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Department of Energy
FY 2003 Congressional Budget Request

Budget Highlights

Office of Management, Budget
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INTRODUCTION

ENSURING OUR NATION'S ENERGY SECURITY

The Department of Energy's FY 2003 budget of $21.9 billion addresses the new security challenges we face as a Nation after the events of September 11th, as well as increased concern regarding our dependence on foreign oil and the security of our critical energy infrastructure.

Refocusing Our Missions and National Priorities

In October 2001, Secretary Abraham laid out for the Department's managers and employees a strong statement of mission and purpose and a series of principles to guide the Department's programs and operations. In his statement he expressed his vision of excellence, his expectations, and his direction to begin implementing improved management practices to attract and retain the highest caliber people and set the highest standards of performance. With an emphasis on measurable performance objectives and accountability, the Secretary is holding Department of Energy (DOE) managers responsible for ensuring the safety of our employees and the communities surrounding our facilities, respecting and observing the highest standards of security, and building a culture where merit determines promotion and diversity is viewed as key to recruiting and retaining the best people. The Secretary's vision for excellence requires that we set priorities, discipline our focus and measure everything we do by reference to our missions and priorities.

To achieve his vision, the key is understanding our overarching mission. That mission, put simply, is National Security. Our National Security mission is readily apparent in the Department's National Nuclear Security Administration, but it is also inherent in our Energy and Science programs that advance the Nation's energy security, and in our Environmental Management programs that clean up our sites to ensure that legacies of the Cold War are resolved and meet our future responsibilities in a manner that protects the security and safety of the individual American taxpayer, our environment, and our future.

A strong America requires a secure and reliable supply of energy. This budget strengthens our ability to identify and protect the critical energy infrastructure that supports our Nation's homes and businesses each day, directs our research and development toward new ideas while ensuring the greater application of mature energy technologies, and implements the President's National Energy Policy. We are focusing on programs that help America increase its supply of energy through increased domestic production, advance how we approach conservation and energy efficiency, and identify a wider array of sources and types of energy.

A strong Science program and DOE's leadership of the national laboratories also bolster National Security. Although all agree we produce science at its best, our science is complex, and its applications sometimes difficult to categorize. Recognizing this, Secretary Abraham has challenged the DOE Science programs to sharpen their focus to better address the Nation's highest research priorities. Many of DOE's scientific accomplishments have benefited defense-related weapons and threat detection work. Our science research serves National Security in an important way – it provides strength by furthering cutting edge knowledge, thereby promising continued U.S. technological strength and breakthrough solutions that achieve national objectives such as energy security and climate change mitigation.

This budget takes up the challenge to focus DOE science toward the most significant national priorities. We will employ science to eliminate today's energy security problems by developing new sources of energy. We will focus science on meeting the threat of weapons of mass destruction posed by small groups of determined terrorists or nation states. Lastly, we will have a strong physical science program that makes an essential contribution to the Nation's technological leadership, itself the foundation for national security in the 21st Century.

Fulfilling our National Security mission also includes the safe clean up of the national nuclear weapons production legacy. To accomplish this, on April 9, 2001, Secretary Abraham directed a top-to-bottom review of the Department's environmental cleanup program. The Department completed the program review, and this budget reflects a new approach to environmental cleanup – one designed to get the job done better and faster. The new program will greatly accelerate the clean-up and closure of all sites where there is no longer a National Security mission. Additionally, with the recent announcement of intent to recommend Yucca Mountain as our Nation's permanent geological repository, we are one step closer to securing the nuclear materials currently stored throughout the country.

Our National Security mission comes full circle with our responsibility as the stewards of the Nation's nuclear weapons stockpile. The Department, through the National Nuclear Security Administration (NNSA), invests in advanced scientific and manufacturing capabilities to ensure the long-term ability to assess weapons status, extend weapons life, and certify that the stockpile remains safe, secure and reliable without nuclear testing. The Department has a long and successful history in combating the proliferation of weapons of mass destruction. Through strong support for nonproliferation programs, this budget implements recent bilateral agreements with Russia to address the proliferation of weapons-grade material and supports the innovation needed to ensure Homeland Security. The budget continues to supply safe and reliable nuclear propulsion plants to the U.S. Navy, thus helping to project U.S. military presence around the world.

Under our National Security mission, two priorities deserve special attention. The first is energy and the inextricable link between National Security and Energy Security. DOE is poised to make a unique technological contribution to our energy and national security by developing new sources of energy. Whether it is fusion, a hydrogen economy, or ideas that we have not yet explored, under any scenario our future requires a revolution in how we find, produce and deliver energy. The second evolves from the tragic events of September 11th. We have the best minds in the country trained on the challenges faced by Homeland Security, and particularly the threat posed by terrorism here at home. The continued development of advanced technologies to defend against domestic terrorist threats using weapons of mass destruction, including biological and chemical weapons, is essential to our war on terrorism.

Secretary Abraham has directed a review of DOE program activities to look at what changes are necessary to increase our ability to use every resource at our disposal to perform the priorities necessary to support our National Security mission.

Meeting the Challenge of the President's National Energy Policy

We are facing rising demand, declining domestic oil production, and an energy delivery system that is out-of-date and in need of repair. This requires us to confront and solve our heavy reliance on fossil fuels and dependence on foreign nations' oil supplies, our antiquated transmission lines and pipelines, our lack of market-based conservation incentives, and our focus on fairly mature research and development as opposed to making revolutionary breakthrough investments. The President's National Energy Policy and this budget address these challenges.

We seek a more desirable balance among many sources of energy such as biomass, geothermal, wind, solar, coal and nuclear. Through technological advancements in energy efficiency we can achieve more economic productivity with less impact on our environment and communities. To counter our increasing dependence on foreign sources of oil, we seek increased domestic production that relies on new technologies and can dramatically reduce the impact on the environment. To counter our inadequate and aging energy infrastructure, we seek new technologies that allow us to send more energy over smaller lines, and we seek to assure greater reliability by relieving transmission bottlenecks. We will promote energy efficiency and conservation, not by simply relying on government mandates but by making intelligent use of new technologies and information that allows consumers and energy providers to save energy in ways that support economic growth. Finally, we address the research and development challenge of moving more mature technologies like solar and wind to the

market while concentrating additional resources on promising technologies that represent the next wave.

In response to the President's National Energy Policy, we took immediate steps to begin implementation and during FY 2001/2002 we accomplished the following:

- Based on National Energy Policy concerns to ensure that our Strategic Petroleum Reserve protection is maintained in support of national energy security, the President directed Secretary Abraham to add 108 million barrels of crude oil to the stockpile.

- The Bonneville Power Administration signed seven wind power project pre-development agreements to provide 830 megawatts of generating capacity, addressing the National Energy Policy's support of wind as an important diverse source of domestic energy.

- Secretary Abraham set into motion a $300 million project to upgrade California's Path 15 and alleviate California's major electric transmission bottleneck. To accomplish this, Pacific Gas and Electric will work with six other parties and the Western Area Power Administration.

- Increased funding in FY 2002 for the Weatherization Assistance Program by $77 million in the first year of the President's commitment to increase the funding for the Weatherization Assistance Program by $1.2 billion over ten years. This program provides grant funding for a network of all states and nearly 1,000 local weatherization agencies to assist low-income families in reducing their costs for heating and cooling their homes. These funds are well-spent: each dollar generates over two dollars in energy savings over the life of the home, and brings additional health and environmental benefits as well.

- For the first time, DOE brought together manufacturers and retailers of high energy appliances and lighting products with the Energy Star® Product Exposition. This public forum was promoted in response to the National Energy Policy direction to extend the Energy Star® labeling program to include additional products, appliances, and services.

Implementing the President's Management Agenda

As the Department works to better align program resources to the central mission of National Security, improving the day-to-day management of the Department's programs and resources is also important. To that end, Secretary Abraham has reformed the Department's planning, budgeting, and project management processes to make them more robust, rigorous, forward-looking, and analytical. He has also revised the personnel system to enhance the accountability of the Department's senior managers. Over time, these reforms will make a dramatic improvement in the Department's management of its portfolio, but the challenges that confront the Department did not spring up overnight, nor will they be solved overnight. The mechanisms are now in place, however, to bring rapid and significant improvement. In addition, the Department is also working to implement the overall management objectives directed by President Bush.

The Administration has identified selected areas for improvement throughout the Federal Government as described in the President's Management Agenda. We have developed our path forward and are implementing these initiatives. Our work will continue through FY 2004 and beyond, and we are confident that we will continually improve the Department. The following is a summary of DOE activities for each of the President's management initiatives.

Human Capital
In order to eliminate unnecessary layers of management, direct personnel to high-priority missions, address skills imbalances, and achieve a 5-10 percent savings in management expenses through comprehensive, creative management reforms, DOE will accelerate workforce planning and work with the Office of Personnel Management to conduct complex-wide organizational surveys to analyze and evaluate DOE field and headquarters redundancies, fragmentation and duplication of effort.

Competitive Sourcing
We are initiating formal competitive sourcing reviews under the provisions of Office of Management and Budget Circular A-76 on approximately 1,000 positions. In addition, line managers are planning other reviews that may lead to formal studies. The longer-term goal is to conduct reviews on 50 percent of the Department's inventory of federal positions that are not inherently governmental.

Improved Financial Management
We will continue to build on the Department's unqualified audit opinion on the consolidated financial statements and work to better integrate financial, budget, and program information in order to provide cost information related to performance. Key to the success of this initiative is the completion of the Financial Management module of the Department's Corporate Management Information Program (CMIP).

E-Government
In order to make better use of computer information systems to improve management, promote efficient use of resources, and make our systems provide more people-friendly information, the Department will strengthen its Information Technology investment portfolio by linking investment control processes, using enterprise architecture, and improving security policies and capital planning.

Budget and Performance Integration
We have strengthened the Department's ability to measure performance by establishing the Program Analysis and Evaluation Office and developing a five-year planning, programming, budgeting and evaluation process. Building on the integration of performance metrics into our FY 2002 budget submission, we are improving the performance measures contained in this request and will continue to improve performance measures and their integration into the FY 2004 budget. These improvements will produce clear, quantifiable outcomes to support budget requests.

Applied Research and Development (R&D) Investment Criteria
The President's management initiative on applied R&D calls for improved investment criteria to better focus programs on linkages to Presidential priorities, market justification, cost-sharing targets and performance outcomes. Our first phase of improvement is reflected in the budgets for Fossil Energy, Nuclear Energy, and Energy Efficiency and Renewable Energy programs. In FY 2004, all applied R&D activities in the Department will use these improved investment criteria.

Reporting on Progress

Shortly after arriving at the Department, Secretary Abraham identified a list of priorities which were used to guide preparation of the FY 2002 budget. Following is a status report on these priorities.

In order to *enhance complex-wide safeguards and security* efforts we are bringing in outside experts to improve and streamline the Department's safety and security. While bolstering our own safeguards and security, the Congress provided us with $368.7 million in FY 2002 Supplemental funds to enhance post-September 11th security.

In order to eliminate programs that have completed their mission, are redundant, ineffective or obsolete, review all private-sector subsidies and maximize cost-sharing opportunities, and complete promising research and development projects where investment installments are nearly complete, we are:

- Completing a top-to-bottom review of the entire Environmental Management program, identifying systemic weaknesses and proposing a new way to do business in the program.

- Completing benchmarking activities for our science laboratories to ensure that they are operating efficiently and evaluating whether current DOE requirements add value and are consistent with other Federal agencies.

- Working with the Office of Management and Budget, as the lead for the entire Federal Government, to develop investment criteria for applied research and development. Beginning in Fiscal Year 2003, we are using these investment criteria to ensure better management of, and accountability for, the Department's research and development portfolio. They will be further refined and carried through the development of the FY 2004 budget.

- Initiating a process by which the Department's Program Secretarial Officers submit their highest priority objectives and related performance measures on an annual basis to the Deputy Secretary. This information will be tracked throughout the year and will be used to identify issues that may impede the achievement of these mission objectives.

In order to establish baselines and improve accountability for projects and capital asset management we have:

- Issued "Program and Project Management for the Acquisition of Capital Assets," (DOE Order 413.3) a major comprehensive resource to address all aspects of major project and program management and improve accountability for project and capital asset management.

- Expanded the concept of the "Chief Operating Officer's Watch List" to monitor all significant major construction projects. This useful tool provides high visibility and increased management to projects that exhibit early warning signs of trouble. In addition, we are placing much greater emphasis on acquisition planning, incorporating better measurements of performance, conducting earlier independent reviews, ensuring appropriate senior management oversight, and providing real-time feedback to influence better outcomes.

In order to eliminate unnecessary layers of management, direct personnel to high-priority missions and achieve a 5-10 percent savings in management expenses through comprehensive management reform we have:

- Established two new administrative elements within the NNSA to clarify lines of authority and accountability – Facilities and Operations to oversee security, environment, safety, health, technical and management support for construction projects, and centralized support for all field-based activities, and Management and Administration to manage all finance, planning, administration, human resources, procurement, and information technology. NNSA is also taking action to streamline and clarify the chain of command and simplify the headquarters-field management structure.

- Strengthened the role of the Under Secretary for Energy, Science and Environment and given him direct line management responsibility for Energy Efficiency and Renewable Energy; Science; Environmental Management; Civilian Radioactive Waste Management; Environment, Safety, and Health; Fossil

Energy; Nuclear Energy, Science and Technology; and Worker and Community Transition.

- Implemented the Project Management Career Development Program to enhance employee technical skills as recommended by the National Research Council.

- Modified the performance evaluation system for the Department's Senior Executives making them more accountable for ensuring program success. These modifications will flow down to the General Schedule employee level during FY 2002.

- Consolidated the Office of Assistant Secretary for International Affairs and the Office of Policy to create a new Office of the Assistant Secretary for Policy and International Affairs.

- Strengthened the Office of Independent Oversight and Performance Assurance by adding environment, safety, health and security oversight to its responsibilities and aligning the office directly under the Deputy Secretary.

- Separated the Office of the Chief Information Officer from the Office of Security and Emergency Operations and elevated the Chief Information Officer to report directly to the Deputy Secretary, and

- Merged the Offices of the Chief Financial Officer and Management and Administration to create the Office of Management, Budget and Evaluation.

Bringing Greater Fiscal Accountability

The newly consolidated Office of Management, Budget and Evaluation (OMBE) added a new function, Program Analysis and Evaluation, to bring rigorous analysis and long-term budgeting of program plans and funding proposals. These improvements will benefit the Department in the coming year and beyond.

OMBE will also serve as the linchpin to improve the integration of the Department's strategic planning, budgeting and project management activities through the creation of a multi-year planning, programming, budgeting and evaluation capability. The National Nuclear Security Administration (NNSA) Act required the NNSA to submit a Five-Year Nuclear Security Program to the Congress in FY 2002. The Department is expanding this effort to conduct long-term planning for the entire Department of Energy in FY 2004.

The FY 2003 budget submission reflects efforts to better define and more properly integrate our performance measures and budget. The Department is identifying better outcome measurements to fully integrate financial, program, and oversight information.

We will also continue to examine the investment criteria for all of the Department's research and development programs to ensure that our investment dollars go toward the most meritorious efforts, support our overarching National Security mission, and better inform budget formulation to improve the effectiveness of our research and development programs.

Investing in Our Priorities – Highlights of the FY 2003 Budget

The Department of Energy's FY 2003 budget request of $21.9 billion is $582.2 million above the FY 2002 Appropriation. As described here, the Department's budget request proposes investments in the things we do best, emphasizes solutions for the future, and provides significant benefits to the public.

National Security Programs

The FY 2003 budget request for the National Nuclear Security Administration (NNSA) is $8.04 billion, a $433 million increase above the FY 2002 funding level. The increase supports the Administration's nuclear defense requirements and the national security needs arising from the September 11th attacks.

Meeting Our National Defense Requirements
For more than 50 years, America has relied on nuclear weapons to ensure its national security. Designed, built, and tested by the Department of Energy and its predecessor agencies to meet Department of Defense requirements, nuclear weapons helped win the Cold War and continue to be a key strategic component of our Nation's security posture. With the end of the Cold War, the Department faces new and equally complex challenges. One of the most critical is maintaining the aging nuclear weapons stockpile in the absence of underground testing. This is the mission of the NNSA's **Stockpile Stewardship Program**.

In January of this year, the Department of Defense completed the Congressionally-directed Nuclear Posture Review (NPR) to lay out the direction for U.S. nuclear forces over the next five to ten years. Although the NPR changes the role of nuclear weapons in U.S. national security, nuclear weapons are a required element of the New Triad, which is composed of both nuclear and non-nuclear offensive strike systems, active and passive defense, and a revitalized defense infrastructure. We will continue to:

- Maintain nuclear weapons capability (without underground nuclear testing).
- Develop a stockpile surveillance engineering base.
- Refurbish and extend the lives of selected warheads.
- Maintain a science and technology base needed to support nuclear weapons.

