77,096	94,436	94,699	+263	+0.3%
Total, Non-Defense Environmental Cleanup	**439,601**	**349,687**	**310,358**	**-39,329**	**-11.2%**

PROGRAM DESCRIPTION

The **FY 2007 request** for the **Non-Defense Environmental Cleanup** appropriation is **$349.7 million**. This appropriation supports activities that manage and address the environmental legacy resulting from civilian nuclear energy research. The nuclear energy research and development of the Department and its predecessor agencies generated waste and contamination that pose unique problems, including large quantities of contaminated soil and groundwater and a number of contaminated structures. Upon completion of cleanup activities, these sites or portions of a site will be turned over to other DOE program landlords or to the Office of Legacy Management for long-term surveillance and maintenance.

Non-Defense Environmental Cleanup provides funding in several accounts: Fast Flux Test Reactor Decontamination and Decommissioning (D&D), Gaseous Diffusion Plants, Small Sites, and the West Valley Demonstration Project. Funding for the Small Sites account includes projects at Argonne National Laboratory, Brookhaven National Laboratory, the Energy Technology Engineering Center (ETEC), Idaho National Laboratory, the Inhalation Toxicology Laboratory, Los Alamos National Laboratory, Moab, and the Stanford Linear Accelerator Center.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

West Valley Demonstration Project (FY 2006 $76.3; FY 2007 $73.4) ..... -$2.9
This account funds solid waste stabilization and disposition, and nuclear facility decontamination and decommissioning activities at West Valley, New York. FY 2007 funding supports continued decommissioning activities including the processing of transuranic (TRU) and high-activity wastes through the **Remote-Handled Waste Facility**, and initiation of shipments of contact handled TRU waste off-site. Slight decrease is the result of fewer resources needed for tooling and equipment fabrication.

Gaseous Diffusion Plants (FY 2006 $133.3; FY 2007 $107.4)..... -$25.9
EM program manages the maintenance and storage of depleted uranium hexafluoride cylinders and other uranium activities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and the East Tennessee Technology Park in Oak Ridge, Tennessee. Activities supported include maintenance of facilities and inventories and pre-existing liabilities.

East Tennessee Technology Park (ETTP) (FY 2006 $4.8; FY 2007 $0)..... -$4.8
East Tennessee Technology Park (formerly K-25) was built as part of the World War II Manhattan Project and was used to enrich uranium for national defense purposes.

Enrichment of weapons-grade uranium ceased in 1964. The plant continued to produce low-enriched uranium for commercial nuclear power purposes until 1985, when it was shut down. Depleted uranium hexafluoride cylinder shipments for off-site disposition started in FY 2003 and have been completed in support of ETTP closure. Decrease reflects completion of cylinder shipments in FY 2006.

Paducah (FY 2006 $50.3; FY 2006 $35.2)..... -$15.1
Paducah Gaseous Diffusion Plant began operation in 1952 to produce low-assay enriched uranium for use as commercial nuclear reactor fuel. In 1993, uranium enrichment operations were leased to the U.S. Enrichment Corporation (USEC) in accordance with the Energy Policy Act of 1992. FY 2007 request supports continued construction of a **Depleted Uranium Hexafluoride (DUF6) Conversion Facility** ($16.3M), along with the management, maintenance, and storage of uranium hexafluoride cylinders awaiting conversion. Decrease in funding reflects reduced resource requirements for the construction of the DUF6 Plant.

Portsmouth (FY 2006 $78.1; FY 2007 $72.2)..... -$5.9
Portsmouth Gaseous Diffusion Plant began operation in 1952. In 1993, uranium enrichment operations were leased to the U.S. Enrichment Corporation (USEC) in accordance with the Energy Policy Act of 1992. DOE decided in March 2001 to place the Portsmouth Gaseous Diffusion Plant in cold standby after USEC ceased the production of enriched uranium at the plant. FY 2007 request reflects continued construction of a **Depleted Uranium Hexafluoride (DUF6) Conversion Facility** ($16.3M); continues the decontamination and decommissioning of the **Gaseous Centrifuge Enrichment Plant** ($20M) to support the USEC **Advanced Centrifuge Facility** to be sited at Portsmouth; and continues the storage and maintenance of uranium hexafluoride cylinders awaiting conversion. Decrease primarily reflects the reduced resource requirements for the construction of the DUF6 Plant.

Fast Flux Test Reactor D&D (FY 2006 $45.7; 2007 $34.8)..... -$-10.8
This account funds the deactivation and decommissioning of the Fast Flux Test Facility at the Hanford site. A record of decision issued in January 2001 established that the Fast Flux Test Facility would be permanently deactivated, and a subsequent decision by the Secretary of Energy was made to permanently close the facility. Recently, the Department announced the cancellation of a contract solicitation for a D&D contractor and the deferral of substantial D&D activities to focus site resources on other risk cleanup priorities. FY 2007 request supports continued activities to deactivate the facilities for prolonged surveillance and maintenance, including cleaning of sodium residuals from equipment, transport of sodium bonded fuel to Idaho National Laboratory for disposition, and preparation for final shutdown. Decrease reflects the decision to defer D&D activities.

Small Sites (FY 2006 $94.4; FY 2007 $94.7)..... +$0.3
Activities include cleanup and decontamination and decommissioning activities at small non-defense sites and projects at **Argonne National Laboratory, Brookhaven**, **Energy Technology Engineering Center (ETEC),** the **Inhalation Toxicology Laboratory**, **Los Alamos National Laboratory**, **Moab**, and the **Stanford Linear Accelerator Center**. This account also includes non-defense spent nuclear fuel operations funded through the **Idaho National Laboratory**. Significant changes in site funding include:

Argonne National Laboratory (FY 2006 $10.4; FY 2007 $10.7)..... +$0.3
FY 2006 request funds long-term response actions and long-term stewardship activities as well as decommissioning of excess facilities. FY 2007 request will fund completion of the decommissioning at the **Zero Power Reactor**.