Overall, the New Triad depends on a healthy program for stockpile stewardship and peer-review-based certification, as well as a robust infrastructure for nuclear weapons production.

For Stockpile Stewardship, the FY 2003 budget supports the NPR by requesting $5.87 billion in the **Weapons Activities** budget, a $306 million increase over the FY 2002 funding level. The highest priority of Stockpile Stewardship is to ensure the operational readiness of nuclear weapons (**Directed Stockpile Work (DSW))** through surveillance, maintenance, design, manufacturing, and life extension activities required to maintain the stockpile and annual certification. Funding for DSW will increase in FY 2003 by $190 million, or 18 percent.

As responsible stewards of the weapons stockpile, the Department, through NNSA, invests in advanced scientific and manufacturing capabilities to ensure the long-term capability to assess weapon status, extend weapon life, and certify that the stockpile remains safe, secure and reliable without nuclear testing. **Campaigns** exist to develop these capabilities. To enable the Secretary of Energy to annually certify the safety, reliability and performance of our Nation's nuclear weapons, the Department requires state-of-the-art scientific simulation capabilities and advanced facilities to assess and certify replacement components for weapons. The Department's Advanced Simulation and Computing Campaign (formerly the Accelerated Strategic Computing Initiative) and construction of the world's largest scientific laser, the National Ignition Facility are two examples of the large scale and technological sophistication required in this effort. In addition, the Department will continue to support the reestablishment of a plutonium pit manufacturing capability now focused at the Los Alamos National Laboratory, a priority effort of the NNSA. Overall, the FY 2003 budget requests a total of $2.07 billion for Campaigns.

Facing New National Security Challenges
November 2001 marked a new era in the United States' relationship with Russia – one described as the end of the Cold War. The Department worked closely with the White House to review the existing nonproliferation programs that were a vestige of the 1990's and to enunciate a new nuclear

nonproliferation agenda. Presidents Bush and Putin reached agreement on a number of national security issues to control the proliferation of nuclear materials. In describing the agreements, President Bush stated, "We're transforming our relationship from one of hostility and suspicion to one based on cooperation and trust, that will enhance opportunities for peace and progress for our citizens and for people all around the world. The challenge of terrorism makes our close cooperation on all issues even more urgent. Russia and America share the same threat and the same resolve. We will fight and defeat terrorist networks wherever they exist. Our highest priority is to keep terrorists from acquiring weapons of mass destruction."

The United States and Russian experts will work together to share information and expertise to counter the threat from bioterrorism, improve the physical protection and accounting of nuclear materials, and prevent illicit nuclear trafficking. Shortly after the Bush/Putin announcement, Secretary Abraham formalized the expansion of U.S. – Russian efforts to strengthen nuclear material protection with Russian Federation Minister Alexander Rumyanstev. They agreed on the necessity of closer cooperation to enhance the nuclear weapons non-proliferation regime, improve measures on nuclear materials physical protection, control and accounting, prevent illegal trafficking, and improve the handling of nuclear and radioactive materials. They also agreed to increase protection of fissile materials to strengthen international security and bolster safety and security in the peaceful use of atomic power.

The Administration is fully committed to a major effort in this area. The $1.11 billion budget request for FY 2003 for the **Defense Nuclear Nonproliferation** program, a downpayment on that commitment, fully supports the U.S. policy on bilateral cooperation. In FY 2002, the program also received $223 million in Supplemental Appropriations to accelerate priority U.S/Russian program efforts in response to the September 11th attacks.

Within the FY 2003 request is funding to accelerate the disposition of weapons-grade plutonium. After a lengthy National Security Council review that reexamined more than 40 disposition alternatives, on January 23, 2002, Secretary Abraham announced the Department's revised disposition strategy for plutonium, citing an "increased urgency" after September 11th to move forward with the disposition of these materials. Previously, the government endorsed a dual-track approach to dispose of weapons-grade plutonium including turning some of the material into mixed oxide fuel (MOX) reactor fuel and immobilizing the remaining plutonium in self-protecting radioactive glass logs for long-term storage. The new strategy accomplishes disposition entirely through MOX, saving the need for nearly $2 billion in immobilization funding, decreasing plutonium storage costs, and facilitating the closure of the Department's former Nuclear Weapons Complex sites.

This budget includes $350 million for U.S. Surplus Fissile Materials Disposition activities, including $126 million to proceed with construction of the MOX approach, a $57.3 increase over the FY 2002 funding level. The MOX conversion process is expected to cost $3.8 billion over 20 years, and funds the construction of facilities at DOE's Savannah River Site in South Carolina. Construction of the facilities is set to begin in FY 2004. The budget request also provides $34 million for Russian Plutonium Disposition, a $15 million increase over the FY 2002 funding level, primarily to support Russian efforts to dispose of surplus plutonium through the mixed-oxide fuel approach.

Homeland Security

After September 11th, as the Nation's attention turned toward Homeland Security, it became clear that the Department of Energy is critical to our domestic security. The Department of Energy has developed expertise in the detection of nuclear materials and the capability to respond to emergencies involving them including capabilities in the detection of chemical and biological threats. The Department's expertise and assistance to first responders cuts across programmatic disciplines and relies heavily on the expertise of our national laboratories. Examples of how DOE's technical expertise is advancing Homeland Security include:

- Development of a system that integrates chemical detection and emergency response measures in mass transit systems. A prototype, developed by Argonne

and Sandia National Laboratories, has been tested in the Washington, D.C. subway system;

- Federal authorities used a decontamination formulation developed at the NNSA's Sandia National Laboratories to help rid Capitol Hill buildings of anthrax. This benign chemical and biological agent neutralizes anthrax in minutes;

- Law enforcement officials are working to identify the anthrax used in attacks by engaging DNA sequencing expertise at Los Alamos National Laboratory.

Because America's energy supply is essential to a strong economy and national security, it is a critical component of a Homeland Security strategy. Failure to meet increasing energy demand and vulnerability to disruptions from natural or malevolent causes could compromise our economic and national security and alter the way we live our lives. The Department of Energy plays a lead role in the defense of our Nation's energy security. An example of the work DOE provides to energy operators is a new security assessment process, which was based on the risk-assessment tools and techniques used originally by Sandia National Laboratories to protect U.S. nuclear weapons facilities. Operators of U.S. dams, hydroelectric facilities, and power transmission systems are making their sites less attractive targets to terrorists by providing a magnifying-glass examination of a facilities' unique situation – its potential adversaries, vulnerabilities, consequences of attack and existing security measures and then providing cost-benefit analyses of possible security upgrades.

The FY 2003 budget includes $27.7 million for an Energy Security and Assurance program managed by the Office of Emergency Operations. This activity will support national security by protecting the Nation against severe energy supply disruptions. The Department will work with the private sector to provide technical expertise to identify system critical components and interdependencies, identify threats to energy systems, undertake or recommend actions to correct or mitigate vulnerabilities, plan for response and recovery to system disruptions, support the National Infrastructure Simulation and Analysis Center (NISAC), and provide technical response support during energy emergencies.

Safeguards and Security
The Department's request for Security and Safeguards is $1.01 billion. Excluding FY 2002 supplemental appropriations that provided one time funding of $116.7 million to bolster security in the aftermath of the September 11th attacks, the FY 2003 request is 7.9 percent higher than the FY 2002 enacted level. The FY 2003 request reflects both increased and decreased safeguards and security needs. In particular, increased requirements in the NNSA are reflected in a 13.6 percent ($61.1 million) increase over FY 2002 (excluding supplemental appropriations); and reduced requirements in Environmental Management Defense Facilities Closure Projects are reflected in a 31.2 percent funding decrease commensurate with the planned removal of special nuclear material from Fernald and Rocky Flats and completion of security upgrades in Miamisburg this year.

Energy Programs

The FY 2003 budget for energy programs totals $2.4 billion. This request supports the President's National Energy Policy direction to focus federal investment on future energy solutions and the President's Management Agenda direction to focus R&D resources where Federal investment makes a difference. About 60 percent is dedicated to energy efficiency and renewable energy programs.

In 2001, the Secretary directed a major top-to-bottom review of the programs and activities in our Energy Efficiency and Renewable Energy programs to ensure that they conform with the principles of the President's National Energy Policy, are an appropriate Federal role and responsibility, and meet the needs of the 21st Century. Affirming the Administration's commitment to conservation, efficiency and renewable energy, the Department proposes for these energy programs a total of $1.31 billion, within which are major new programmatic initiatives in climate and transportation.

In FY 2003, DOE and OMB piloted a major initiative – to be expanded ultimately to all other Departments and agencies – to evaluate applied R&D programs and projects against empirical, objective criteria to ensure that, in addition to their scientific merits, these programs and projects are appropriate activities for the Federal government, are in accord with the principles of the National Energy Policy, and hold the most promise for delivering a product that will benefit the American people. As a result of these evaluations, some projects were terminated, some resources were redirected to maximize delivery of public benefits, and the activities proposed for funding in FY 2003 will deliver real services to the taxpayers or have a direct pay-off in long-term energy solutions.

Working toward the future

The President's National Energy Policy challenged our Nation to use technology to enhance the diversity of our energy supplies, provide a reliable and affordable source of energy for Americans, while maintaining a commitment to environmental protection. The budget meets this challenge by promoting a wide diversity of energy supply options and pushing technical innovation forward.

The budget makes a strong investment in Energy Efficiency and Renewable Energy programs. A total of $1.31 billion is requested in FY 2003 to develop and deploy efficient, clean energy technologies to meet our Nation's energy needs, enhance our environment, and strengthen our national competitiveness. The technology investments proposed in this budget for energy efficiency and renewable energy are forward looking and hold the potential of dramatic benefits for the Nation's energy future.

A key element in focusing on the future relates to **fuel cells** and the move toward a "hydrogen economy." These technologies promise to provide an ultra-clean, ultra-efficient source of energy to power automobiles, provide on-site power, and meet large-scale utility power requirements. Fuel cells operate much like a battery, turning oxygen and hydrogen into electricity in the presence of an electrically conductive material called an electrolyte. As long as there is a constant source of fuel, fuel cells will generate electricity. The vision of building an energy infrastructure that uses hydrogen as an energy carrier – a concept called the "hydrogen economy" – describes the path toward full commercial application of hydrogen energy technologies envisioned to power the fuel cells of the future.

The newly launched **FreedomCAR** program is a technology partnership with the auto industry with the long-term goal to enable mass production of hydrogen-powered fuel cell vehicles and the hydrogen delivery infrastructure to support them. The partnership also supports continued research in near-term technologies that will reduce petroleum consumption and greenhouse gas emissions. The FY 2003 budget includes $150.3 million for FreedomCAR, a $23.1 million increase over funding provided in FY 2002 for DOE's portion of the predecessor interagency Partnership for a New Generation of Vehicles. To accomplish its mission, FreedomCAR will include technical support from both the transportation and power technologies/hydrogen programs.

In addition to addressing the transportation sector of the economy, this budget also focuses on the future of electric power generation and transmission. The Department is improving how we transmit power through the development of advanced technologies in **high-temperature superconductivity** ($47.8 million, a $14.3 million increase over FY 2002). Superconducting materials have the ability to conduct electrical current with no resistance and at extremely low energy losses. Their capacity to efficiently handle large amounts of current can be applied to both electric devices and to electricity transmission. This funding also supports the **Superconductivity Partnership Initiative**, a 50 percent industry cost-shared effort working to develop advanced electrical systems, including power cables, transformers, and generators using the latest high-temperature superconducting wire for operating use.

Another important feature of the Renewable Energy Resources budget is a shift in the **Wind Energy Systems** program ($44.0 million.) Over the past 20 years, the cost of wind generated electricity has dropped by a factor of 20, while becoming the fastest growing energy supply source in the United States and worldwide. In light of this success, it makes sense to move this R&D toward an area in greater need of innovation. Accordingly, the Wind program is shifting resources to focus on technologies that operate cost competitively in less windy areas. Advancement in this area could

dramatically expand the application of this technology and expand wind energy use throughout the country.

The FY 2003 budget, like the President's National Energy Policy, recognizes that the U.S. energy future must include coal. More than 600 coal-burning generators today account for more than half of the electricity Americans consume. This budget proposes $375.1 million for coal and other power systems – of which the **President's Coal Research Initiative** is $325.6 million. The Coal Research Initiative maintains the President's commitment to a $2 billion, 10-year Clean Coal Power program and goes a step farther by proposing an integrated effort that includes ongoing coal R&D efforts and the Clean Coal Technology Demonstration program.

The President's Coal Research Initiative will develop and demonstrate clean coal technologies, concentrating on electric power generation to expand the use of coal in an environmentally clean and efficient manner. Low-cost energy is important to a strong economy and coal provides the United States with a low cost, reliable and secure energy source. In the future, coal could also be one of the lowest cost sources of hydrogen. The challenge to the expanded use of coal is to be able to use it cleanly without driving up the cost. The President's Coal Research Initiative will help to develop technology options that will reduce emissions from existing power plants and essentially eliminate emissions from future plants while keeping costs down.

The FY 2003 budget request supports the expanded use of nuclear power for our energy future. Nuclear energy supplies 20 percent of the Nation's electricity and produces no harmful air emissions. The Department's efforts are focused on removing institutional, regulatory and technical barriers to building and operating new nuclear plants. This budget request proposes to launch a major new nuclear initiative, **Nuclear Power 2010**, in cost-shared cooperation with industry. The objective of Nuclear Power 2010 is to develop advanced nuclear technologies and demonstrate new regulatory processes that will result in startup of new plants by 2010. We are also working with the leading nuclear nations to develop **Generation IV** nuclear energy systems. These are the next generation of reactor and fuel cycle technologies, available after 2010 but before 2030 that are even safer, more reliable, economic and proliferation resistant. The FY 2003 budget request supports initiation of research and development on the most promising Generation IV nuclear technologies.

Another key element in focusing on the future relates to climate. In June 2001, the President announced that the Administration's climate change policy will be science-based, and it will encourage research breakthroughs that lead to technological innovation. To advance and bring focus to climate change science and technology, the President created two new initiatives: the Climate Change Research Initiative and the National Climate Change Technology Initiative. The Administration is committed to funding high-priority areas where investments can make a difference. These new initiatives complement and help prioritize ongoing research funded under the U.S. Global Change Research Program and related technology research programs that address climate change. The National Climate Change Technology Initiative brings focus to an existing base of research and development in climate change technologies, primarily at DOE, EPA, and USDA. The Department proposes $40 million for this effort to enhance funding dedicated to priority research areas. Specific research areas are being identified through an interagency review process.

This effort will build upon the significant effort DOE is already engaged in for practical solutions to greenhouse gas emissions. The FreedomCAR program holds the promise of an emission-less, clean source of power for automobiles, which are currently the largest source of greenhouse gas emissions in the United States. Electric utilities, which currently account for about one-third of carbon dioxide emissions, will see benefits from continued progress in clean coal technologies and the expanded used of Nuclear Power.

Maximizing Public Benefit
This budget also emphasizes programs that directly serve the public immediately. For example:

- The FY 2003 budget includes $277.1 million to support the President's commitment to ultimately assist 1.2 million families through the **Weatherization Assistance** program over ten years. This program reduces energy demand and helps low-income families reduce their energy bills by implementing energy-saving measures. Since 1976, the program has cut the utility bills of 4.7 million households nationwide, allowing low-income families to use more of their hard-earned dollars for food, education, and other needs. This year's request will help 123,000 low-income families to reduce their home energy costs;

- Consumer-oriented programs such as Energy Star®, Building America, and Rebuild America increase over FY 2002 funding levels;

- The Strategic Petroleum Reserve ($180.8 million) is on course to fill to the full capacity of 700 million barrels of oil by the end of FY 2005. The Northeast Home Heating Oil Reserve is continued ($8 million), affording residents of the Northeast continued energy security; and

- Customers in the Pacific Northwest will benefit from expanded infrastructure investment by the Bonneville Power Administration under a proposal for an additional $700 million in new borrowing authority.

Science Programs

The Department of Energy is the third-largest government sponsor of basic research in the United States (after the National Institutes of Health and the National Science Foundation) and the largest government supporter of the physical sciences. DOE has principal responsibility for basic research in high-energy physics, nuclear physics, and fusion energy science. DOE also supports important basic research in the fields of materials science, biology, chemistry, nuclear medicine, and computational science. Office of Science research underpins the applied research and development conducted throughout DOE.

The FY 2003 budget for Science programs is $3.3 billion, a slight increase from the FY 2002 appropriation.