Brookhaven National Laboratory (FY 2006 $34.0; FY 2007 $28.3)..... -$5.7
Primarily funds decontamination and decommissioning activities for the **Graphite**

Research Reactor and the **High Flux Beam Reactor**. FY 2007 request continues pile removal of the Graphite Reactor and initiates decontamination and decommissioning activities at the High Flux Beam Reactor. Decrease reflects planned completion of some activities at the Graphite Reactor.

Idaho National Laboratory (FY 2006 $5.2; FY 2007 $7.0) ..... +$1.8
FY 2007 request continues to maintain non-defense fuels stored on site at the Idaho National Laboratory including fuel from **Three Mile Island-2** and fuels stored **at Fort St. Vrain** in Colorado. Increase funding supports a five-year aging study and increased staffing for the Nuclear Regulatory Commission oversight.

Inhalation Toxicology Laboratory (FY 2006 $0.3; FY 2007 $2.9)..... +$2.6
FY 2007 request supports increased legacy waste disposition at the lab to free up space for other uses.

Energy Technology Engineering Center (FY 2006 $8.9; FY 2007 $16.0) ..... +-$7.1
Request continues decontamination and decommissioning activities at ETEC and addresses the discovery of additional contamination and requirement for additional groundwater monitoring wells.

Lawrence Berkeley National Laboratory (FY 2006 $3.9; FY 2007 $0)..... -$3.9
Cleanup activities were completed in FY 2006. Therefore, responsibility for long-term surveillance and maintenance activities are transferred to the Office of Science in FY 2007 and requested in their budget.

Los Alamos National Laboratory (FY 2006 $0.5; FY 2007 $1.0) ..... +$0.5
FY 2007 request will fund surveillance and maintenance at the Tritium System Test Facility and initial decommissioning activities.

Moab Site (FY 2006 $27.7; FY 2007 $22.9) ..... -$4.8
This project funds remediation of the former Atlas Mineral Corporation, Uranium Ore Processing and Mill Site at Moab, Utah. Environmental Impact Statement Record of Decision, signed in September 2005, determined that the site would be remediated to pre-mill conditions with institutional controls to protect human health and the environment. FY 2007 activities include completion of the Remedial Action Plan, initiation of site transportation and infrastructure construction, and continued construction of the groundwater corrective action system. Decrease is consistent with the acquisition strategy for remediation of the site and the Environmental Management program's priorities to address compliance driven cleanup activities first.

Stanford Linear Accelerator Center (FY 2006 $3.5; FY 2007 $5.7) ..... +$2.3
This project addresses chemical contamination of soil and groundwater from decades of physics research operations at the site. Actions are on-going to address additional cleanup recommended by the State Water Quality Control Board.

Uranium Enrichment Decontamination and Decommissioning Fund

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Uranium Enrichment Decontamination and Decommissioning Fund					
Decontamination and decommissioning	415,655	536,806	559,368	+22,562	+4.2%
Uranium/thorium reimbursement	79,360	19,800	20,000	+200	+1.0%
Total, Uranium Enrichment D&D Fund	**495,015**	**556,606**	**579,368**	**+22,762**	**+4.1%**

PROGRAM DESCRIPTION

The Energy Policy Act of 1992 established the **Uranium Enrichment Decontamination and Decommissioning Fund** (UED&D Fund) to carry out environmental management responsibilities at the nation's three gaseous diffusion plants. These responsibilities include decontamination and decommissioning, remedial actions, waste management, landlord requirements, surveillance, and operation and maintenance activities associated with conditions at the plants prior to the presence of the U.S. Enrichment Corporation. The UED&D Fund receives receipts from commercial utilities based on their historic purchases of uranium enrichment services, measured in separative work units. The remainder of the annual deposit to the UED&D Fund is made by DOE and is authorized to come from annual appropriations. The law also requires DOE to develop and administer a reimbursement program for remediation activities at active uranium and thorium processing sites that sold material to the U.S. government. The **request** for UED&D Fund activities for **FY 2007** is **$579.4 million**.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

Decontamination and Decommissioning
(FY 2006 $536.8; FY 2007 $559.4).....+$22.6
Office of Environmental Management manages the maintenance, decontamination, decommissioning, and remediation of uranium processing facilities and the gaseous diffusion plants at Paducah, Kentucky, Portsmouth, Ohio, and the East Tennessee Technology Park (ETTP) in Oak Ridge, Tennessee. Increased funding reflects acceleration of activities leading to closure of ETTP and resources needed to transition facilities previously held in cold standby at Portsmouth.

Oak Ridge East Tennessee Technology Park (ETTP) (formerly K-25)
(FY 2006 $242.6; FY 2007 $311.5).....+$68.9
ETTP was built as part of the World War II Manhattan Project and was used to enrich uranium for national defense purposes. Enrichment of weapons-grade uranium ceased in 1964. The plant continued to produce low-enriched uranium for commercial nuclear power purposes until 1985, when it was shut down. FY 2007 request supports continued decontamination and decommissioning activities for **K-25** and **K-27**, completion of decontamination and decommissioning field work at **K-29, K-31** and **K-33**, continued Zone 2 remedial actions, and continued surveillance and maintenance. Increase enables progress on the critical path to site closure.

Paducah (FY 2006 $104.0; FY 2007 $96.6) ..... -$7.4
Paducah Gaseous Diffusion Plant began operation in 1952 to produce low-assay enriched uranium for use as commercial nuclear reactor fuel. In 1993, uranium enrichment operations were leased to the U.S. Enrichment Corporation in accordance with the Energy Policy Act of 1992. FY 2007 request initiates remedial activities for the Southwest Plume and the on–site surface water project, continues treatment of groundwater at C-400 contaminated with dense non-aqueous phase liquids (DNAPLs), continues characterization and disposition activities of **DOE Material Storage Areas,** and continues decontamination and decommissioning of the **C-410 Complex**. Decrease reflects ramp down of the scrap metal removal project in anticipation of completion in FY 2007.