Investing in our scientific strength
This budget protects the Science program's significant national scientific resources and supports greater researcher use of their unique scientific facilities. Funding supports over 6,500 of the Nation's graduate students and postdoctoral researchers who will be the country's next generation of scientists. The large, scientific-user facilities designed, built, and operated by the Office of Science are used annually by over 17,000 researchers, half of whom are from universities.

The budget funds approximately 83,000 hours of operation of the scientific-user facilities, an increase of about 15 percent over the FY 2002 level. The budget increases DOE's investment in facilities infrastructure and excess facility disposal ($42.7 million, total) to ensure prudent stewardship of these resources. This funding will support high-quality research by government and other scientists.

In addition, the budget maintains major project schedules to bring new cutting-edge facilities needed for the future on-line. The budget continues the construction schedule for the **Spallation Neutron Source** at the Oak Ridge National Laboratory in Tennessee. Neutron sources are used to study the structure of many materials leading to discoveries in fundamental materials science that will lead to the design of improved pharmaceuticals, engines, plastics, and other products. When completed, the Spallation Neutron Source will be ten times more powerful than any neutron source now in existence, reestablishing U.S. leadership in this important field.

FY 2003 funding also maintains support for the scheduled DOE contributions to construction of the **Large Hadron Collider** (LHC), which DOE supports as part of an international collaboration. The LHC is an accelerator that brings protons into head-on collisions at higher energies than ever achieved before. This will allow scientists to penetrate still further into the structure of matter and re-create the conditions prevailing in the early universe, just after the "Big Bang."

A focus on the future
The FY 2003 budget includes funds to begin construction of the first of several planned Nanoscale Science Research Centers, which are part of a multi-agency effort. The effort focuses long-term research on the manipulation of matter at the atomic and molecular levels, giving us unprecedented building blocks for new classes of devices as small as molecules and machines as small as human cells. This research could lead to continued improvement in electronics for information technology; higher-performance, lower-maintenance materials for defense, transportation, space, and environmental applications; and accelerated bio-technical applications in medicine, healthcare, and agriculture.

In FY 2003, the initiative will focus on fundamental nanoscale research through investments in investigator-led activities, centers and networks of excellence, as well as the supporting infrastructure. Priority areas include research to enable efficient nanoscale manufacturing, nanotechnology solutions for detection of and protection from biological, chemical, radiological and explosive agents, the education and training of a new generation of workers for future industries, and partnerships and other policies to enhance industrial participation in the nanotechnology revolution. The convergence of nanotechnology with information technology, modern biology, and the physical sciences will reinvigorate discoveries and innovation in many areas of the economy.

The budget also includes a $15.2 million increase for the **Genomes to Life** project ($36.7 million) to study the functional capabilities of groups of microbes. Through the study of biology, using microbes, the Department is working to have a better understanding of the genomic processes in cells. Microbes – organisms that have survived and thrived in extreme and inhospitable environments for 3.7 billion years – may hold the key to breakthroughs in energy production and use, environmental cleanup, medicine and agricultural processing.

An example of how this knowledge can be applied is how it is being used in the detection, identification and treatment of biothreat bacteria. DOE's Joint Genome Institute (JGI) in Walnut Creek, California - a collaboration led by scientists from national laboratories at Berkeley, Livermore, and Los Alamos - is working to develop rapid cost-effective sequencing, or de-coding, of DNA, the genetic blueprint of organisms. Developing a complete DNA sequence catalogue of potential microbial pathogens would provide key information to identify particular bacterial strains, differentiate between closely related infectious and non-infectious bacteria, identify unique "signature" genes for rapid detection, and aid in forensic identification of the strain and potential source of origin. The understanding gained will also be extremely valuable to researchers and agencies to develop medical treatments for illness due to specific biothreat agents.

Environmental Programs

Fifty years of nuclear weapons research and production resulted in the generation of volumes of radioactive waste and environmental contamination. The Department of Energy bears the government's obligation to clean up the sites across the country that supported the Nation's production and testing of nuclear weapons, dispose of spent nuclear fuel from civilian nuclear power plants, dispose of government-owned spent nuclear fuel and high-level radioactive wastes, and protect human health and the environment.

Changing our cleanup approach
Facilities, soil, and groundwater at 114 sites around the country must be cleaned up. The cleanup program in place last year was projected to cost hundreds of billions of dollars and take 70 years or

more to complete. It is unacceptable that not until their great-grandchildren reach middle age will some American's communities and environment be safe. And it also is not right that we would incur these kinds of costs with so little to show for it. In one of his first actions after taking office, Secretary Abraham declared it an urgent priority to conduct a comprehensive, thorough top-to-bottom review of the cleanup program to find ways to greatly accelerate real cleanup and risk reduction, and to reduce the long-term cost to the taxpayer.

The top-to-bottom review is completed and confirms that the Environmental Management program has failed to significantly reduce the risk to the public and the environment left as a legacy by the Cold War. If the program continues along the present path, DOE might never accomplish the very goal the program was established to achieve – the cleanup and closure of the former weapons complex. Previously, the program has emphasized the *management* of risk rather than actually *reducing* risk to the worker, the public, and the environment. The top-to-bottom review describes many weaknesses and provides a strategy and framework to improve performance. Over the next 18 months, the Department will implement these proposals, some of which will require reaching new understandings with State and federal regulators to redirect resources, and effecting fundamental change in how DOE conducts business. The new approach will achieve real and significant site cleanup quicker and at less cost.

The budget request has been structured to foster this process, but it is only a beginning and must be viewed as the first step in the transition. The total FY 2003 request for Environmental Management is $6.7 billion, which includes a new Environmental Management Cleanup Reform initiative of $800 million. If the vast majority of sites agree to the reforms we think are necessary, it is possible the $800 million may become oversubscribed. In this event, the Administration is prepared to support additional resources to complete reforms at the remaining sites.

The new Environmental Management Cleanup Reform account is designed to enable the Department, States, and the taxpayers to realize immediate benefits from real risk reduction, accelerated cleanup, or needed cost and schedule improvements. The funds are meant as an incentive to stimulate discussion with the States and regulators on new, more effective cleanup approaches to ensure that constant or greater funding is available to the States working with DOE to accelerate cleanup. The Department will work with the regulators to agree on approaches that meet mutual goals to accelerate cleanup of materials that pose real risks to human health and the environment, identify alternative methods for less harmful materials, and eliminate unnecessary activities. Once agreement is reached, funds will be made available from the Cleanup Reform account to fund or supplement existing funding from the base budget for the project.

Moving forward with long-term nuclear waste disposal

This budget proceeds with the schedule to achieve a long-term nuclear waste repository. Following the recent announcement of intent to recommend the Yucca Mountain site in Nevada, the budget seeks funding to focus on Nuclear Regulatory Commission license application activities. In announcing his intention to recommend the site in accordance with the Nuclear Waste Policy Act, the Secretary stated his belief that the Yucca Mountain site is technically suitable for development of a repository and identified compelling national interests that require the Nation to complete the repository siting process. A repository is important to advancing our nonproliferation goals, disposing nuclear waste safely and securely, maintaining our energy supply, and protecting our environment.

Description of the Details that Follow

The following sections present a summary level of detail of our FY 2003 request. The FY 2001 and FY 2002 amounts in the following tables and narrative reflect the actual appropriations adjusted to be "comparable" with the FY 2003 request. These "comparability adjustments" ensure that activities are shown in the same place in all three years, even when responsibility for an activity has been transferred between programs.

Department of Energy
Budget by Organization
FY 2003 Budget
(discretionary dollars in thousands)

	FY 2001 Comp Approp	FY 2002 Comp Approp	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Nuclear Security, NNSA					
Weapons activities	4,951,651	5,563,442	5,869,379	+305,937	+5.5%
Defense Nuclear Nonproliferation	864,131	1,026,586	1,113,630	+87,044	+8.5%
Naval Reactors	688,761	689,273	708,020	+18,747	+2.7%
Office of the Administrator	326,148	326,486	347,705	+21,219	+6.5%
Other defense activities	-3,244	-269	——	+269	+100.0%
Total, Nuclear Security, NNSA	**6,827,447**	**7,605,518**	**8,038,734**	**+433,216**	**+5.7%**
Energy, Science and Environment					
Energy					
Energy Efficiency & Renewable Energy	1,180,295	1,301,876	1,312,024	+10,148	+0.8%
Fossil Energy	733,294	861,151	815,978	-45,173	-5.2%
Nuclear Energy Science & Technology	277,105	293,928	250,659	-43,269	-14.7%
Total, Energy	**2,190,694**	**2,456,955**	**2,378,661**	**-78,294**	**-3.2%**
Science					
Office of Science	3,233,515	3,280,711	3,285,088	+4,377	+0.1%
Technical Information Management	9,204	8,049	8,353	+304	+3.8%
Total, Science	**3,242,719**	**3,288,760**	**3,293,441**	**+4,681**	**+0.1%**
Environment					
Environmental Management	6,412,494	6,699,557	6,714,227	+14,670	+0.2%
Civilian Radioactive Waste Management	392,631	377,278	527,045	+149,767	+39.7%
Defense Nuclear Waste Disposal (Rescission)	-75,000	——	——	——	——
Environment, Safety and Health	155,889	130,864	129,868	-996	-0.8%
Worker and Community Transition	41,899	19,825	25,774	+5,949	+30.0%
Total, Environment	**6,927,913**	**7,227,524**	**7,396,914**	**169,390**	**+2.3%**
Total, Energy, Science and Environment	**12,361,326**	**12,973,239**	**13,069,016**	**+95,777**	**+0.7%**
Corporate management					
Corporate management (gross)	852,574	845,147	889,755	+44,608	+5.3%
Corp. Mgmt. (revenues, cost of work, & adjs.)	-41,085	-76,909	-67,608	+9,301	+12.1%
Total, Corporate Management	**811,489**	**768,238**	**822,147**	**+53,909**	**+7.0%**
Cerro Grande Fire Activities	203,013	——	——	——	——
Federal Energy Regulatory Commission					
Excess Fees and Recoveries, FERC	——	——	——	——	——
FERC receipts	-755	-12,184	-12,920	-736	-6.0%
Total, Federal Energy Regulatory Commission	-755	-12,184	-12,920	-736	-6.0%
Total, Department of Energy	**20,202,520**	**21,334,811**	**21,916,977**	**+582,166**	**+2.7%**

Department of Energy
Budget by Appropriation
FY 2003 Budget
(discretionary dollars in thousands)

	FY 2001 Comp Approp	FY 2002 Comp Approp	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Energy and Water Development					
Energy Programs					
Energy Supply	693,481	719,024	696,690	-22,334	-3.1%
Non-Defense Environmental Management	288,816	236,372	166,000	-70,372	-29.8%
Uranium Facilities Maintenance & Remediation	414,102	418,425	382,154	-36,271	-8.7%
Science	3,234,006	3,280,739	3,285,088	+4,349	+0.1%
Nuclear Waste Disposal	192,906	97,278	212,045	+114,767	+118.0%
Departmental Administration	188,336	151,792	169,635	+17,843	+11.8%
Office of Inspector General	33,556	33,856	38,872	+5,016	+14.8%
Total, Energy Programs	5,045,203	4,937,486	4,950,484	+12,998	+0.3%
Atomic Energy Defense Activities					
National Nuclear Security Administration					
Weapons Activities	4,951,651[a]	5,563,442[a]	5,869,379	+305,937	+5.5%
Defense Nuclear Nonproliferation	864,131	1,026,586[a]	1,113,630	+87,044	+8.5%
Naval Reactors	688,761	689,273	708,020	+18,747	+2.7%
Office of the Administrator	326,148	326,486[a]	347,705	+21,219	+6.5%
Total, National Nuclear Security Administration	6,830,691[a]	7,605,787[a]	8,038,734	+432,947	+5.7%
Environmental and Other Defense Activities					
Defense Env. Restoration & Waste Management	5,029,721	5,218,345[a]	4,558,360	-659,985	-12.6%
Defense Facilities Closure Projects	1,101,331	1,092,878	1,091,314	-1,564	-0.1%
Environmental Management Privatization	-2,400	153,537	158,399	+4,862	+3.2%
Environmental Management Cleanup Reform	——	——	800,000	+800,000	N/A
Other Defense Activities	457,653	429,923[a]	472,156	+42,233	+9.8%
Defense Nuclear Waste Disposal	199,725	280,000	315,000	+35,000	+12.5%
Total, Environmental and Other Defense Activities	6,786,030[a]	7,174,683[a]	7,395,229	+220,546	+3.1%
Defense Nuclear Waste Disposal (Rescission)	-75,000	——	——	——	——
Cerro Grande Fire Activities	203,013	——	——	——	——
Total, Atomic Energy Defense Activities	13,744,734[a]	14,780,470[a]	15,433,963	+653,493	+4.4%
Power Marketing Administrations	208,856	214,962	204,750	-10,212	-4.8%
Federal Energy Regulatory Commission	——	——	——	——	——
Subtotal, Energy and Water Development	**18,998,793[a]**	**19,932,918[a]**	**20,589,197**	**+656,279**	**+3.3%**
UE D&D Fund Discretionary Payments	-419,076	-420,000	-442,000	-22,000	-5.2%
Excess Fees and Recoveries, FERC	-755	-12,184	-12,920	-736	-6.0%
Colorado River Basin	——	-26,000	-22,000	+4,000	+15.4%
Total, Energy and Water Development	**18,578,962[a]**	**19,474,734[a]**	**20,112,277**	**+637,543**	**+3.3%**
Interior and Related Agencies					
Fossil Energy Research & Development	442,555	587,163	494,155	-93,008	-15.8%
Alternative Fuels Production	-1,000	-2,000	——	+2,000	+100.0%
Naval Petroleum & Oil Shale Reserves	1,829	17,617	21,069	+3,452	+19.6%
Elk Hills School Lands Fund	36,000	36,000	72,000	+36,000	+100.0%
Energy Conservation	809,842	915,470	904,304	-11,166	-1.2%
Economic Regulation	2,268	2,257	1,617	-640	-28.4%
Strategic Petroleum Reserve	149,483	179,908	188,754	+8,846	+4.9%
Energy Information Administration	78,154	81,199	82,801	+1,602	+2.0%
Clean Coal Technology	104,427	42,463	40,000	-2,463	-5.8%
Total, Interior and Related Agencies	**1,623,558**	**1,860,077**	**1,804,700**	**-55,377**	**-3.0%**
Total, Department of Energy	**20,202,520[a]**	**21,334,811[a]**	**21,916,977**	**+582,166**	**+2.7%**

[a] Includes emergency response supplemental funding in Weapons activities (FY 2001 $5M: FY 2002 $132M), Defense nuclear nonproliferation ($223M), Office of the Administrator ($3M), Defense EM ($8.2M), and Other defense activities ($2.5M).