Portsmouth (FY 2006 $190.2; FY 2007 $151.3) ..... -$38.9
Portsmouth Gaseous Diffusion Plant began operation in 1952. In 1993, uranium enrichment operations were leased to the U.S. Enrichment Corporation in accordance with the Energy Policy Act of 1992. FY 2007 request supports procurement of on-site treatment capability to address problematic waste streams, continued transition from cold standby to final shutdown of the plant prior to decontamination and decommissioning activities. Decrease in funding reflects completion of disposition activities for legacy wastes with known disposition solutions, and alignment of the pace of shutdown activities with the overall D&D schedule.

Uranium/Thorium Reimbursements (FY 2006 $19.8; FY 2007 $20.0)..... +$0.2
Title X of the Energy Policy Act of 1992 authorizes reimbursement of uranium and thorium processing site licensees for a portion of their cost of cleanup (federal-related byproduct material). FY 2007 request level is sufficient to allow payment of all new claims without delay.

Legacy Management

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Legacy Management					
Energy Supply and Conservation					
Legacy management	30,883	33,187	33,139	-48	-0.1%
Use of prior year balances (LM)	-266	___	___	___	___
Total, Energy Supply and Conservation	30,617	33,187	33,139	-48	-0.1%
Other Defense Activities					
Legacy management	33,425	31,107	156,790	+125,683	+404.0%
Program direction	13,095	13,518	11,061	-2,457	-18.2%
Total, Other Defense Activities	46,520	44,625	167,851	+123,226	+276.1%
Total, Office Of Legacy Management	**77,137**	**77,812**	**200,990**	**+123,178**	**+158.3%**

PROGRAM DESCRIPTION

The **Office of Legacy Management** (LM) ensures the sustainable protection of human health and the environment after DOE cleanup is completed and continues management of certain retirement benefits for former contractor personnel after site closure. In FY 2007, funding for these activities is requested within the Energy Supply and Conservation (non-defense) and Other Defense Activities (defense) appropriations.

This program supports long-term stewardship activities at sites where active remediation has been completed. These activities include groundwater monitoring, administration of post closure contractor liabilities and records management activities. The **FY 2007** budget **request** of **$201.0 million** supports these activities.

PROGRAM HIGHLIGHTS

The FY 2007 request provides $167.9 million to carry out legacy management functions for defense activities and $33.1 million for energy supply activities. In FY 2007, post closure responsibility for long-term stewardship activities and pension and benefit claims for former contractor employees at the Rocky Flats, Colorado, and the Fernald, Ohio, closure sites will be funded within the LM budget.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Energy Supply

Legacy Management (FY 2006 $33.2; FY 2007 $33.1) ..... -$0.1
No change. Continues to provide long-term stewardship support to non-defense sites where active cleanup has been completed.

Other Defense Activities

Legacy Management (FY 2006 $31.1; FY 2007 $156.8) .....+$125.7
Funding increase reflects the transfer of post closure responsibility for long-term stewardship activities (+$19.1M) and payment of pension and benefit claims (+$103.2M) for former

contractor employees at the Rocky Flats, Colorado, and the Fernald, Ohio, closure sites from the Office of Environmental Management to LM.

Program Direction (FY 2006 $13.5; FY 2007 $11.1)..... -$2.4
At a time when the program magnitude is significantly increasing, LM conducted an internal review where it was determined that the program could operate effectively and efficiently with a $2 million reduction in program direction funding. As a result, LM has eliminated 11 FTEs.

Civilian Radioactive Waste Management

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Civilian Radioactive Waste Management					
Defense Nuclear Waste Disposal					
Defense nuclear waste disposal	229,152	346,500	388,080	+41,580	+12.0%
Nuclear Waste Disposal					
Repository program	263,872	19,800	80,986	+61,186	+309.0%
Intergrated spent fuel recycling	——	49,500	——	-49,500	-100.0%
Program direction	79,360	79,200	75,434	-3,766	-4.8%
Total, Nuclear Waste Disposal	343,232	148,500	156,420	+7,920	+5.3%
Total, Civilian Radioactive Waste Management	**572,384**	**495,000**	**544,500**	**+49,500**	**+10.0%**

Funding for the **Office of Civilian Radioactive Waste Management** is requested in two accounts within the Energy and Water Development Appropriation: Nuclear Waste Disposal and Defense Nuclear Waste Disposal. All activities related to the establishment of a permanent geologic repository for nuclear waste are requested within the Nuclear Waste Fund and Defense Nuclear Waste Disposal accounts.

PROGRAM DESCRIPTION

The **Civilian Radioactive Waste Management** (CRWM) program fulfills the U.S. government's responsibility for permanent geologic disposal of spent nuclear fuel and high-level radioactive waste resulting from both the nation's civilian and defense atomic energy activities. The program is responsible for developing successful waste acceptance, transportation and disposal strategies that protect public health and safety in ways that are both environmentally and economically viable. The **FY 2007 budget request** of **$544.5 million** supports these activities.

Congress makes two separate appropriations for the program, one from the Nuclear Waste Fund (Civilian) and the other through a Defense Nuclear Waste Disposal appropriation.

Nuclear Waste Fund (Civilian)

The Nuclear Waste Policy Act provides for two types of fees to be levied on the owners and generators of civilian spent nuclear fuel: an ongoing fee of one-tenth of one cent per kilowatt-hour of nuclear electricity generated and sold after April 7, 1983, and a one-time fee for all nuclear electricity generated and sold prior to that date. As of December, 31, 2005, there is a total of $24.8 billion in fees and interest collected in the Nuclear Waste Fund, of which $6.6 billion has been disbursed for a balance of $18.2 billion.

Defense Nuclear Waste Disposal

Congress provides appropriations for the disposal of high-level waste generated over the past 50 years by defense activities of the U.S. military, the cleanup of World War II- era weapons plants, and the reduction of the nation's nuclear arsenal.

PROGRAM HIGHLIGHTS

Nuclear Waste Disposal (Civilian and Defense)

In order for the United States to remain competitive in the global economy, its domestic energy resources need to be developed and utilized effectively. Nuclear energy can play a critical role in providing a significant share of our electrical energy in an environmentally sound manner. Designing, licensing and constructing a geologic repository for spent nuclear fuel and high level waste will resolve the challenge of safe disposal of these materials and make construction of new nuclear power plants through the President's Global Nuclear Energy Partnership (GENP) more feasible, helping to expand our energy options and secure our economic future.