Department of Energy
Appropriation/Organization Crosswalk
FY 2003 Budget
(discretionary dollars in thousands)

	FY 2003 Request to Congress	Nuclear Security	Energy	Science	Environment	Other
Energy and Water Development						
Energy Programs						
Energy Supply	696,690	——	658,379	8,353	29,958	——
Non-Defense Environmental Management	166,000	——	——	——	166,000	——
Uranium Facilities Maintenance & Remediation	382,154	——	——	——	382,154	——
Science	3,285,088	——	——	3,285,088	——	——
Nuclear Waste Disposal	212,045	——	——	——	212,045	——
Departmental Administration	169,635	——	——	——	——	169,635
Office of Inspector General	38,872	——	——	——	——	38,872
Total, Energy Programs	4,950,484	——	658,379	3,293,441	790,157	208,507
Atomic Energy Defense Activities						
National Nuclear Security Administration						
Weapons Activities	5,869,379	5,869,379	——	——	——	——
Defense Nuclear Nonproliferation	1,113,630	1,113,630	——	——	——	——
Naval Reactors	708,020	708,020	——	——	——	——
Office of the Administrator	347,705	347,705	——	——	——	——
Total, National Nuclear Security Administration	8,038,734	8,038,734	——	——	——	——
Environmental and Other Defense Activities						
Defense Env. Restoration & Waste Management	4,558,360	——	——	——	4,558,360	——
Defense Facilities Closure Projects	1,091,314	——	——	——	1,091,314	——
Environmental Management Privatization	158,399	——	——	——	158,399	——
Environmental Management Cleanup Reform	800,000	——	——	——	800,000	——
Other Defense Activities	472,156	——	——	——	125,684	346,472
Defense Nuclear Waste Disposal	315,000	——	——	——	315,000	——
Total, Environmental and Other Defense Activities	7,395,229	——	——	——	7,048,757	346,472
Total, Atomic Energy Defense Activities	15,433,963	8,038,734	——	——	7,048,757	346,472
Power Marketing Administrations	204,750	——	——	——	——	204,750
Federal Energy Regulatory Commission	——	——	——	——	——	——
Subtotal, Energy and Water Development	**20,589,197**	**8,038,734**	**658,379**	**3,293,441**	**7,838,914**	**759,729**
UE D&D Fund Discretionary Payments	-442,000	——	——	——	-442,000	——
Excess Fees and Recoveries, FERC	-12,920	——	——	——	——	-12,920
Colorado River Basin	-22,000	——	——	——	——	-22,000
Total, Energy and Water Development	**20,112,277**	**8,038,734**	**658,379**	**3,293,441**	**7,396,914**	**724,809**
Interior and Related Agencies						
Fossil Energy Research & Development	494,155	——	494,155	——	——	——
Naval Petroleum & Oil Shale Reserves	21,069	——	21,069	——	——	——
Elk Hills School Lands Fund	72,000	——	72,000	——	——	——
Energy Conservation	904,304	——	904,304	——	——	——
Economic Regulation	1,617	——	——	——	——	1,617
Strategic Petroleum Reserve	188,754	——	188,754	——	——	——
Energy Information Administration	82,801	——	——	——	——	82,801
Clean Coal Technology	40,000	——	40,000	——	——	——
Total, Interior and Related Agencies	**1,804,700**	**——**	**1,720,282**	**——**	**——**	**84,418**
Total, Department of Energy	**21,916,977**	**8,038,734**	**2,378,661**	**3,293,441**	**7,396,914**	**809,227**

NATIONAL NUCLEAR SECURITY ADMINISTRATION

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
National Nuclear Security Administration					
Weapons Activities	4,994,221	5,592,427	5,898,364	+305,937	+5%
Defense Nuclear Nonproliferation	864,657	1,084,419	1,177,630	+93,211	+9%
Naval Reactors	688,761	689,273	708,020	+18,747	+3%
Office of the Administrator	326,148	326,486	347,705	+21,219	+6%
Subtotal, National Nuclear Security Administration	6,873,787	7,692,605	8,131,719	+439,114	+6%
Use of PY balances and other adjustments	-43,096	-86,818	-92,985	-6,167	-7%
Total, National Nuclear Security Administration	**6,830,691**	**7,605,787**	**8,038,734**	**+432,947**	**+6%**

The Department of Energy is required by various laws to enhance U.S. national security through the military application of nuclear technology and to reduce the global danger from the proliferation of weapons of mass destruction. Consistent with the Department's missions, the National Nuclear Security Administration (NNSA) was established as a semi-autonomous agency within DOE to carry out the Department's programs in nuclear weapons, defense nuclear nonproliferation, and naval reactors.

Weapons Activities – National Nuclear Security Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Weapons Activities					
Directed stockpile work	934,393	1,044,230	1,234,467	+190,237	+18%
Campaigns	2,018,644	2,100,118	2,067,834	-32,284	-2%
Readiness in technical base and facilities	1,494,559	1,534,880	1,688,229	+153,349	+10%
Facilities and infrastructure recapitalization program	8,700	196,800	242,512	+45,712	+23%
Secure transportation asset	126,507	161,518	155,368	-6,150	-4%
Safeguards and security	411,418	554,881	509,954	-44,927	-8%
Subtotal, Weapons Activities	4,994,221	5,592,427	5,898,364	+305,937	+5%
Use of PY balances and other adjustments	-42,570	-28,985	-28,985	——	——
Total, Weapons Activities	**4,951,651**	**5,563,442**	**5,869,379**	**+305,937**	**+5%**

PROGRAM DESCRIPTION

One of the statutory missions of the National Nuclear Security Administration (NNSA) is to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapon 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 program also supports national assets for the secure transportation of weapons, weapons components, and special nuclear materials, assets to respond to incidents involving nuclear weapons and materials, and weapons safeguards and security, including cyber security. Federal employees provide direction, management, and oversight of about 25,000 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 in Missouri, the Pantex Plant in Amarillo, Texas, the Y-12 Plant in Oak Ridge, Tennessee, the Savannah River Site in South Carolina, and the Nevada Test Site near Las Vegas, Nevada. NNSA also provides oversight and landlord responsibilities for the Albuquerque, Nevada, and Oakland Operations Offices.

The NNSA is committed to the President's emphasis on performance based budgeting and has strategic objectives: Maintaining and enhancing the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st Century, and ensuring the vitality and readiness of the NNSA's nuclear security enterprise.

The main components of the **Weapons Activities** budget request include Directed Stockpile Work (DSW), Campaigns, Readiness in Technical Base and Facilities (RTBF), the Facilities and Infrastructure Recapitalization Program (FIRP), Secure Transportation Asset (STA), and Safeguards and Security (S&S). The funding for Program Direction activities, except for Secure Transportation Asset, was transferred in FY 2002 to the Office of the Administrator appropriation account.

Directed Stockpile Work (DSW) activities support the NNSA mission to ensure the operational readiness of the nuclear weapons stockpile. These include the maintenance, evaluation, refurbishment, reliability assessment, weapon dismantlement and disposal, research, development,

and certification activities in direct support of each weapon and long-term future-oriented research and development to solve either current or projected stockpile problems. The challenges the program faces include an aging stockpile that must be maintained, a significant potential workload of weapon refurbishment, and an aging workforce and infrastructure in the nuclear weapons complex. The **Nuclear Posture Review (NPR)** of national security related programs has reaffirmed that future weapons refurbishment and life extension for the stockpile are consistent with overall national security policy. The FY 2003 request places a high priority on accomplishing the near-term workload to support 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 and life extension of the stockpile. They are designed to allow NNSA to move to "science-based" judgments for stewardship by relying on experiments, computations, simulation, and surveillance information rather than underground nuclear testing. The science and engineering campaigns activities are focused to provide technologies for the directed stockpile workload and the completion of new scientific and experimental facilities. In **High Energy Density Physics** (formerly **Inertial Confinement Fusion Ignition and High Yield Campaign**), the **National Ignition Facility** (NIF) project remains on track and is scheduled for completion at the end of FY 2008. The **Advanced Simulation and Computing** campaign will continue to improve our computing and simulation capabilities at the laboratories. The **Pit Manufacturing and Certification** campaign continues work on the W88 and planning for a modern pit facility. The readiness campaigns are technology-based efforts to reestablish and enhance manufacturing and other capabilities needed for the future production of weapon components.

Readiness in Technical Base and Facilities (RTBF) supports the underlying physical infrastructure and operational readiness required to conduct weapons activities at the national laboratories, the Nevada Test Site (NTS), the weapons production plants and other supporting sites. Over one-fourth of NNSA's financial resources are devoted to these activities to ensure that principal 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.

Facilities and Infrastructure Recapitalization Program (FIRP) is a direct funded recapitalization program which will fund an integrated, prioritized list of maintenance and infrastructure activities outside of base maintenance and infrastructure efforts to significantly increase the operational efficiency and effectiveness of the NNSA sites. The program is supported by the **Nuclear Posture Review** which calls for a modernized responsive infrastructure by upgrading key facilities with a dedicated refurbishment program.

Secure Transportation Asset (STA) 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 are also included within this activity.

Safeguards and Security (S&S) provides funding for all physical security, personnel security, and cyber security activities at the NNSA landlord sites, specifically the three national weapons laboratories, the Nevada Test Site, and the four plant sites. Funding for security investigations of M&O contractors at NNSA landlord sites is included in the Security Operations request.

PROGRAM HIGHLIGHTS

The FY 2003 request supports the requirements defined by Presidential Directives and the Department of Defense and will:

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

Support all scheduled refurbishment workload, including the ongoing W87, W76, W80 refurbishments and the B61 refurbishment when approved by the Nuclear Weapons Council;

Support an advanced concept initiative, a Phase 6.2/6.2A study for the Robust Nuclear Earth Penetrator, which also maintains weapons design capabilities;

Support planned schedules for development of experimental and computational tools, including related facilities and technologies, necessary to support continued certification of the refurbished weapons and aging weapons components without underground testing;

Maintain the ability to conduct underground nuclear testing, if necessary, consistent with the current 24-36 month policy requirement and implement the recommendation from the study as requested by the Nuclear Posture Review to refine test scenarios and evaluate the cost benefit tradeoffs to sustain the optimum test readiness that best supports the New Triad;

Support manufacture of a certifiable W88 pit in 2003, and continue to develop the capability to certify a pit by 2009, with a goal of achieving an earlier date of 2007;

Support assessment of manufacturing concepts for a Modern Pit Facility;

Maintain warm-standby readiness for all infrastructure at all current facilities and sites;

Increase facility and infrastructure recapitalization efforts to address issues not included in base maintenance and infrastructure efforts;

Address critical skill concerns in Management and Operations contractor employment levels;

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

Develop and implement the highest pay-off engineered solutions to enhance security of nuclear weapons undergoing NNSA over-the-road transportation as part of the Transportation Container Enhancement Program;

Address highest priority safeguards and security requirements, and continue the cyber security program; and

Continue to support the National Center for Counter Terrorism in support of national security needs.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Weapons Activities (FY 2002 $5,563.4; FY 2003 $5,869.4) ..... +$306.0
The request of $5,869.4M, is an increase of 5.5 percent above the FY 2002 comparable appropriation. The increase will support scheduled research and development, maintenance and evaluation, and certification for the stockpile as supported by the **National Posture Review**.

Directed Stockpile Work (FY 2002 $1,044.2; FY 2002 $1,234.5) ..... +$190.3
The FY 2003 request is an 18.2 percent increase over FY 2002 and includes:

Stockpile Research and Development *(FY 2002 $357.0; FY 2003 $467.2)* funds the laboratory efforts needed in the development engineering stages and to assess the safety and reliability of the stockpile as a basis for the Annual Certification to the President. The increased efforts provide for hydrodynamic testing for the W78 and W80, fielding an upgrade to the B83 gas transfer system,

evaluation of three W84 Stockpile Laboratory Test Units, completion of the W78 Joint Test Assembly flight test qualification test, completion of the B61 family baselining final report, a Phase 6.2/6.2A study on the Robust Nuclear Earth Penetrator, and R&D refurbishment activities associated with the W80, W76, and B61 .....+$110.2

Stockpile Maintenance *(FY 2002 $347.9; FY 2003 $401.2)* supports production and installation of limited life components, refurbishment and replacement of aging components, and major refurbishment activities to extend the life of the W87, W76, W80 and B61. The increase is for neutron generator production increased engineering activities for the B61, W80 and W76 life extension programs...+$53.3

Stockpile Evaluation *(FY 2002 $174.4; FY 2003 $197.2)* increases are for increased stockpile laboratory, flight, and surveillance tests, for integrated safety management activities that will implement recommended changes in weapons surveillance policies and procedures, to reduce surveillance backlogs at the Pantex Plant and LANL, and to establish full pit surveillance capability at LLNL...+$22.8

Dismantlement/Disposal *(FY 2002 $26.3; FY 2003 $24.4)* includes safety analysis, disassembly, component characterization and disposal, and reclamation of materials and components and enables the engineering, development, testing, certification, procurement, and refurbishment of containers. The decrease, largely at the Y-12 Plant, is driven by W56 activities and higher priority work in other programs. There is also a decrease at the Pantex Plant for planned efficiencies from contractor management activities..... -$1.9

Production Support *(FY 2002 $132.3; FY 2003 $137.7)* activities are part of the manufacturing efforts to refurbish the nuclear weapons stockpile. The increase is for additional manpower and software maintenance costs at the Kansas City Plant and for added project team coordination at LANL.....+$5.4

Field Engineering, Training and Manuals *(FY 2002 $6.3; FY 2003 $6.9)* provides for technical training and weapons manuals and technical publications. The increase supports weapons modification and alteration activities in the field..... +$0.6

Campaigns (FY 2002 $2,100.1; FY 2003 $2,067.8).....-$32.3
The FY 2003 request is a 1.5 percent decrease from FY 2002 and includes:

Science Campaigns:
Primary Certification *(FY 2002 $50.9; FY 2003 $47.2)* supports experimental activities to develop and implement the ability to certify, without nuclear testing, rebuilt aged primaries to within a stated yield level. The decrease is due to a technical adjustment that moved funding for a subcritical experiment to DSW..... -$3.7

Dynamic Materials Properties *(FY 2002 $90.3; FY 2003 $87.6)* supports the development of experimentally validated predictive material models and physical data of all materials required to assess the performance, safety and reliability of the stockpile. The decrease is due to termination of the weapons activities portion of the nanoscience network and less funding for University Partnerships..... -$2.7

Advanced Radiography *(FY 2002 $82.3; FY 2003 $52.9)* supports research and development technologies for radiography images of imploding surrogate primaries. The R&D effort is focused on defining the requirements of advanced radiography capabilities to support certification of refurbished and replaced primaries. The decrease is a result of deferring further development of the Advanced Hydrodynamics Facility; reducing experiments on proton radiography at LANSCE and an adjustment to the DARHT II commissioning efforts.....-$29.4

Secondary Certification and Nuclear Systems Margins *(FY 2002 $42.4; FY 2003 $47.8)* provides modern computational baselines for stockpiled weapon systems including: radiation sources and dynamics, radiation flow, and determining performance of nominal aged and rebuilt secondaries. Increase supports selected activities such as radiation case dynamics important for near term stockpile

deliverables and the reanalysis of key Nevada Test Site tests for weapons system baseline development..... +$5.4

Engineering Campaigns:
Enhanced Surety *(FY 2002 $32.2; FY 2003 $37.7)* Level of activity increases in advanced concepts development and certification-related testing. Emphasis will begin to shift to support technologies suitable for the next generation of enhanced surety options..... +$5.5

Weapons Systems Engineering Certification *(FY 2002 $25.7; FY 2003 $27.0)* The increase provides support for the refurbishments of the W76 and W80 First Production Units and will enable development of a complete suite of models for the W76 to predict the mechanical energy transmission through manufactured joints..... +$1.3

Nuclear Survivability *(FY 2002 $21.9; FY 2003 $23.4)* demonstrates the capability to support the nuclear survivability of the enduring stockpile. The increase accelerates development of radiation hardened microelectronics for the W76 and sustains development and validation of systems level modeling tools required to qualify the W76 to the nuclear survivability requirement..... +$1.5

Enhanced Surveillance *(FY 2002 $73.7; FY 2003 $77.2)* provides validated component lifetime assessments to support weapons refurbishment decisions and annual assessment of the nuclear stockpile. The increase restores work on higher resolution for x-ray pit tomography; supports the development and deployment of modernized systems-level testers to replace aging and unreliable testers at the Weapons Evaluation Test Laboratory; and the development of non-destructive evaluation tools..... +$3.5

Advanced Design and Production Technologies (ADAPT) *(FY 2002 $68.4; FY 2003 $74.1)* The increase is for readying the production processes that will be required for production of replacement and new parts for the three weapons refurbishments and for deploying tools, systems and procedures necessary to use models-based engineering and manufacturing approaches..... +$5.7

Individually Named Campaigns:
High Energy Density Physics *(FY 2002 $505.4; FY 2003 $451.8)* (Formerly the Inertial Confinement Fusion and High Yield Campaign) Reductions are in **NIF** diagnostics; the NIF experimental program, and a planned decrease in funds for the NIF construction project by $30.9 *(FY 2002 $245.0; FY 2003 $214.1)*. Due to higher priorities to meet NNSA mission requirements, the High Average Power Laser program and the petawatt laser initiative are not funded. Funding supports current operations of the Z machine at Sandia; and the Omega Facility at the University of Rochester/LLE.....-$53.6

Advanced Simulation and Computing (ASCI) *(FY 2002 $717.6; FY 2003 $724.9)* The increase is a result of higher computer maintenance costs related to the conclusion of ASCI White's contracted maintenance and increased computer visualization costs..... +$7.3

Pit Manufacturing and Certification *(FY 2002 $194.5; FY 2003 $ 194.5)* funding supports near-term focus on the manufacturing and certification of W88 pits and planning for the Modern Pit Facility.... +$ 0

Readiness Campaigns:
Stockpile Readiness *(FY 2002 $46.3; FY 2003 $61.0) (Formerly the Secondary Readiness Campaign)* The increase reflects the acceleration of equipment procurements to replace or restore production capability and modernize facilities at the Y-12 Plant.....+$14.7

High Explosives Manufacturing and Weapons Assembly/ Disassembly *(FY 2002 $6.7; FY 2003 $12.1)* Supports present and long-term manufacturing capabilities for high explosive fabrication and weapon assembly/disassembly operations. Increase supports DSW life extension programs..... +$5.4