The CRWM program has adjusted its schedule for submitting a license application to the Nuclear Regulatory Commission (NRC) for the construction of a geologic repository. This was required following the decision by the United States Court of Appeals for the District of Columbia Circuit to vacate the Environmental Protection Administration (EPA) standard for the radiological compliance period for waste disposal at Yucca Mountain. In addition, the NRC rejected the Department's certification of its Licensing Support Network. These and other factors triggered a thorough review of the program's strategy.

The program review led to the development of an operational strategy based on a "clean canisterized" approach for fuel handling. This approach centers on the development of multipurpose canisters that are suitable for the transportation, aging and disposal (TAD) of spent nuclear fuel and high-level radioactive waste. The use of TAD canisters reduces fuel handling operations, permitting smaller, less complex surface facilities at the repository site allowing operations to be conducted in a cleaner, simplified, and safe manner by minimizing radiation exposure issues.

The FY 2007 budget provides $544.5 million for work necessary to support the development of a repository including:

- Defending a license application to the NRC based on a simpler and safer approach to handling spent nuclear fuel and operating the repository;
- Improving decaying site infrastructure at Yucca Mountain to ensure worker, regulator, and visitor safety and operational efficiency;
- Planning facilities for the receipt of spent nuclear fuel and high-level waste for emplacement in the repository; and
- Developing the transportation infrastructure necessary to move waste safely and securely from where it is today to the repository for disposal.

Finally, the administration intends to submit to Congress a legislative proposal to address regulatory, funding and other issues to allow the Department to move forward with this critical project.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

Nuclear Waste Disposal (Civilian and Defense)

Yucca Mountain Project (FY 2006 $305.9; FY 2007 $355.4) .....+$49.5
In FY 2007, work will continue on the design of the Canister Handling Facility and development of a canister used for transportation, aging and disposal (TAD) of spent nuclear fuel (+$15.0), both of which support the new "clean/canisterized" approach. Waste Package design will continue in FY 2007 along with the development of several prototype waste packages for testing (+$20.0). Site safety upgrades will continue in FY 2007 (+$19.0). Fuel

Handling Facility design has been slowed in FY 2007 in order to focus on design and development of the TAD canister (-$5.0)

Transportation (FY 2006 $19.9; FY 2007 $67.8) .....+$47.9
Increase in funds provides for continued design activities necessary to support the procurement of prototypes for escort, buffer and cask rail cars (+$11.7) for the National Transportation Program. In addition, the increased funding will support critical engineering and design work for the Nevada rail line and associated support facilities (+$19.4). As a result of rail alignment activities additional institutional interactions with stakeholders will be required (+$8.2).

Integrated Spent Fuel Recycling (FY 2006 $49.5; FY 2007 $0)..... -$49.5
In FY 2006, Congress appropriated $49.5 million from the Nuclear Waste Disposal Appropriation to prepare an overall program plan an initiate a competition to select one or more sites suitable for development of integrated recycling facilities and initiate work on an Environmental Impact Statement. The Department is currently analyzing its authority to expend funds on these activities and requests no additional funding in FY 2007.

SECTION 5. OTHER MISSION SUPPORTING ORGANIZATIONS

Corporate Management: DOE's corporate management organizations provide the services and analysis needed to support the mission of the Department. These organizations address national energy policies, environmental and health safety requirements, develop Departmental policies, and provide required legal, financial and administrative services.

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Corporate Management					
Departmental Administration	128,598	128,519	128,825	+306	+0.2%
Inspector General	41,176	41,580	45,507	+3,927	+9.4%
Security	296,118	——	——	——	——
Security and Safety Performance Assurance	——	304,024	298,497	-5,527	-1.8%
Independent Oversight and Performance Assurance	24,472	——	——	——	——
Environment, Safety and Health	141,096	103,979	109,935	+5,956	+5.7%
Total, Corporate Management	**631,460**	**578,102**	**582,764**	**+4,662**	**+0.8%**

The Department's Corporate Management includes the following organizations:

Departmental Administration

Inspector General

Security and Safety Performance Assurance

Environmental, Safety and Health

Hearings and Appeals

Departmental Administration

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Departmental Administration					
Administrative operations:					
Salaries and expenses:					
Office of the Secretary	4,644	5,365	5,539	+174	+3.2%
Board of contract appeals	648	644	147	-497	-77.2%
Chief financial officer	35,616	37,402	36,790	-612	-1.6%
Management	53,856	53,853	55,237	+1,384	+2.6%
Human Capital Management	17,378	17,348	22,029	+4,681	+27.0%
Chief information officer	94,581	86,616	108,822	+22,206	+25.6%
Congressional & intergovernmental affairs	4,826	4,795	4,866	+71	+1.5%
Economic impact and diversity	5,922	6,136	5,969	-167	-2.7%
General counsel	21,774	23,069	24,725	+1,656	+7.2%
Policy and international affairs	15,947	15,844	19,876	+4,032	+25.4%
Public Affairs	2,703	4,475	4,419	-56	-1.3%
Competitive sourcing initiative (A-76)	2,480	2,464	2,982	+518	+21.0%
Total, Administrative operations	260,375	258,011	291,401	+33,390	+12.9%
Cost of work for others	71,048	80,207	80,239	+32	+0.0%
Subtotal, Departmental Administration (gross)	331,423	338,218	371,640	+33,422	+9.9%
Use of prior year balances and other adjustments	-91,944	-86,699	-93,258	-6,559	-7.6%
Total, Departmental Administration (gross)	239,479	251,519	278,382	+26,863	+10.7%
Miscellaneous revenues	-110,881	-123,000	-149,557	-26,557	-21.6%
Total, Departmental Administration (Net)	**128,598**	**128,519**	**128,825**	**+306**	**+0.2%**

PROGRAM DESCRIPTION

The **Departmental Administration** (DA) appropriation funds eleven DOE-wide management organizations under **Administrative Operations**. These organizations support headquarters in human resources, administration, accounting, budgeting, program analysis, project management, information management, legal services, life-cycle asset management, workforce diversity, minority economic impact, policy, international affairs, congressional and intergovernmental liaison, public affairs, and competitive sourcing. Funding for the **Office of the Secretary** is provided separately from the other administrative functions within the DA appropriation. The DA appropriation also budgets for **Cost of Work for Others** and receives miscellaneous **Revenues** from other sources.