Nonnuclear Readiness *(FY 2002 $17.9; FY 2003 $22.4)* ensures present and long-term manufacturing capabilities for non-nuclear production. The increase supports modernization of these current capabilities ..... +$4.5

Materials Readiness *(FY 2002 $1.2; FY 2003 $0)* The decrease reflects a realignment of activities at the Y-12 Plant and other sites into other programs ..... -$1.2

Tritium Readiness *(FY 2002 $122.7; FY 2003 $126.3)* The increase covers incremental increases in the cost of fuel for the Tennessee Valley Authority's Watts Bar and Sequoyah reactors and an increased level of activity in the Commercial Light Water Reactor (CLWR) program..... +$3.6

Readiness in Technical Base and Facilities (FY 2002 $1,534.9; FY 2003 $1,688.2)..... +$153.3
The FY 2003 request is a 10 percent increase over FY 2002 and includes:

Operations of Facilities *(FY 2002 $903.2; FY 2003 $949.9)* provides funds for the operation, physical infrastructure and on-going maintenance of facilities for activities conducted in the Campaigns and Directed Stockpile Work. At LANL $92.2 million supports facilities associated with the Pit Manufacturing and Certification campaign. The increase supports refurbishment of the Z machine at SNL, the counter terrorism center at NTS, additional operating support for construction projects, and escalation of maintenance activities.....+$46.7

Program Readiness *(FY 2002 $192.3; FY 2003 $208.1)* includes select activities that support more than one NNSA facility, Campaign or Directed Stockpile Work activity, and unique test readiness activities. The increase is a result of the Nuclear Posture Review's support of an enhanced test readiness posture at the **Nevada Test Site** and the national weapons laboratories. As part of the Nuclear Posture Review, the NNSA working with DoD is evaluating the Nevada Test Site for the optimum test readiness time that best supports the New Triad. Pending completion of this study and specific policy change, the FY 2003 request contains $15 million to begin implementing that change in FY 2003. Funding also provides advanced applications and experimentation on the Z machine and supports a variety of critical skills consistent with Chiles Commission recommendations.....+$15.8

Special Projects *(FY 2002 $37.9; FY 2003 $37.7)* supports a variety of activities including **Laboratory Critical Skills Development** to implement Chiles Commission recommendations *(FY 2002 $5.2; FY 2003 $5.4)*; the **Los Alamos School District** *(FY 2002 $8.0; FY 2003 $8.0)*; RTBF Technical Engineering and Support *(FY 2002 $6.0; FY 2003 $9.2)*; and LANL land transfer activities *(FY 2002 $1.9; FY 2003 $3.9)*. Decrease in part, reflects the final DOE payment in FY 2002 to fully endow the **New Mexico Educational Enrichment Foundation** at $25 million..... -$0.2

Nuclear Weapons Incident Response *(FY 2002 $89.9; FY 2003 $91.0)* has experienced an increase in activities since the September 11th terrorist attacks. Funding provides for the **Accident Response Group (ARG)** *(FY 2002 $12.1; FY 2003 $12.4)* which responds to potential US nuclear accidents; the **Nuclear Emergency Search Team (NEST)** *(FY 2002 $43.2; FY 2003 $44.2)* which responds to nuclear terrorist threats ..... +$1.1

Material Recycle and Recovery *(FY 2002 $94.3; FY 2003 $98.8)* supports Y-12 Plant's Enriched Uranium Operations; LANL's work under Defense Nuclear Facilities Safety Board Recommendation 94-1; and operations of the Special Recovery Line and material accountability activities..... +$4.5

Containers *(FY 2002 $8.0; FY 2003 $17.7)* and **Storage** *(FY 2002 $10.4; FY 2003 $14.6)* The increases are at the Pantex Plant for additional containers to meet requirements of the Defense Nuclear Facility Safety Board recommendation 99-1; and repackaging pits into sealed inserts ....+$13.9

Construction *(FY 2002 $198.9; FY 2003 $270.4)* supports project construction and the Project Engineering and Design activities. Funding provides for the mortgages for all ongoing projects, including the **Microsystems and Engineering Sciences Applications (MESA) Complex** at Sandia National Laboratories *(FY 2002 $63.5; FY 2003 $75.0)*. There are four new start construction projects

in FY 2003 and a FY 2003 Project Engineering and Design (PED) line item *(FY 2002 $0; FY 2003 $15.5*).....+$71.5

Facilities & Infrastructure Recapitalization Program (FY 2002 $196.8; FY 2003 $242.5).....+$45.7
The increase supports the recapitalization, facility disposition and infrastructure planning of the nuclear weapons complex consistent with the newly-revised 10 Year Comprehensive Site Plans.

Secure Transportation Asset (FY 2002 $161.5; FY 2003 $155.4)..... -$6.1
The decrease is a function of the FY 2002 $25 million Supplemental Appropriation in response to increased requirements from the September 11th attack. Funding provides personnel, equipment and training for secure transport services for the nuclear weapons complex.

Safeguards and Security (FY 2002 $554.9; FY 2003 $510.0).....-$44.9
The decrease is a function of the FY 2002 $106 million Supplemental Appropriation to fight terrorism and secure NNSA facilities. Funding supports the hiring and training of additional protective force personnel, initiation of physical security upgrades and cyber security infrastructure upgrades.

Defense Nuclear Nonproliferation – National Nuclear Security Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Defense Nuclear Nonproliferation					
Nonproliferation and verification R&D	239,721	322,306	283,407	-38,899	-12%
Nonproliferation and international security	95,904	75,741	92,668	+16,927	+22%
Nonproliferation programs with Russia					
International nuclear materials protection and cooperation	170,452	291,900	233,077	-58,823	-20%
Russian transition initiatives	50,759	57,000	39,334	-17,666	-31%
HEU transparency implementation	14,592	13,950	17,229	+3,279	+24%
International nuclear safety	20,581	21,100	14,576	-6,524	-31%
Soviet design reactor safety program	46,500	——	——	——	——
Elimination of weapons-grade plutonium production program	——	——	49,339	+49,339	n/a
Fissile materials disposition	226,148	302,422	448,000	+145,578	+48%
Total, Nonproliferation programs with Russia	529,032	686,372	801,555	+115,183	+17%
Program direction	——	——	——	——	——
Subtotal, Defense Nuclear Nonproliferation	864,657	1,084,419	1,177,630	+93,211	+9%
Use of prior year balances	-526	-57,833	-64,000	-6,167	-11%
Total, Defense Nuclear Nonproliferation	**864,131**	**1,026,586**	**1,113,630**	**+87,044**	**+8%**

PROGRAM DESCRIPTION

NNSA's Office of Defense Nuclear Nonproliferation (NN) prevents the spread of materials, technology, and expertise relating to weapons of mass destruction (WMD), detect the proliferation of weapons of mass destruction worldwide, provide for international nuclear safety, and eliminate inventories of surplus fissile materials 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. Work will be done in the following major areas:

Nonproliferation and Verification Research and Development advances proliferation detection, nuclear explosion monitoring, and chemical and biological response technologies and conducts demonstrations to find the means for timely detection of potential threats to national security.

Nonproliferation and International Security (formerly Arms Control and Nonproliferation) will continue efforts to detect, prevent, and reverse proliferation by securing WMD materials, technology, and expertise including strengthening international nonproliferation regimes, promoting transparent nuclear reduction, limiting the production and use of weapon-usable fissile materials around the world, reducing the size of the Russian nuclear weapons complex, and controlling sensitive exports.

Nonproliferation Programs with Russia includes the following programs:

International Nuclear Materials Protection and Cooperation (formerly International Materials Protection, Control, and Accounting) installs physical security and accounting upgrades to secure Russian nuclear weapons and weapons-usable material against theft, consolidates Russian nuclear material into fewer sites where enhanced security systems have already been installed, converts weapons grade Highly Enriched Uranium (HEU) to Low Enriched Uranium (LEU), and tracks nuclear smuggling and threat cases.

Russian Transition Initiatives combines the Initiatives for Proliferation Prevention and Nuclear Cities Initiatives Programs that together work to redirect Russian nuclear weapons expertise through engaging former weapons scientists in non-military research and commercial ventures.

Highly Enriched Uranium (HEU) Transparency Implementation monitors the conversion and blend-down of Russian weapons-usable HEU to LEU product delivered to the U.S for sale by the United States Enrichment Corporation (USEC). This program implements the nonproliferation aspects of a February 1993 agreement between the U.S. and the Russian Federation covering the U.S. purchase, over twenty years, of LEU derived from at least 500 metric tons of highly enriched uranium removed from dismantled Russian nuclear weapons.

International Nuclear Safety and Cooperation strengthens national security by helping to prevent nuclear incidents and accidents at foreign nuclear facilities, mitigating the consequences of accidents should they occur.

Elimination of Weapons-Grade Plutonium Production will assist the Russian Federation to cease its production of weapons-grade plutonium by replacing of plutonium producing nuclear reactors with fossil fueled power plants.

Fissile Materials Disposition conducts activities in the U.S. and Russia to dispose of surplus weapons-grade fissile materials that pose a threat to the U.S. if acquired by hostile nations or terrorist groups for the manufacture of bombs. It includes the MOX Fuel Fabrication Facility that is central to the disposition of plutonium by conversion into nuclear reactor fuel. U.S. and Russian Federation efforts proceed in parallel as specified in the September 2000, Plutonium Management and Disposition Agreement.

The Office of Defense Nuclear Nonproliferation is committed to the President's emphasis on performance-based budgeting. The following is Defense Nuclear Nonproliferation's strategic objective:

Detect, prevent, and reverse the proliferation of weapons of mass destruction while promoting nuclear safety worldwide.

PROGRAM HIGHLIGHTS

The FY 2003 Request of **$1,113.6 million** is **$87.0 million** above the FY 2002 total appropriation. The FY 2002 appropriation includes a supplemental appropriation of **$223 million** for activities that are of increased urgency after the September 11th terrorist attacks. The original FY 2002 appropriation was **$803.6 million**. Supplemental appropriations were provided in Nonproliferation and Verification R&D (+$78 million), International Nuclear Materials Protection and Cooperation (+$120 million), Russian Transition Initiatives (+$15 million), and International

Nuclear Safety and Cooperation (+$10 million).[1]

The research and development program will place emphasis on efforts that will produce direct near-term application that can be fielded in two years or less. The program is working to transform its products into operational tools that can be used by first responders.

The International Nuclear Materials Protection and Cooperation program will compress its schedule to protect nuclear materials storage sites through the placement of comprehensive upgrade contracts and will accelerate material consolidation and conversion efforts. Second Line of Defense efforts will be expanded sharply starting in FY 2002 and into FY 2003.

Funding of plutonium disposition in the U.S. and Russia will be sharply increased as emphasis is placed on the construction of facilities to convert weapons-grade plutonium into fuel for commercial reactors. After an exhaustive review of alternatives, a path forward has been formulated that is a workable, technologically possible, and affordable solution, that meets U.S. commitments to environmental improvement, energy and national security, and the nuclear nonproliferation policies agreed to by the U.S. and Russia. Under the new approach, the U.S. will utilize the irradiation of MOX fuel to dispose of surplus plutonium, discarding the immobilization approach. Plutonium previously destined for immobilization will be processed in an enhanced MOX Fuel Fabrication Facility, saving about $2 billion relative to the dual-track approach that included immobilization. Plutonium that is the most costly to convert to MOX fuel will be disposed of as waste. There is an increased sense of urgency to our moving forward with the disposition of surplus weapons-grade material to prevent these materials from diversion to terrorists or rogue nations. These programs have been validated and strengthened by the President's discussions with Russian President Vladimir V. Putin, and by subsequent meetings between Secretary Abraham and Russian Federation Minister of Atomic Energy, Alexander Rumyantsev.

SIGNIFICANT FUNDING CHANGES- FY 2002 to 2003 Request ($ in millions)

Nonproliferation and Verification R&D (FY 2002 $322.3; FY 2003 $283.4).....-$38.9
The decrease shown reflects primarily the completion of construction of the Nonproliferation and International Security Center in FY 2002 (-$35.8 million). The FY 2002 Supplemental included $78 million for R&D with substantial increments for Chemical and Biological National Security and Proliferation Detection. The FY 2003 request includes equivalent funding for the research and development provided in FY 2002 as follows:

Chemical and Biological National Security *(FY 2002 $85.2; FY 2003 $69.0)* Decrease reflects substantial front-loading of this program through Supplemental FY 2002 funding resulting in the completion of the demonstration phase of a prototype and development of a more rapidly transportable biological agent detection system.....-$16.2

Proliferation Detection *(FY 2002 $124.1; FY 2003 $121.5)* Decrease reflects completion of system fabrication for an advanced detection system in a UAV and the technology transfer of a prototype wideband RF system for testing..... -$2.6

Nuclear Explosion Monitoring and Supporting activities *(FY 2002 $77.2; FY 2003 $92.9)* Increase reflects transfer of a space instrument fabrication task from DOD.....+$15.7

[1] The FY 2002 supplemental appropriation for Defense Nuclear Nonproliferation also included $3 million for Program Direction activities now consolidated in the NNSA Office of the Administrator.

Nonproliferation and International Security (FY 2002 $75.7; FY 2003 $92.7).....+$17.0
The FY 2003 request includes:

Nonproliferation Policy *(FY 2002 $45.2; FY 2003 $55.0)* Increase is provided to improve the security of nuclear materials, especially in Central Asia, and expand the nuclear weapon dismantlement and transparency program..... $9.8

International Safeguards *(FY 2002 $16.7; FY 2003 $18.7)* Increase in funding to expand physical protection assessments and improvements in countries with U.S.-origin nuclear material, international training in nuclear safeguards and physical protection, and U.S. support of IAEA programs to strengthen international safeguards and protection of nuclear materials and facilities worldwide to prevent theft or diversion of material, sabotage, or acts of terror involving nuclear material or facilities ..... +$2.0

Export Control Operations *(FY 2002 $10.6; FY 2003 $15.5)* The increase supports the development of an analytical infrastructure and technical resources for interagency (Customs, Commerce, NRC, and DOD) efforts to control nuclear and nuclear-related dual-use equipment, materials and technology as part of the broader U.S. nonproliferation and counter-terrorism effort. Funding will also support initiatives to engage foreign governments to apply nuclear export controls as an element in a broader campaign against nuclear terrorism..... +$4.9

Treaties and Agreements *(FY 2002 $3.1; FY 2003 $3.4*) provides resources to respond to nonproliferation requirements of an immediate nature based on unanticipated U.S. national security needs..... +$0.3

Nonproliferation Programs with Russia (FY 2002 $686.4; FY 2003 $801.6).....$115.2
The increase in the group reflects the sharp increase in funding for plutonium disposition reflecting the Administration's decision to proceed with the MOX-only alternative; and somewhat offsetting decreases in programs front-loaded through the FY 2002 Supplemental. The FY 2003 request includes funding for the following programs and their components.

International Nuclear Materials Protection & Cooperation(FY 2002 $291.9;FY 2003 $233.1)
.....-$58.8
Supplemental funding in FY 2002 of $120 million provided acceleration of these program activities and front-loading of project start-up costs going into FY 2003.

Navy Complex *(FY 2002 $65.0; FY 2003 $55.8)* Decrease reflects the ability to place several large comprehensive upgrade contracts during FY 2002 from Supplemental funds, which will result in the accelerated completion of comprehensive upgrades at the 29 remaining sites, 18 months ahead of schedule (–$14.4). Funding is provided to establish the first regional support centers for sustainability efforts to sites that have had rapid upgrades ($5.6)..... -$9.2

MinAtom Weapons Complex *(FY 2002 $59.0; FY 2003 $48.0)* Decrease due to the ability to place several large comprehensive upgrade contracts in FY 2002, resulting in the accelerated completion of comprehensive upgrades for three sites, three years ahead of schedule. Increased funding accelerating security upgrades at six previously off-limit sites; and acceleration of the effort to complete comprehensive upgrades at two Uranium Sector sites.....-$11.0

Material Consolidation and Conversion and Civilian Sites *(FY 2002 $78.0; FY 2003 $65.0)* Decrease due to the ability to sign large conversion contracts during FY 2002, from funds provided in the FY 2002 Supplemental appropriation, which will result in an increase of .6 MTs of HEU converted to LEU during the second half of FY 2002 and FY 2003. Also due to program start-up costs incurred in FY 2002 such as the purchase of long-lead equipment to be installed in early FY 2003.....-$13.0

National Programs and Sustainability *(FY 2002 $53.9; FY 2003 $34.3)* Decrease due to the accelerated completion of Protection Force upgrades in FY 2002 that resulted in improved guard force

response times and survivability at 18 MinAtom sites identified as most vulnerable. Decrease due to the absorption of start-up costs in FY 2002 including the long-lead purchase of equipment for installation of monitoring systems in both FY 2002 and FY 2003 ..... -$19.6

Assessment, Detection and Cooperation *(FY 2002 $36.0; FY 2003 $30.0)* The FY 2003 request includes funding for the **Second Line of Defense** *(FY 2002 $24.0, FY 2003 $24.0)* program, enhanced in FY 2002/03, which seeks to help the Russian Federation State Customs Committee deter illicit trafficking of nuclear materials at borders, through installation of radiation detection equipment at 21 strategic transit and border sites. Decrease in Nuclear Assessment is due to fewer products required as compared to those done just after September 11th; completion of several special studies related to the September 11th events; and completion of Olympics support ..... -$6.0

Russian Transition Initiatives (FY 2002 $57.0; FY 2003 $39.3) ..... -$17.7
Decrease primarily reflects the $15 million in Supplemental funding received in FY 2002 to accelerate the program. The funding provided enables acceleration of several Russian technology development efforts that have a clear counter-terrorism or terrorism response focus, the reduction of the footprint at one nuclear weapons assembly plant, and projects to establish commercial ventures.