DOE also operates a **Working Capital Fund** (WCF) as a financial tool to improve management of common administration services. The objectives of the WCF are to fairly allocate costs to mission programs; to offer better choices on amount, quality, and sources of services; and to provide flexibility for service providers to respond to customer needs.

Working Capital Fund
Budget by Function
(dollars in thousands)

Business Line Activities	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate
Building Occupancy	66,313	63,926	68,086
Contract Closeout	1,071	1,048	1,080
Corporate Training Center	713	643	607
Desktop	901	908	871
External Independent Reviews	0	0	10,545
Financial Reporting Control	0	0	5,000
Mail Services	2,002	2,123	2,073
Networking	5,953	6,033	6,033
Payroll and Personnel	4,227	4,416	4,427
Photocopying	2,426	2,273	2,039
Printing and Graphics	3,856	3,588	3,588
Project Management Dev Prog	1,393	1,000	1,000
Standard Acctg & Reporting Sys	0	3,500	3,500
Supplies	2,971	2,971	2,971
Telephones	8,478	8,478	8,702
Indirect	120	120	120
Total Working Capital Fund	100,423	101,026	120,642

PROGRAM HIGHLIGHTS

The FY 2007 request provides $5.5 million for 34 FTEs within the Office of the Secretary. This request also provides $226.5 million for salaries and benefits, travel, contractual services, and program support expenses for 1,228 FTEs for the other organizations within the DA account. The Cost of Work for Others and Revenues are budgeted at $80.2 million and -$149.6 million, respectively. Within the request for Cost of Work for Others is $40 million for safeguards and security activities in FY 2007.

SIGNIFICANT FUNDING CHANGES – FY 2005 to 2006 Request ($ in millions)

Chief Financial Officer (FY 2006 $37.4; FY 2007 $36.7) ..... -$0.6
Decrease primarily results from a reduction in contractor support related to the completion of the stand up of the Energy Finance and Accounting Services Center Most Efficient Organization (-$0.9) and other related expenses (-$0.2) which are offset by an increase in salaries and benefits (+$0.5) and cost of living adjustments for 236 FTEs.

Office of Management (FY 2006 $53.8; FY 2007 $55.2)..... +$1.4
Increase reflects the transfer of the Strategic Materials Program and cost of living adjustments for 319 FTEs.

Office of Human Capital Management (FY 2006 $17.3; FY 2007 $22.0) ..... +$4.7
Increase reflects the addition of 47 FTEs resulting from the award of the A-76 HR Training study to the in-house team creating an Enterprise Training Services (ETS) Most Efficient Organization within the Office of Human Capital Management.

Office of the Chief Information Officer (FY 2006 $86.6; FY 2007 $108.8) .....+$22.2

Program Direction increase supports Departmental information technology office systems hardware and software costs; network and infrastructure upgrades; and corporate systems to facilitate the construction of a Continuity of Operations (COOP) and Continuity of Government (COG) site, disaster recovery infrastructure, licensing and maintenance requirements, public key infrastructure operations, email and messaging support and hardware, as well as software and information technology support.
(FY 2006 $39.1; FY 2007 $47.7) ..... +$8.6

Cyber Security increase supports the corporate asset management inventory of agency information systems (+$7.0), incident management and compliance capability including the transfer of the cyber forensics laboratory; (+$11.5); technology and assessments (+$1.0); authentication and authorization (+$6.2) offset by decreases in policy, planning and awareness (-$4.2), engineering and assessment (-$6.7) and training (-$1.2).
(FY 2006 $24.5; FY 2007 $38.1). .....+$13.6

General Counsel (FY 2006 $23.0; FY 2007 $24.7) ..... +$1.7
Increase will support 144 FTEs and reflects cost of living adjustments. Increase also reflects additional support services for intellectual property, alternate dispute resolution, and information technology services.

Office of Policy and International Affairs (FY 2006 $15.8; FY 2007 $19.8) ..... +$4.0
Increase supports 120 FTEs and reflects cost of living adjustments (+$2.6). Increase also reflects (+$1.0) for technical analyses, and contract support for the Climate Change Technology Program (CCTP). Slight increases in travel (+$0.2) and other related expenses (+$0.2).

Competitive Sourcing Initiative (FY 2005 $2.5; FY 2006 $3.0) ..... +$0.5
Increase reflects the Department's commitment to support the implementation of the competitive sourcing goals in the President's Management Agenda. Additional funding covers the costs of implementing corporate competitive sourcing activities and studies and will support complex-wide competitive sourcing costs, including contractor support costs for feasibility and functional area studies, implementation costs and independent review and verification costs for completed studies.

Board of Contract Appeals (FY 2006 $0.6; FY 2007 $0.1) ..... -$0.5
Decrease reflects the consolidation of the eight federal agency Boards of Contract Appeals into one Civilian agency Board of Contract Appeals. The consolidation will be effective in mid-January 2007. The new Civilian Board of Contract Appeals will fall under the auspices of the General Services Administration.

Revenues (FY 2006 -$123.0; FY 2007 -$149.6) ..... -$26.6
Additional funds cover increased requirements in the number of projected foreign research reactor spent fuel shipments, sales of uranium for foreign research reactors, and support for the evaluation of leaking underground fuel tanks and structural inspection of dams and water contaminants. Change also reflects increased estimates for the federal administrative charge and for handling and basin storage of spent fuel cores for the Department of Navy.

Defense Related Administrative Support (FY 2006 -$86.7; FY 2007 -$93.3)..... +$6.6
Change reflects the proportional contribution from the Other Defense Activities appropriation for DA costs. FY 2007 funding represents 32 percent of DA administrative costs, which is the approximate level of defense related activities in the FY 2007 request (not including NNSA)

All Other Departmental Administration Offices (FY 2005 $43.6; FY 2006 $43.7)..... +$0.1
Increase in remaining DA support accounts are the result of cost of living adjustments.

Inspector General

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Inspector General					
Office of inspector general	**41,176**	**41,580**	**45,507**	**+3,927**	**+9.4%**

PROGRAM DESCRIPTION

The **Office of the Inspector General** (IG) promotes the effective, efficient, and economical operation of the programs and operations of DOE, including the National Nuclear Security Administration (NNSA), and the Federal Energy Regulatory Commission (FERC); through audits, inspections, investigations and other reviews, while detecting and preventing fraud, waste, abuse, and violations of law.

Statutory requirements direct the IG to conduct annual financial statement audits required by the Government Management Reform Act of 1994, review DOE's information security systems as required by the Federal Information Systems Management Act (FISMA) of 2002, and review DOE's implementation of the Government Performance and Results Act of 1993. In addition, the IG conducts reviews of the most significant management challenges facing the Department. The total **FY 2007 request** for the Office of Inspector General is **$45.507 million**.

PROGRAM HIGHLIGHTS

The FY 2007 request supports statutory requirements including work associated with the Federal Information Systems Management Act (FISMA) of 2002 to evaluate unclassified information systems and audit DOE's review of classified information systems. The IG will also operate a robust review program with greater emphasis on evaluating DOE's program performance and management improvements in each of the President's five key management initiatives, and the most serious management challenges facing the Department.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Inspector General (FY 2006 $41.6; FY 2007 $45.5) ..... +$3.9
Increase reflects raised cost in support services due to funding for additional tasks associated with the Financial Statement Audits contract. In addition, funding provides continued operations for 279 FTEs and includes the effect of the FY 2007 pay raise.

Security and Safety Performance Assurance

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Security And Safety Performance Assurance					
Other Defense Activities					
Nuclear safeguards and security	——	185,009	182,548	-2,461	-1.3%
Security investigations	——	46,258	40,000	-6,258	-13.5%
Program direction	——	72,757	75,949	+3,192	+4.4%
Total, Security And Safety Performance Assurance	**——**	**304,024**	**298,497**	**-5,527**	**-1.8%**
Office Of Security					
Other Defense Activities					
Nuclear safeguards and security	193,794	——	——	——	——
Security investigations	44,561	——	——	——	——
Program direction	57,763	——	——	——	——
Total, Office Of Security	**296,118**	**——**	**——**	**——**	**——**
Office Of Independent Oversight & Performance Assurance					
Other Defense Activities					
Program direction	**24,472**	**——**	**——**	**——**	**——**

PROGRAM DESCRIPTION

The Office of **Security and Safety Performance Assurance** (SSA) is responsible for the development, promulgation, and evaluation of DOE-wide security programs, and the independent oversight of security; cyber security; and environment, safety, and health programs throughout DOE. The total **request** for **FY 2007** is **$298 million** and funding supports activities in the following areas.

Nuclear Safeguards and Security consists of the following activities: Operational Support; Technology Development and Systems Deployment; and Classification, Declassification, and Controlled Information Program.

Operational Support includes support for the following subactivities. *Security and Safety Training* provides for the development and maintenance of security and safety training curricula and delivery mechanisms, and the National Training Center facility, located in Albuquerque, NM, in support of maintaining the proficiency and competency of DOE security and safety personnel. The *Nuclear Materials Accountability* subactivity provides information necessary to track nuclear material, primarily within the United States, to satisfy statutory requirements and international obligations; and developing and/or providing protection of the material. *Specialized Security Support* provides for technical and field expertise to develop and evaluate implementation of DOE security requirements; develop and disseminate security awareness information; maintain various security-related data base systems; manage the foreign visits, assignments, and travel program; and conduct vulnerability assessments in support of the implementation of the Design Basis Threat Policy. *Headquarters Security* is comprised of a security protective force and operation of the equipment and systems designed to provide protection of DOE Headquarters' facilities, personnel, and assets in the National Capital Area; and management of the DOE Continuity of Government facilities and operations.

Technology Development and Systems Deployment provides for the development and deployment of existing and new innovative security technologies as an alternative to

costly increases in manpower needed to implement the Design Basis Threat Policy, and to counter threats for which no current defensive capability exists. Funding also provides for the resolution of administrative, safety, and legal issues, to avoid significant delays in fielding effective security technology solutions.

Classification, Declassification, and Controlled Information Program ensures that DOE meets its statutory responsibility to implement the government-wide program to classify and declassify nuclear weapons-related technology and to perform document reviews and provide technical guidance and training material to DOE and other U.S. Departments and Agencies regarding the protection of nuclear weapons-related information.

Security Investigations manages funding for all security background investigations associated with providing access authorization to DOE federal and contract personnel who require access to classified information or certain quantities of special nuclear material.

Program Direction provides the federal staffing, support services, and other resources and associated costs required to provide overall direction and execution of SSA. Within this subprogram is the Independent Oversight activity which provides accurate, comprehensive analysis of the effectiveness of DOE nuclear safeguards and security; cyber security; and environment, safety and health programs to senior DOE leadership. Program Direction also provides funding for the activities of the Office of the Departmental Representative to the Defense Nuclear Facilities Safety Board (DNFSB) which provides support for centralized leadership in resolving DNFSB issues.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

FY 2007 **Security and Safety Performance Assurance** request is **$298.5 million**, about 1.8 percent less than the FY 2006 current appropriation.

Nuclear Safeguards and Security (FY 2006 $185.0; FY 2007 $182.5)..... -$2.5
Funding reflects a decrease for Project Engineering and Design at the Idaho National Laboratory to allow DOE to complete its comprehensive analysis in its approach to consolidate the Department's special nuclear material. Funding decrease also reflects the transfer of the Cyber Forensics Laboratory to the Office of the Chief Information Officer. Decrease is partially offset by increases in headquarters Security and, to a lesser extent by, Safety Training and Nuclear Materials Accountability activities.