HEU Transparency Implementation (FY 2001 $13.9; FY 2003 $17.2) $3.3
Increase reflects the installation of a lend-down monitoring system to provide continuous and independent measurements of uranium hexafloride at Siberian Chemical Enterprise.

International Nuclear Safety and Cooperation (FY 2002 $21.1; FY 2003 $14.6) ..... -$6.5
Decrease reflects the ability to complete program activities though the use of $10 million in Supplemental funding provided in FY 2002.

Soviet-designed Reactor Safety *(FY 2002 $12.4 FY 2003 $4.0)* Decrease reflects the ramp-down for successful completion and close out of activities in this program through the use of Supplemental FY 2002 funding ..... -$8.4

Nuclear Safety and Cooperation *(FY 2002 $8.7 FY 2003 10.6)* Increase provides for networking of crisis centers, enhanced emergency program assistance to include procedure development, training and exercises, and reorientation of program efforts to a worldwide and risk-based approach..... +$1.9

Elimination of Weapons-Grade Plutonium Production (FY 2002 $0; FY 2003 $49.3) ..... +$49.3
Increase to provide alternative fossil-fueled energy plants to plutonium-producing reactors located in Seversk and Zheleznogorsk.

Fissile Materials Disposition (FY 2002 $302.4; FY 2003 $448.0) ..... +$145.6
Increase will fund accelerated design and construction activities for plutonium disposition via conversion to mixed oxide fuel for consumption in commercial reactors, and increased work-scope in the U.S. uranium disposition program.

U.S. Surplus Fissile Materials Disposition *(FY 2002 $135.1; FY 2003 $194.0)* Increase includes increased activities in U.S. Plutonium Disposition for fuel qualification activities and commencement of modifications to commercial reactors that will utilize MOX fuel. Also includes substantial increased scope of work in HEU disposition including beginning of HEU blend-down activities, TVA off-specification project integration, and LEU/HEU shipment operations..... +$58.9

Russian Plutonium Disposition *(FY 2002 $61.0; FY 2003 $98.0)* Increase primarily due to additional in the work required to prepare for MOX fueling of the VVER-1000/BN-600 reactors, to purchase equipment and modification of facilities for the MOX fuel lead test assembly line, and to increase work on the preliminary design of the industrial-scale facility..... +$37.0

Construction *(FY 2002 $106.3; FY 2003 $156.0)* Increase primarily due to work to complete the U.S. MOX Fuel Fabrication Facility design and to proceed with the Pit Disassembly and Conversion Facility design in concert with the decision to focus on the MOX method of plutonium disposition.....+$49.7

Prior Year Balances (FY 2002 -$57.8; FY 2003 -$64.0)..... -$6.2
Fissile Materials Disposition funding shown is inclusive of the use of prior year balances (FY 2002 - $42.0; FY 2003 -$64.0) from the Omnibus Consolidated and Emergency Supplemental Appropriation Act, 1999 (P.L. 105-277) for expenditures in the Russian Federation for plutonium disposition, and $8.3 of prior year balances in FY 2002 construction activity. Nonproliferation and International Security funding shown is inclusive of $7.5 million in prior year balances utilized in FY 2002.

Naval Reactors – National Nuclear Security Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Naval Reactors					
Naval reactors development	667,245	665,445	682,590	+17,145	+3%
Program direction	21,516	23,828	25,430	+1,602	+7%
Total, Naval Reactors	**688,761**	**689,273**	**708,020**	**+18,747**	**+3%**

PROGRAM DESCRIPTION

The **Naval Reactors** program has total responsibility for all Naval nuclear propulsion work, beginning with technology development, continuing through reactor operation, and, ultimately, reactor plant disposal.

The program's efforts ensure the safe operation of reactor plants in operating 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.

Naval Reactors also fulfills the Navy's requirements 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 an overall new reactor for the CVNX-class aircraft carrier. These new plants will be more affordable and will have improved power capabilities, increased endurance, and added dependability compared to current plants.

The Naval Reactors program is committed to the President's emphasis on performance-based budgeting. The following is the Naval Reactors program's strategic objective:

> Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.

PROGRAM HIGHLIGHTS

The FY 2003 request provides $708.0 million to continue Naval reactor plant operations, an increase of $18.7 million above the FY 2002 funding level of $689.3 million. The FY 2003 budget supports continuing efforts to ensure the safety and reliability of 102 operating Naval reactor plants, upgrade and improve existing reactor plants, and develop new reactor plants for the VIRGINIA-class submarine and CVNX-class aircraft carrier programs.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Naval Reactors (FY 2002 $689.3; FY 2003 $708.0).....+$18.7
Reflects a small increase above inflation for work to bring the dry spent fuel storage facility in Idaho online, increased laboratory costs to support the Naval Reactors prototype facilities, and work to support operating nuclear propulsion plants..... +$4.3

Escalation for inflation and other adjustments reflecting marginal changes related to completion and continuation of programmatic activities.....+$14.4

Office of the Administrator – National Nuclear Security Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Office of the Administrator.....	**326,148**	**326,486**	**347,705**	**+21,219**	**+6%**

PROGRAM DESCRIPTION

The **Office of the Administrator** provides corporate direction and oversight of NNSA operations to support the mission requirements of the Under Secretary for Nuclear Security consistent with the principles of protecting the environment and safeguarding the safety and health of the public and the workforce of the NNSA. Activities are carried out by NNSA Federal staff that provides analytical and advisory assistance to the Administrator. The office coordinates NNSA activities with other DOE programs, conducts legislative affairs, public affairs, and acts as the liaison to other Federal agencies, State, tribal and local governments and the public. The office also provides resource management support for NNSA budget formulation, guidance, and execution, personnel and procurement management, and the administration of contracts.

The legislatively-mandated staff components of the office include General Counsel, Defense Nuclear Defense Nuclear Security, Policy, Planning, Assessment and Analysis, Congressional, Public and Intergovernmental Affairs, Environment, Safety and Health Advisor, International Programs Advisor, and Chief Scientist. In addition, NNSA has established two major support components – Facilities and Operations, and Management and Administration.

The Office of the Administrator is committed to the President's emphasis on performance-based budgeting. The following is the Office of the Administrator's strategic objective:

Create a well-managed, responsive and accountable NNSA organization.

PROGRAM HIGHLIGHTS

The FY 2003 Office of the Administrator budget request decreases staffing levels and continues support for corporate management and oversight of the expanding programs administered by the office. Management savings and efficiencies will continue to be achieved as a result of the implementation of the NNSA organization. The FY 2002 Energy and Water Development Appropriations Act consolidated the program direction funds from weapons activities and defense nuclear nonproliferation within the Office of the Administrator appropriation. The Naval Reactors program direction and the Secure Transportation Asset program direction retain separately funded program direction accounts.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Office of the Administrator (FY 2002 $326.5; FY 2002 $347.7).....+$21.2
Current FY 2002 funding is supplemented by $13.8 million in the planned use of prior year unobligated balances, supporting a program level of $340.3 million. The effective increase in the FY 2003 request is only $7.4 million or 2.2 percent. The increase supports annual cost-of-living increases in salaries and benefits while support services and other related expenses remain at their FY 2002 program levels.

In FY 2003, there will be 25 fewer FTEs than FY 2002. It is expected that staffing will decrease by 35 FTEs as a result of organization efficiencies across the NNSA complex, however, there will be an increase of 10 FTEs for management and oversight of the expanding programs supporting national security counterterrorism objectives.

ENERGY SUPPLY

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Energy Supply					
Renewable Energy Resources	370,453	386,406	407,720	+21,314	+6%
Nuclear Energy	279,977	294,746	250,659	-44,087	-15%
Environment, Safety and Health	36,719	30,641	29,958	-683	-2%
Technical information management	9,204	8,049	8,353	+304	+4%
Subtotal, Energy Supply	696,353	719,842	696,690	-23,152	-3%
Use of PY balances and other adjustments	-2,872	-818	——	+818	+100%
Total, Energy Supply	**693,481**	**719,024**	**696,690**	**-22,334**	**-3%**

The Energy Supply appropriation accounts support a variety of applied energy research and development programs as well as programs providing environmental oversight and mitigation. Organizations with activities supported by this appropriation include: Renewable Energy Resources; Nuclear Energy; Environment, Safety and Health; and Technical Information Management.

Renewable Energy Resources – Energy Supply

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Renewable Energy Resources					
Renewable energy technologies					
Biomass/biofuels energy systems	85,371	88,052	86,005	-2,047	-2%
Geothermal technology development	26,623	27,299	26,500	-799	-3%
Hydrogen research	26,594	29,183	39,881	+10,698	+37%
Hydropower	4,936	5,018	7,489	+2,471	+49%
Solar energy	91,694	89,442	87,625	-1,817	-2%
Wind energy systems	39,132	38,598	44,000	+5,402	+14%
Total, Renewable energy technologies	274,350	277,592	291,500	+13,908	+5%
Electric energy systems and storage	51,194	70,696	70,447	-249	-0%
Renewable support and implementation					
Departmental energy management	1,984	1,421	3,000	+1,579	+111%
International renewable energy program	4,949	2,840	6,500	+3,660	+129%
Renewable energy production incentive program	3,991	3,787	4,000	+213	+6%
Renewable Indian energy resources	6,585	2,840	8,307	+5,467	+193%
Renewable program support	3,991	2,840	2,059	-781	-28%
Total, Renewable support and implementation	21,500	13,728	23,866	+10,138	+74%
National renewable energy laboratory	3,991	4,870	5,000	+130	+3%
Program direction	19,418	19,520	16,907	-2,613	-13%
Total, Renewable Energy Resources	**370,453**	**386,406**	**407,720**	**+21,314**	**+6%**

PROGRAM DESCRIPTION

The **Office of Energy Efficiency and Renewable Energy (EE)** conducts research and development to advance energy efficiency and clean power technologies and practices. EE's **Renewable Energy Resources** program promotes the development and use of clean power technologies to meet growing national energy needs, to reduce our dependence on foreign energy sources, and to enhance our energy security. The program also supports research and development on technologies to improve the reliability and performance of the electric grid.

The Office of Energy Efficiency and Renewable Energy's **Renewable Energy Resources** includes the following programs, most of which involve partnership with industry. The **Biopower/Biofuels** program develops technologies that convert a wide range of biomass resources into electricity, liquid fuels, and petroleum-based chemical substitutes. The **Geothermal Technology Development** program works to establish geothermal energy as an economically competitive contributor to the U.S. energy supply. The **Hydrogen Research** program supports the research, development, and validation of hydrogen technologies in production, storage, and utilization to make hydrogen a competitive fuel that could enable nearly pollution-free vehicles. The hydrogen program will also contribute to the **FreedomCAR** initiative to develop cost effective fuel cell vehicles.

The **Hydropower** program is designed to improve the environmental performance of the Nation's abundant, in-place hydropower resources through collaborative research and development with industry and other Federal agencies. The **Solar Energy** technologies program sponsors research and development that improves performance and reliability while reducing the cost of photovoltaic, concentrating, and solar building technologies that can harness the sun's energy. The **Wind Energy Systems** program focuses on the research, testing, and field verification needed by U.S. industry to fully develop advanced wind energy technologies, and to overcome barriers to wind energy use.

The **Electric Energy Systems and Storage** program consists of the High Temperature Superconductivity (HTS) research and development and the Distributed Energy Systems program. The HTS conducts the pre-commercial research and development required to develop materials that have enormous potential to increase transmission capacity, reliability, and efficiency in electric power applications.

Also included in EE's **Renewable Energy Resources** program is **Renewable Support and Implementation,** which includes the **Departmental Energy Management Program (DEMP)**, the **International Renewable Energy Program (IREP)**, the **Renewable Energy Production Incentive (REPI)**, the **Renewable Indian Energy Resources** program, and **Renewable Program Support** activities. These programs collectively encourage the use of renewable energy technologies by State and local governmental entities, non-profit electric cooperatives, residents in remote areas of the U.S. not served or under-served by the electric grid, and Native Americans on Tribal lands. Renewable Support also includes activities to promote the use of renewable technologies, improved energy efficiency measures, and better manage utility costs at Department of Energy facilities throughout the country.

The Office of Energy Efficiency and Renewable Energy's research, development, demonstration, and deployment (RD^3) portfolio addresses three of America's most pressing energy security concerns: namely, over half of our Nation's transportation system runs on imported oil, our Nation's electricity infrastructure is vulnerable to natural or man-made failures, and dramatically fluctuating energy prices and energy trade deficits harm the economic vitality of our Nation. By developing cost-effective energy efficiency and renewable energy technologies, EE programs, in coordination with other public and private sector efforts, can significantly reduce these vulnerabilities in the years ahead.

In addition to increasing U.S. energy security, EE's portfolio supports four additional goals of the President's **National Energy Policy**: modernize energy conservation, modernize our energy infrastructure, increase energy supplies, and accelerate the protection and improvement of the environment.

The Office of Energy Efficiency and Renewable Energy is committed to the President's emphasis on performance-based budgeting. The following is the program's strategic objectives:

> Use public-private partnerships to promote energy efficiency and productivity technologies in order to enhance the energy choices and quality of life of Americans in 2020 relative to 2000 by: reducing the oil intensity of the U.S. economy by 25 percent (compared to 23 percent without EE programs); reducing energy intensity in the U.S. economy by 32 percent (compared to 28 percent without EE programs); and, reducing the need for additional electricity generating capacity by 10 percent (compared to the case without EE programs).
>
> Use public private partnerships to bring cleaner, more reliable, and more affordable energy technologies to the marketplace, enhancing the energy choices and quality of life of Americans in 2020 relative to 2000 by: increasing the share of renewable energy to 10% (compared to 8 percent without EE programs); increasing the share of renewable-generated electricity to 12 percent (compared to 8 percent without EE programs); and,

doubling the share of capacity additions accounted for by distributed power, which increases distributed generation to 11 percent of all electricity generation (compared to 8 percent without EE programs).

Reduce the burden of energy prices on low-income families by working with state and local agencies to weatherize at least 123,000 homes per year from 2003 through 2005.

PROGRAM HIGHLIGHTS

The FY 2003 request proposes several program shifts to more efficiently and effectively meet national energy needs. These changes reflect the Office of Energy Efficiency and Renewable Energy's Strategic Program Review, directed by the **National Energy Policy**, as well as the President's Management Agenda initiative on research and development investment criteria. As such, in FY 2003, EE will terminate projects that provide insufficient public benefit, redirect activities to better provide public benefits, place certain activities on a watch list to ensure they advance effectively, and expand several programs that could achieve significantly increased benefits with additional funding. EE requests no funding for continuation of Congressionally earmarked projects, which accounted for more than one fifth of the FY 2002 Renewable Energy Resources appropriation.

For instance, the **Hydrogen Research** program requests a significant funding increase develop hydrogen as an energy carrier that can serve as a pollution-free, carbon-free fuel. A significant increase is also requested for another potential breakthrough technology, **High Temperature Superconductivity,** which supports research and development of materials that can carry electricity with no resistance at all. The **Wind** program is shifting its emphasis from technologies for limited, high-wind-speed areas (where past successes now mean these areas can offer cost-competitive energy supplies) to more common moderate-wind-speed areas.

The FY 2003 Budget request for Energy Supply programs exceeds the FY 2002 Budget by $21.3 million (a 5.5% increase) to increase research and development on the most promising renewable energy technologies and to provide more support for their implementation.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Biomass/Biofuels Energy Systems (FY 2002 $88.0; FY 2003 $86.0)..... -$2.0
The net decrease is a result of reductions to feedstock programs and technology demonstrations and no direct support to Regional Biomass Energy Program. The significant increase ($7.4) for ethanol production assists industry partners in determining feasibility of producing ethanol from the cornhusk, stocks and other cellulosic materials.