Security Investigations (FY 2006 $46.3; FY 2007 $40.0) ..... -$6.3
Funding reflects a projected decrease in initial background cases to be investigated based on an analysis of information provided by field locations and historical data, including the projected decrease of 5-year cycle reinvestigations due to the backlog of cases resulting from the terrorist attacks on the United States in FY 2002. Decrease offset somewhat by an increase in expected use of the Accelerated Access Authorization Program based on an analysis of trends.

Program Direction (FY 2006 $72.8; FY 2007 $75.9)..... +$3.1
Funding reflects cost of living increases in salaries and benefits, the DOE Working Capital Fund, information technology support, and DNFSB liaison activities. Independent oversight activities are also projected to increase for both Security and Cyber Security Appraisals and associated travel. Overall increases are offset by a decrease in Security Activities due to efficiencies of operations; and transfer of the North Atlantic Treaty Organization program and DOE Continuity of Operations activities to the National Nuclear Safety Administration.

Environment, Safety and Health

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Environment, Safety And Health					
Energy Supply and Conservation					
Office of environment, safety and health (non-defense)	7,936	7,029	9,128	+2,099	+29.9%
Program direction	19,842	20,691	19,993	-698	-3.4%
Subtotal, Energy Supply and Conservation	27,778	27,720	29,121	+1,401	+5.1%
Use of prior year balances and other adjustments	-285	———	———	———	———
Total, Energy Supply and Conservation	27,493	27,720	29,121	+1,401	+5.1%
Other Defense Activities					
Environment, safety and health (defense)	108,352	56,908	60,738	+3,830	+6.7%
Program direction	20,251	19,351	20,076	+725	+3.7%
Subtotal, Other Defense Activities	128,603	76,259	80,814	+4,555	+6.0%
Use of prior year balances and other adjustments	-15,000	———	———	———	———
Total, Other Defense Activities	113,603	76,259	80,814	+4,555	+6.0%
Total, Environment, Safety And Health	**141,096**	**103,979**	**109,935**	**+5,956**	**+5.7%**

PROGRAM DESCRIPTION

The **Office of Environment, Safety and Health** (ESH) is funded under two accounts within the Energy and Water Development Appropriations. Defense-related activities are funded in the Other Defense Activities account and include Corporate Safety Programs, Health Programs, the Radiation Effects Research Foundation (RERF), the Marshall Islands program, the Energy Employees Occupational Illness Compensation Program, and Program Direction. Non-defense activities are funded in the Energy Supply and Conservation account and support Policy, Standards and Guidance, DOE-Wide Environment, Safety and Health, and Program Direction.

ESH is committed to ensuring that the safety and health of the DOE workforce and members of the public, and the protection of the environment, are integrated into all Departmental activities. ESH advises the Secretary of Energy on the status of the health and safety of DOE workers, the public, and the environment near DOE facilities. By statute, DOE assumes direct regulatory authority for safety and health, and ESH plays a critical role to conduct independent reviews of environment, safety, and health performance and provides technical services, resources, and information sharing. DOE is externally regulated for compliance with applicable environmental laws administered by other government agencies that ESH serves as DOE's advocate to assure that Departmental interests are reflected in the formulation of environmental requirements proposed by such agencies. ESH develops DOE environmental, safety, and health directives and regulations to ensure that work is conducted efficiently and in a manner that protects workers, the public and the environment; performs Price-Anderson enforcement; and funds radiation health studies. Total **FY 2007 request** for this program is **$109.9 million**.

PROGRAM HIGHLIGHTS

Policy, Standards and Guidance activities will continue to develop and update current DOE environmental, safety and health policies, standards and guidance, including adopting non-government consensus standards that are appropriate for DOE work. Regulatory liaison activities with other government agencies to support DOE's interest will also continue.

Corporate Safety Programs serve a crosscutting safety function for DOE and its stakeholders in assessing, facilitating, achieving and assuring excellence and continuous improvement in safety management and performance in the conduct of its missions and activities and in enforcing compliance with DOE nuclear safety requirements.

The **Health Programs** continue to promote the health and safety of DOE's workers and communities surrounding DOE sites, develop comprehensive and effective safety and health policy for DOE workplace hazards, and conduct studies and medical screening to understand the effects of radiation, chemical, and other potential hazards of DOE operations on humans. Health programs include a program to provide special medical care for a small group of radiation-exposed individuals in the Marshall Islands. The Radiation Effects Research Foundation (RERF) conducts epidemiologic studies and medical surveillance of the survivors of the atomic bombings in Hiroshima and Nagasaki, Japan.

The **Employees Compensation Program** will continue record search activities in support of the Department of Labor's implementation of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), Part E.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 REQUEST ($ in millions)

Environment, Safety, and Health (FY 2006 $103.9; FY 2007 $109.9) ..... +$6.0

Energy Supply and Conservation (FY 2006 $27.7; FY 2007 29.1) ..... +$1.4

Policy, Standards and Guidance (FY 2006 $3.0; FY 2007 $3.8) ..... +$0.8
ESH will implement Human Performance Improvement Initiatives, increase the Department's activities in nuclear and facility safety industry standards setting organizations and federal inter-agency activities related to Atomic Energy Act requirements, and will expand efforts to collaborate with other agencies and interested stakeholders to unify the federal government's approach to radiation protection.

DOE-Wide ES&H Programs (FY 2006 $4.0; FY 2007 $5.3) ..... +$1.3
Increase in Information Management to support the President's Management Agenda Initiative 4, "Expanded Electronic Government," and to support legislative mandates including the Clinger-Cohen Act, the E-Government Act, and the Federal Information Security Management Act. Conduct additional National Environmental Policy Act technical reviews to enable timely issuance of planned major environmental impact statements.

Program Direction – Energy Supply (FY 2006 $20.7; FY 2007 $20.0)..... -$0.7
Decrease reflects reduction of Working Capital Fund requirements.

Other Defense Activities (FY 2006 $76.2; FY 2007 $80.8) ..... +$4.6

Corporate Safety Programs (FY 2006 $11.0; FY 2007 $15.6) ..... +$4.6
Increase reflects the implementation of new technology for operating experience data mining and analysis across the entire DOE complex, and full implementation of the Operating Experience Program and Nuclear Safety Research Program that meets DNFSB 2004-1 commitments.