Hydrogen Research (FY 2002 $29.2; FY 2003 $39.9).....+$10.7
The increase reflects the **National Energy Policy** focus on hydrogen research, specifically engineering support of storage technologies, including several prototype hydride tanks, technology validation for wind/reversible fuel cells, multiple power park developments, the initiation of the **Hydrogen Energy Development Initiative**, and increased outreach to certify technicians.

Hydropower (FY 2002 $5.0; FY 2003 $7.5)..... +$2.5
The increase will accelerate testing of several large turbine designs to enhance the efficiency of existing facilities and develop more environmentally benign turbines.

Solar Energy (FY 2002 $89.4; FY 2003 $87.6) ..... -$1.8
The net decrease reflects reduced funding for Concentrating Solar Power which shows little promise for further reducing solar energy production costs. This is offset by increases in

fundamental research and advanced materials for photovoltaic energy systems and Zero-Energy Building's research and development.

Wind (FY 2002 $38.6; FY 2003 $44.0)..... +$5.4
The increase will support the shift in research and development to develop low-wind speed technologies that will greatly broaden the areas for cost-effective application of wind energy systems.

Renewable Support and Implementation (FY 2002 $13.7; FY 2003 $23.9) .....+$10.2
The increase will support the **International Renewable Energy Program** (FY02 $2.8, FY03 $6.5), to begin implementation of the **Clean Energy Technology Export (CETE)** in Latin America, and other activities consistent with the **National Energy Policy**. Renewable Indian Energy Resources (FY02 $2.8, FY03 $8.3) will initiate competitively awarded efforts to develop new power supplies for export to 553 Federally recognized Native American Tribes.

Program Direction (FY 2002 $19.5; FY 2003 $16.9)..... -$2.6
The decrease reflects progress made in addressing some areas of the President's Management Agenda including workforce restructuring to reduce redundancies and gain management efficiencies, and improve financial management.

Nuclear Energy, Science and Technology – Energy Supply

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Nuclear Energy					
University reactor fuel assistance and support.....	11,974	17,500	17,500	——	——
Research and development					
Nuclear energy plant optimization.....	4,857	6,500	——	-6,500	-100%
Nuclear energy research initiative.....	33,903	32,000	25,000	-7,000	-22%
Nuclear energy technologies.....	7,483	12,000	46,500	+34,500	+288%
Advanced nuclear medicine initiative.....	2,500	2,500	——	-2,500	-100%
Total, Research and development.....	48,743	53,000	71,500	+18,500	+35%
Infrastructure					
Fast flux test facility (FFTF).....	38,439	36,439	36,100	-339	-1%
Radiological facility management.....	88,284	86,682	83,038	-3,644	-4%
Total, Infrastructure.....	126,723	123,121	119,138	-3,983	-3%
Spent fuel pyroprocessing and transmutation.....	68,698	77,250	18,221	-59,029	-76%
Program direction.....	23,839	23,875	24,300	+425	+2%
Subtotal, Nuclear Energy.....	279,977	294,746	250,659	-44,087	-15%
Use of PY balances and other adjustments.....	-2,872	-818	——	+818	+100%
**Total, Nuclear Energy.....	**277,105**	**293,928**	**250,659**	**-43,269**	**-15%**

PROGRAM DESCRIPTION

The **Office of Nuclear Energy, Science and Technology (NE)** promotes secure, competitive, and environmentally responsible nuclear technologies to serve the present and future energy needs of the country. Because of the Nation's reliance on nuclear energy, DOE's investments in services, products, and technologies are essential to the future. The Office of Nuclear Energy, Science and Technology supports research and development to advance the application of nuclear technology for improved energy security, economic prosperity, and quality of life. NE's programs enhance the Nation's nuclear science, technology, and human infrastructure for the future, and pave the way for application of advanced nuclear power systems to meet our Nation's future energy needs.

The programs within the **Office of Nuclear Energy, Science and Technology (NE)** fully support **National Energy Policy** recommendations to expand the use of nuclear energy in the United States. Specifically, the **Nuclear Power 2010** program is focused on resolving the technical, institutional, and regulatory barriers to the deployment and operation of new nuclear power plants by 2010 that could increase domestic electricity supply capability. The Generation IV initiative establishes a basis for expansive cooperation with our international partners to develop next-generation reactor and fuel cycle systems. The **Spent Fuel Pyroprocessing and Transmutation** program will focus on one of the key recommendations concerning investigating the potential of advanced fuel cycle technologies such as **pyroprocessing** to reduce the quantity and long-term toxicity of spent nuclear fuel.

The Office of Nuclear Energy, Science and Technology (NE) is committed to the President's emphasis on performance-based budgeting. The following is NE's strategic objective:

> Expand the capability of nuclear energy to contribute to the Nation's near and long-term energy needs by investing in our Nation's nuclear R&D infrastructure and promoting advanced research, such that by December 2004: the average capacity of existing U.S. nuclear power plants will increase from 90 to 92 percent; a new nuclear power plant construction project will be initiated in the United States; and a conceptual design will be developed for a nuclear energy system that addresses the technology issues hindering the worldwide expansion of nuclear power.

PROGRAM HIGHLIGHTS

The FY 2003 request supports innovative applications of nuclear technology such as: research and development activities in such areas as cost; safety, waste and nonproliferation; activities leading to construction and startup of new nuclear plants in the United States by 2010; and activities to maintain the infrastructure of nuclear facilities to meet future challenges. In addition, the FY 2003 request reflects the decision to restructure the NE program so that all NE managed facilities previously funded in multiple programs are included in one new program called Radiological Facilities Management. This restructuring allows NE to manage all their facilities on a site basis.

The **University Reactor Fuel Assistance and Support** program supports the operation and upgrade of university research and training reactors, provides approximately 24 fellowships and 50 scholarships to outstanding students, brings nuclear technology education to small, minority-serving institutions, and provides approximately 55 nuclear engineering research grants. The program helps to maintain domestic capabilities to conduct research and the critical infrastructure necessary to attract, educate, and train the next generation of scientists and engineers with expertise in nuclear energy technologies. The Nuclear Engineering Education Research program stimulates innovative research at U.S. universities. DOE also provides the supply of fresh fuel to and transport of spent fuel from university research reactors and supports reactor equipment upgrades at universities.

The **Nuclear Energy Research Initiative (NERI)** program funds innovative investigator-initiated, peer-reviewed R&D at U.S. universities, national laboratories, and industry to advance nuclear energy technology. The NERI program is developing advanced concepts and scientific breakthroughs in nuclear fission and reactor technology to address and overcome the principal technical and scientific obstacles to the expanded use of nuclear energy in the U.S. NERI research and development focuses on proliferation-resistant reactor and fuel technologies, high performance/efficient reactor technology, advanced nuclear fuels, and new technologies for the minimization and management of nuclear waste.

The **Nuclear Energy Technologies** program is working to identify, assess, and develop cost-efficient technologies that further enhance nuclear safety, minimize the generation of nuclear waste, and further reduce the risk of proliferation. In FY 2003, the **Nuclear Power 2010 program**, will aggressively pursue demonstration of key regulatory approval processes and foster the completion of cost-effective, advanced nuclear plant designs in order to pave the way for the construction and startup of new nuclear plants in the United States by 2010. The program will also continue activities related to potential deployment of advanced gas reactor technologies. The Department will issue the Generation IV Technology Roadmap and initiate joint international research and development on the most promising advanced nuclear energy system concepts as part of its Generation IV Nuclear Energy Systems Initiative.

The **Fast Flux Test Facility (FFTF)** located at the Hanford Site in Washington is a government-owned, 400 megawatt, sodium-cooled reactor that operated from 1982 to 1992, providing a materials testing facility for nuclear fusion and fission programs. In April 1992, the FFTF was placed in hot standby. In

December 2001, DOE announced its intention to permanently deactivate the FFTF. In FY 2003, work will proceed on the final deactivation of this facility.

The **Radiological Facilities Management** is a new program that consolidates into one account various nuclear infrastructure activities to maintain irreplaceable NE facilities in a safe, secure, environmentally compliant and cost-effective manner to support national priorities. It maintains the Department's vital resources and capabilities at NE-managed facilities at Argonne National Laboratory-West, Idaho National Environmental Engineering Laboratory, Oak Ridge National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory, Brookhaven National Laboratory, Pacific Northwest National Laboratory and Mound. This program reflects a restructuring of various programs within NE. This program includes the NE facilities and sites previously funded under the Advanced Radioisotope (Space and Defense) Power Systems, Medical Isotope, Test Reactor Area Landlord and ANL-W Operations programs.

The **Spent Fuel Pyroprocessing and Transmutation** program is a new account that supports research and development activities on sodium-bonded spent nuclear fuel treatment technologies such as pyroprocessing (previously funded under Nuclear Facilities Management) in order to minimize the quantity and toxicity of nuclear wastes. In FY 2002, the program supports research and development activities associated with reactor and accelerator based systems for waste transmutation using both current and advanced technologies previously funded in the **Advanced Accelerator Applications** program. In FY 2003, the budget proposes to terminate these AAA activities. The program will continue to treat the inventory of Experimental Breeder Reactor–II (EBR-II) sodium-bonded spent fuel (previously funded in the Nuclear Facilities Management program).

SIGNIFICANT FUNDING CHANGES- FY 2002 to 2003 Request ($ in millions)

Nuclear Energy Plant Optimization (FY 2002 $6.5; FY 2003 $0)..... -$6.5
While the Department continues to support the objectives of the NEPO program, no funding is requested in FY 2003.

Nuclear Energy Research Initiative (NERI) (FY 2002 $32.0; FY 2003 $25.0)..... -$7.0
In FY 2003, the research activities on 10 NERI projects initiated in FY 2000 will be completed. The program will complete the funding of the 13 NERI projects initiated in FY 2001 and provide funding for 16 of the 23 NERI projects and three follow-on projects initiated in FY 2002. In addition, the Department will continue the bilateral international projects initiated in FY 2001 and FY 2002. No new research grants will be awarded in FY 2003.

Nuclear Energy Technologies (FY 2002 $12.0; FY 2003 $46.5).....+$34.5
The FY 2003 request will continue Nuclear Power 2010 projects to demonstrate the untested Early Site Permit licensing process and initiate a new project to demonstrate the combined Construction/Operating licensing process. Research will be expanded for the irradiation, testing and qualification of the advanced gas reactor fuel. Cost-shared projects will be initiated for Nuclear Regulatory Commission design certification/approval and detailed engineering and design work for advanced light water and advanced gas-cooled reactor technologies development activities. *(Nuclear Power 2010 Program FY 2002, $8.0; FY 2003, $38.5).* The Generation IV Technology Roadmap will be completed in 2003 and for each promising concept identified by the roadmap, parametric studies will be conducted to establish designs that optimize key performance parameters. The research and development plan developed as part of the roadmap will be initiated for those crosscutting technologies common to the six-to-eight most promising energy system concepts. *(Generation IV program FY 2002, $4.0, FY 2003 $8.0).*

Advanced Nuclear Medicine Initiative (FY 2002 $2.5; FY 2003 $0.0)..... -$2.5
Additional funding for this initiative is not being requested due to change in the focus of the Department's nuclear energy research and development activities, such as the near-term deployment of new nuclear power plants.

Fast Flux Test Facility (FFTF) (FY 2002 $36.4; FY 2003 $36.1)..... -$0.3
The FY 2003 request will be used to conduct surveillance and maintenance activities to maintain the FFTF in full compliance with applicable Federal and State health, safety and environmental assessments. In addition, the request supports activities that implement the Secretary's decision to permanently deactivate FFTF.

Radiological Facilities Management (FY 2002 $86.7; FY 2003 $83.0)..... -$3.7
At the Test Reactor Area within INEEL, the request supports an increase to reduce the maintenance backlog by about 20 percent (+$1.3M) and accelerate the construction phase for a planned project completion in FY 2005 instead of FY 2008 (+$0.9M). At Argonne National Laboratory-West, this request supports an increase that covers additional material storage costs at the commercial facility (+$0.5M). Decreases reflect the completion of the Advanced Test Reactor Research and Development Upgrade initiative in FY 2002 (-$2.0M), completion of the Los Alamos National Laboratory Isotope Production Facility during FY 2003 (-$0.8M), reductions of radiological facility and balance of plant support at Argonne National Laboratory-West to a minimum level (-$1.3M) and other miscellaneous increases (+.7M). The decreases also reflect the transfer of funding to the Department of Defense for special applications activities (-$2.0M) and NASA for special purpose fission technology activities (-$1.0M).

Spent Fuel Pyroprocessing and Transmutation (FY 2002 $77.2; FY 2003 $18.2).....-$59.0
The FY 2003 request reflects a decrease due to completion of Experimental Breeder Reactor–II (EBR-II) deactivation activities in FY 2002 (-$4.2M). In addition, the request reflects a decrease in spent fuel pyroprocessing research and development activities previously funded in the Nuclear Facilities Management program, and transmutation systems development and transmutation science education activities previously funded in the **Advanced Accelerator Applications** program (-$54.4M). These reductions are due to the proposed termination of the AAA program related to a change of focus by the **Office of Nuclear Energy, Technology and Science (NE)** to emphasize the **Nuclear Power 2010 program** and provide near-term solutions to energy supply utilizing nuclear energy.

Environment, Safety and Health (Non Defense) - Energy Supply

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Environment, Safety and Health					
Office of environment, safety and health (non-defense)	15,122	9,391	10,340	+949	+10%
Program direction	21,597	21,250	19,618	-1,632	-8%
Total, Environment, Safety and Health	**36,719**	**30,641**	**29,958**	**-683**	**-2%**

PROGRAM DESCRIPTION

The **Office of Environment, Safety and Health (EH)** 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 EH plays a critical role in conducting independent reviews of environment, safety, and health performance, and providing technical services, resources, and information sharing. DOE is externally regulated for compliance with applicable environmental laws administered by other Federal agencies. EH serves as DOE's advocate to assure the Department's interests are reflected in the formulation of environmental regulations and standards. EH develops environment, safety, and health directives and policies, performs Price-Anderson enforcement, and funds radiation health studies. EH also assists workers in obtaining information and medical records when applying for benefits under the Federal Energy Employees Occupational Illness Compensation Program Act.

EH programs are funded under two accounts within the Energy and Water Development Appropriation. Defense-related activities are funded in the Other Defense Activities account and discussed in another section of this document. Non-Defense EH activities, discussed here, are funded in the Energy Supply account and support Policy, Standards and Guidance, DOE-Wide Environment, Safety, and Health Programs, and Program Direction.

The Office of Environment, Safety and Health is committed to the President's emphasis on performance-based budgeting. The following is EH's strategic objective:

> Reduce the number of deaths, injuries and illnesses and environmental releases from environment cleanup and other operational activities such that DOE organization activities remain below their averages established by DOE's last five years of data for (1) Total Recordable Case Rate; (2) Occupational Safety Cost Index; (3) Hypothetical Radiation Dose to the Public; (4) Average measurable dose to DOE workers; and (5) Reportable Occurrences of Releases to the Environment.

PROGRAM HIGHLIGHTS

In FY 2003, the **Policy, Standards and Guidance** activities will continue to develop and update current DOE environment, safety, and health policies, standards, and guidance by adopting non-government consensus standards that are appropriate for DOE work. **Regulatory liaison** activities with other government agencies to support DOE's interests will also continue.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Environment, Safety and Health (FY 2002 $9.4; FY 2003 $10.3)..... +$0.9
The increase supports nuclear rules, nuclear facility standards, worker safety and health policy, transfer of funding to EH for the radiation exposure monitoring system (REMS) from information management, and support for the Department of Energy Laboratory Accreditation Program (DOELAP). DOELAP accredits personnel radiation dosimetry programs to ensure the accuracy of worker radiation monitoring devices.

Program Direction (FY 2002 $21.2; FY 2003 $19.6)..... - $1.6
The decrease is a result of a reduction of 26 full time equivalent employees from 128 in FY 2002 to 102 in FY 2003. This action has been taken in concert with the Secretary's DOE-wide initiative to conduct the Department's mission in a more effective and efficient manner and to improve the management and effectiveness of the Department.