Health Programs (FY 2006 $45.8; FY 2007 $40.6)..... -$5.2
Decrease reflects elimination of funding for the National Institute for Occupational Safety and Health, five prioritized studies targeted for completion and the National Center for Environmental Health. Decrease will also require delays in the Los Alamos Historical Document Retrieval Assessment project, the Agency for Toxic Substances and Disease

Registry, and completion of the Oak Ridge Reservation and the Savannah River Site public health assessments. All health education activities related to DOE sites will be suspended.

Energy Employees Occupational Illness Compensation Program
(FY 2006 $0; FY 2007 $4.5) ..... +$4.5
New budget authority is requested in FY 2007, because prior-year balances from FY 2005 are used to fund this activity in FY 2006. This program will continue record search activities in support of the Department of Labor's implementation of EEOICPA, Part E.

Program Direction – Other Defense (FY 2006 $19.4; FY 2007 $20.1) ..... +$0.7
Program will increase site visits, add staff for Nuclear Safety Research Function, and restructure salary and benefit requirements.

Hearings and Appeals

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Office Of Hearings And Appeals					
Other Defense Activities					
Program direction	**4,283**	**4,310**	**4,422**	**+112**	**+2.6%**

PROGRAM DESCRIPTION

The Office of Hearings and Appeals continues to be responsible for all DOE adjudicative processes except those administered by the Federal Energy Regulatory Commission. The program's jurisdiction includes Freedom of Information and Privacy Act Appeals, evidentiary hearings to determine an employee's eligibility for a security clearance, appeals and initial agency decisions on whistle blower complaints, and requests for exception from DOE regulations and orders, such as reporting requirements to DOE elements. The total **FY 2007 request** for the Office of Hearings and Appeals is **$4.422 million**.

SIGNIFICANT FUNDING CHANGES – FY 2006 to 2007 Request ($ in millions)

Hearings and Appeals (FY 2006 $4.3; FY 2007 $4.4) ..... +$0.1
FY 2007 request is a 2.6-percent increase over FY 2006. Funds support salaries and benefits for 25 FTEs, which is an increase of 2 from FY 2006.

SECTION 6. FEDERAL ENERGY REGULATORY COMMISSION

(discretionary dollars in thousands)

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Federal Energy Regulatory Commission					
Federal energy regulatory commission	210,000	220,400	230,800	+10,400	+4.7%
FERC revenues	-210,000	-220,400	-230,800	-10,400	-4.7%
Total, Federal Energy Regulatory Commission	——	——	——	——	——
Excess fees and recoveries, FERC					
Fees & recoveries in excess of annual appropriations	-18,452	-15,542	-16,405	-863	-5.6%
Total, Federal Energy Regulatory Commission	**-18,452**	**-15,542**	**-16,405**	**-863**	**-5.6%**

PROGRAM DESCRIPTION

The **Federal Energy Regulatory Commission** (FERC, Commission) regulates and oversees energy industries in the economic, environmental, and safety interests of the American public. The Commission chooses regulatory approaches that foster competitive markets whenever possible, assures access to reliable service at a reasonable price, and gives full and fair consideration to environmental and community impacts in assessing the public interest of energy projects.

The FERC relies on competition and effective regulation to foster reliable and affordable energy markets. To accomplish this, the Commission promotes the development of a robust energy infrastructure. This includes encouraging investment in energy infrastructure, expediting the development of energy infrastructure projects, addressing landowner and environmental concerns fairly, and protecting the reliability, security, and safety of the energy infrastructure. The Commission also prevents the exercise of market power by relying on effective competition and regulation. This includes promoting effective competition in electric and gas markets, establishing clear market rules to govern electric markets, vigilant and effective oversight of market operations, and firm but fair enforcement of Commission rules.

PROGRAM HIGHLIGHTS

Over time, the natural gas and electric industries have transformed from companies using their monopoly-owned transportation and transmission facilities to supply all the needs of their wholesale customers, to companies providing open and non-discriminatory access to their facilities, under Commission approved tariffs. This fundamental change, which lies in the reliance on open-access transportation and transmission service, allows independent suppliers to compete for gas and electricity sales at market-based prices and to offer market choices for customers. Using a combination of regulation and competition, the Commission acts to ensure just and reasonable rates by eliminating market discrimination and manipulation. This involves both regulatory reform, as with the on-going open access transmission tariff reform, and vigilant market oversight to prohibit and sanction market manipulation, as with the new Market Behavior Rules.

The Commission also recognizes that a robust energy infrastructure is critical to the health of the U.S. economy. Over the last two decades, Commission policies resulted in significant construction of new generation capacity by independent power producers, with some regions of the country now overbuilt with generation capacity. At the same time, investment in transmission infrastructure has not kept pace resulting in increased transmission congestion in some regions. This raises a significant concern for the Commission since transmission congestion acts like an import quota, resulting in higher energy prices.

In addition to existing policies that provide investors confidence (through rate certainty) that they will have an opportunity to recover their infrastructure investments, the newly enacted Energy Policy Act of 2005 (EPAct 2005) enhances the Commission's authority to promote (or oversee):

- Electric and natural gas market transparency;
- Wholesale competition in the electric industry;
- New electric, natural gas, and hydropower infrastructure; and,
- Development and enforcement of mandatory grid-reliability standards.

Over the coming years, implementing these EPAct 2005 requirements along with other market-based reforms will be the priority for the Commission.

SIGNIFICANT FUNDING CHANGES – FY 2006 to FY 2007 Request ($ in millions)

FERC (FY 2006 $220.4; FY 2007 $230.8).....+$10.4
FY 2007 request funds 1,320 FTEs, an increase of 25 FTEs over FY 2006. Increase in FTEs for FY 2007 is targeted to support the resources needed to implement the Commission's increased responsibilities under the Energy Policy Act of 2005. FERC will recover the full cost of its operations through a system of annual charges and fees, resulting in a net appropriation of $0 for FY 2007.