Technical Information Management – Energy Supply

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Technical Information Management					
Technical information management program.....	1,596	1,198	1,400	+202	+17%
Program direction.....	7,608	6,851	6,953	+102	+1%
Total, Technical Information Management.....	**9,204**	**8,049**	**8,353**	**+304**	**+4%**

PROGRAM DESCRIPTION

The **Technical Information Management (TIM)** program leads DOE's e-government initiatives for disseminating information resulting from, and relevant to, the Department's $8 billion research and development (R&D) program. The TIM program provides electronic access to worldwide energy scientific and technical information to DOE researchers, U.S. industry, academia, and the public through a set of cutting-edge, Internet based information products for technical reports, scientific journals, and preprints – the three main sources in which scientific and technical information is recorded. TIM also produces an inventory of R&D projects in progress across DOE. TIM promotes scientific progress by enabling the sharing of scientific knowledge through these products and the products strongly support the President's Management Agenda initiative on "Expanding Electronic Government. " The TIM program also coordinates technical information activities throughout the DOE complex, maintains a classified information program, serves as DOE's leader in the international exchange of scientific and technical information, and has a leadership role in the development of science.gov, the Interagency FirstGov for Science web resources.

The Office of Science programs are committed to the President's initiative on performance-based budgeting. The following is TIM's strategic objective:

> Ensure efficient Science program management of research and construction projects through a re-engineering effort of Science processes by FY 2003 that will support world class science through systematic improvements in Science's laboratory physical infrastructure, security, and ES&H.

PROGRAM HIGHLIGHTS

Report literature is disseminated via the **Information Bridge**, (www.osti.gov/bridge) and provides free, full-text access to over 70,000 technical reports. The **PrePrint Network** (www.osti.gov/preprint) provides searchable access to over 5,200 preprint sites worldwide, with over 300,000 preprints in full text. The **Energy Citations Database** (www.osti.gov/energycitations) provides access to over 2 million bibliographic records for energy and energy related scientific and technical information from DOE and its predecessor agencies. The **DOE R&D Tracking System** (www.osti.gov/rd) provides access to R&D projects sponsored or performed by DOE. The TIM program also represents DOE and the U.S. in two international information exchanges, the International Energy Agency's Energy Technology Data Exchange (EDTE).

The FY 2003 budget request totals $8.4 million, including $.4 million for full-funding of retirement and health benefits. The program will continue to operate at near FY 2002 levels.

Science

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Science					
High energy physics	695,927	713,170	724,990	+11,820	+2%
Nuclear physics	351,794	359,035	382,370	+23,335	+6%
Biological and environmental research	514,064	570,300	504,215	-66,085	-12%
Basic energy sciences	973,768	999,605	1,019,600	+19,995	+2%
Advanced scientific computing research	161,296	157,400	169,625	+12,225	+8%
Energy research analyses	950	995	1,020	+25	+3%
Science laboratory infrastructure	26,887	37,130	42,735	+5,605	+15%
Fusion energy sciences program	241,957	247,480	257,310	+9,830	+4%
Facilities and infrastructure	———	———	———	———	———
Safeguards and security	39,081	47,609	48,127	+518	+1%
Program direction	139,861	152,475	139,479	-12,996	-9%
Small business innovation research (SBIR)	93,069	———	———	———	———
Subtotal, Science	3,238,654	3,285,199	3,289,471	+4,272	+0%
Less security charge for reimbursable work	-4,648	-4,460	-4,383	+77	+2%
Total, Science	**3,234,006**	**3,280,739**	**3,285,088**	**+4,349**	**+0%**

PROGRAM DESCRIPTION

The **Office of Science (Science)** funds energy related basic research in the following areas: health and environmental consequences of energy production and development, fundamental science that supports the scientific foundations for new energy technologies and environmental mitigation, a science base for fusion as a potential future energy source, fundamental research in energy, matter, and the basic forces of nature, and advanced computational and networking tools critical to science research.

In support of its mission, the Office of Science has responsibilities in three main areas: selection and management of research, the operation of world-class, state-of-the-art scientific facilities, and the design and construction of new facilities. Further, the activities of the Office of Science support the President's Management Agenda by integrating budgeting and performance evaluation, expanding electronic government, and the development and use of new investment criteria for evaluating basic research in the FY 2004 Budget Cycle. The Science programs discussed below support the President's **National Energy Policy (NEP)** and the Secretary's "Missions and Priorities of the Department."

High Energy Physics (HEP) conducts basic research on the nature of matter and energy at its most fundamental level. Particle physics seeks 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 the two major scientific facilities: the **Tevatron at Fermilab** in Batavia, IL and the **Stanford Linear Accelerator Center (SLAC)** in California.

Nuclear Physics (NP) conducts research to understand the structure and interactions of atomic nuclei and the fundamental forces and particles of nature in nuclear matter. NP seeks to explain the structure and properties of nuclei and nuclear matter in terms of their fundamental constituents. The program funds two large flagship national user accelerator facilities, the Continuous Electron Beam Accelerator

Facility (CEBAF) at **Thomas Jefferson National Accelerator Facility (TJNAF)** in Newport News, Virginia and the **Relativistic Heavy Ion Collider (RHIC)** at Brookhaven National Laboratory in New York. It also supports several other laboratory and university facilities.

Biological and Environmental Research (BER) develops the knowledge needed to identify, understand and mitigate the adverse health and environmental consequences of energy production, development, and use. BER research supports two recommendations of the NEP: **Next Generation Technologies** (use of microbes for energy and environmental applications) and **Global Climate Change** (the DOE component of the U.S. Global Change Research Program). BER also supports three "Missions and Priorities" (Identify New Sources of Energy for the Future, Implementation of the President's Climate Change Research Initiative, and Implementing Environmental Cleanup Faster and Cheaper).

BER is structured into four subprograms. **Life Sciences** focuses on understanding and mitigating the health and environmental consequences of energy production, use, and waste cleanup. The subprogram manages DOE efforts in the Human Genome program. **Climate Change Research** represents the DOE participation in the U.S. Global Change Research Program (USGCRP), and develops climate models to predict the impact of greenhouse gases on climate. **Environmental Remediation** researches remediation and restoration of the Nation's nuclear weapons production sites. Using DOE research and technologies, **Medical Applications and Measurement Science** develops new medical diagnostic and therapeutic tools for disease diagnosis and treatment, non-invasive medical imaging, and biomedical engineering.

Basic Energy Sciences (BES) provides the foundations 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** performs research to make materials perform more efficiently and at a lower cost. Applications include electric motors and generators, solar conversion, batteries and fuel cells, vehicles, and industrial applications. **Chemical Sciences, Geosciences and Energy Biosciences** seeks to understand: fundamental interactions of atoms, molecules, and ions with photons and electrons. This knowledge is crucial for improving combustion systems, solar photoconversion processes, and nanoscale science. The program also aims to improve our understanding of earth processes that affect energy production and environmental quality. Investigations into the formation, storage, and interconversion of energy by plants and microorganisms have application for renewable fuel resources, environmental remediation, and photosynthesis.

BES is currently constructing a major new scientific user facility, the $1.4 billion **Spallation Neutron Source**, which when completed, will be the world's most powerful spallation neutron source.

Advanced Scientific Computing Research (ASCR) provides world leadership in areas of scientific computing research relevant to the DOE missions, and supports the goal of providing extraordinary tools for extraordinary science. Applications include simulating the flow of oil and gas in reservoirs, modeling the chemistry of heavy elements for managing highly radioactive mixed wastes from DOE weapons production facilities, climate modeling, and simulation of diesel combustion. ASCR assists other Science programs in carrying out NEP recommendations, and it supports the Secretary's Mission "Identifying New Sources of Energy for the Future''

ASCR funds the **National Energy Research Scientific Computing Center (NERSC)** at Lawrence Berkeley National Laboratory (supports over 2,000 users), and the **Energy Sciences Network (ESNET)** that links Office of Science researchers and facilities.

Fusion Energy Sciences (FES) seeks to study plasmas, the fourth state of matter, and understand and control the process of fusion that can produce an enormous release of energy. FES facilities include the **DIII-D** at General Atomics in San Diego, **the Alcator C-Mod** at MIT, and the **National Spherical Tokamak Experiment** in Princeton. Fusion supports the NEP recommendation on Next Generation Technologies, and the "Mission" of Identifying New Sources of Energy for the Future.

The Office of Science is committed to the President's emphasis on performance-based budgeting. The following are the strategic objectives for the Office of Science:

Determine whether the Standard Model accurately predicts the mechanism that breaks the symmetry between natural forces and generates mass for all fundamental particles by 2010 or whether an alternate theory is required, and on the same timescale determine whether the absence of antimatter in the universe can be explained by known physics phenomena.

By 2015, describe the properties of the nucleon and light nuclei in terms of the properties and interactions of the underlying quarks and gluons; by 2010, establish whether a quark-gluon plasma can be created in the laboratory and, if so, characterize its properties; by 2020, characterize the structure and reactions of nuclei at the limits of stability and develop the theoretical models to describe their properties, and characterize, using experiments in the laboratory, the nuclear processes within stars and supernovae that are needed to provide an understanding of nucleosynthesis.

By 2010, develop the basis for biotechnology solutions for clean energy, carbon sequestration, environmental cleanup, and bioterrorism detection and defeat by characterizing the multiprotein complexes that carry out biology in cells and by determining how microbial communities work as a system; and determine the sensitivity of climate to different levels of greenhouse gases and aerosols in the atmosphere and the potential resulting consequences of climate change associated with these levels by resolving or reducing key uncertainties in model predictions of both climate change that would result from each level and the associated consequences.

Provide leading scientific research programs in materials sciences and engineering, chemical sciences, biosciences, and geosciences that underpin DOE missions and spur major advances in national security, environmental quality, and the production of safe, secure, efficient, and environmentally responsible systems of energy supply; as part of these programs, by 2010, establish a suite of Nanoscale Science Research Centers and a robust nanoscience research program, allowing the atom-by-atom design of revolutionary new materials for DOE mission applications; and restore U.S. preeminence in neutron scattering research and facilities.

Enable advances and discoveries in DOE science through world-class research in the distributed operation of high performance, scientific computing and network facilities; and to deliver, in 2006, a suite of specialized software tools for DOE scientific simulations that take full advantage of terascale computers and high speed networks.

Advance the fundamental understanding of plasma, the fourth state of matter**,** and enhance predictive capabilities, through the comparison of well-diagnosed experiments, theory and simulation; for MFE, resolve outstanding scientific issues and establish reduced-cost paths to more attractive fusion energy systems by investigating a broad range of innovative magnetic confinement configurations; advance understanding and innovation in high-performance plasmas, optimizing for projected power-plant requirements; develop enabling technologies to advance fusion science, pursue innovative technologies and materials to improve the vision for fusion energy; and apply systems analysis to optimize fusion development; for IFE, leveraging from the ICF program sponsored by the National Nuclear Security Agency's Office of Defense Programs, advance the fundamental understanding and predictability of high energy density plasmas for IFE.

Provide major advanced scientific user facilities where scientific excellence is validated by external review; average operational downtime does not exceed 10% of schedule; construction and upgrades are within 10% of schedule and budget; and facility technology research and development programs meet their goals.

Ensure efficient SC program management of research and construction projects through a re-engineering effort of SC processes by FY 2003 that will support world class science through systematic improvements in SC's laboratory physical infrastructure, security, and Environment, Safety, and Health.

PROGRAM HIGHLIGHTS

The FY 2003 request totals $3,285.1million, essentially level with FY 2002 funding. Within this budget, several funding increases are possible because of the completion of fifty-one earmarked projects, project completions and phase-downs, and other adjustments in funding priorities.

High Energy Physics gives priority to two "windows of opportunity". First is the search for the elusive Higgs Boson, the expected source of mass. This will be the primary emphasis at Fermilab for the next several years. The other priority is research on **charge-parity (CP) violation** at **Stanford Linear Accelerator Center**, which may explain the preponderance of matter over antimatter in the universe. The other major FY 2003 activity involves the December 1997 agreement between DOE and NSF with the European Center for Nuclear Research (CERN) concerning U.S. contributions to construction of the Large Hadron Collider (LHC). DOE will continue LHC project funding through FY 2005 and will then become an active participant in its research program. The program will also continue construction of the Neutrinos at the Main injector (NuMI) project.

Nuclear Physics will focus its additional FY 2003 resources on expanding facility operating times. For the three largest facilities, **Bates** will increase operations from 21 weeks in FY 2002 to 27 in FY 2003. **Thomas Jefferson National Accelerator Facility** increases from 26 to 28 weeks of operation. The **Relativistic Heavy Ion Collider** increases from 11 weeks to 22 weeks.

Biological and Environmental Research completed $69.8 million of earmarked projects in FY 2002; these funds are redistributed among all Science programs in FY 2003. **Genomes to Life** increases by $15.2 million for additional research on microbes for energy and environmental applications. The high-visibility and inter-agency **Human Genome Project** and **Climate Change Research** programs are each funded at slightly elevated levels in FY 2003. The **"Mouse House"** construction project was completed in FY 2002. The request includes $2.9 million for the Administration's new Climate Change Research Initiative.

Basic Energy Sciences funding for the **Spallation Neutron Source** begins to taper down in FY 2003. This and a small program funding increase make funds available for other priorities, including **nanoscale science** which is rapidly gaining importance in BES, Plant Engineering and Design and construction of **Nanoscale Science Research Centers,** enhanced operation of its scientific user facilities, design of the next-generation **Linac Coherent Light Source**, and improved instrumentation for the neutron and X-ray scattering facilities.

Fusion Energy Sciences completed decontamination and decommissioning activities for the Tokamak Fusion Test Reactor in FY 2002, freeing up funding to initiate design and fabrication of the **National Compact Stellerator Experiment** at Princeton. FES will also be providing enhanced operating times for all of its major facilities.

Science Laboratories Infrastructure is able to increase the number of General Purpose Facility infrastructure projects in FY 2003. Funding for **Safeguards and Securities** remains unchanged. A reduction in funding for **Program Direction** will result in fewer staff positions in FY 2003.

SIGNIFICANT FUNDING CHANGES-FY 2002 to 2003 Request ($s in millions)

High Energy Physics (FY 2002 $713.2; FY 2003 $725.0).....+$11.8
In FY 2003, Research, Technology and Operations decrease slightly: FermiLab (*FY 2002 $277.4; FY 2003 $272.7)* reduces funding for the muon storage ring R&D and for MINOS site preparation and detectors, but increases funding for hardware upgrades funding to support the search for the Higgs Boson, the Tevatron operates 39 weeks; Stanford Linear Accelerator Center *(FY 2002 $164.5; FY 2003 $163.9)* continues research on the Next Linear Collider at the FY 2002 level of $16.2M, and operations increase from 35 weeks in FY 2002 to 39 weeks in FY 2003 (dependent on steady electric rates); the research and technology program at Brookhaven National Lab continues, but operation of the Alternating Gradient Synchrotran (AGS) is terminated (*FY 2002 $20.7; FY 2003 $15.4)*.....-$10.5

DOE funding for the Large Hadron Collider is on schedule *(FY 2002 $49.0; FY 2003 $60.0*..... +$11.0

Construction for the Neutrinos at the Main Injector (NuMI) project is increased based on the new Total Estimated Cost of $109.2 million *(FY 2002 $11.4; FY 2003 $20.1)*..... +$8.7

The remaining increase is for university research, LHC preparations and other associated costs..... +$2.6

Nuclear Physics (FY 2002 $359.0; FY 2003 $382.4).....+$23.4
The increase enables research and operations at Bates Thomas Jefferson National Accelerator Facility (TJNAF) to expand from 21 weeks in FY 2002 to 27 weeks in FY 2003 *(FY 2002 $14.9; FY 2003 $16.1)*, TJNAF from 26 weeks to 28 weeks *(FY 2002 $73.3; FY 2003 $78.5)*, and from 11 weeks to 22 weeks at Relativistic Heavy Ion Collider (RHIC) *(FY 2002 $113.6; FY 2003 $126.7)*.....+$19.5

Other program changes include increased funding for other facility operations, Nuclear Theory, and other laboratory and university research..... +$3.9

Biological and Environmental Research (FY 2002 $570.3; FY 2003 $504.2).....-$66.1
Life Sciences has enhanced funding for **Genomes to Life** *(FY 2002 $21.5; FY 2003 $36.7)* to meet DOE energy and environment needs and for other biology.....+$18.3

Climate Change Research *(FY 2002 $128.9; FY 2003 $138.0)* contains increases for climate modeling and the new Climate Change Research Initiative. Environmental Remediation has reduced funding for the Environmental Management Science Program (-$7.2 million) and the Savannah River Ecology Lab (-$2.1 million). This reduction is offset by increases for bioremediation research and facility operations (+$4.4 million)..... +$4.2

In Medical Applications, all FY 2002 Congressionally directed projects are completed (-$69.8 million) and other programmatic changes total -$7.4 million.....-$77.2

Construction of the Laboratory for Functional and Comparative Genomics will be completed in FY 2002.....-$11.4

Basic Energy Sciences (FY 2002 $999.6; FY 2003 $1,019.6) .....+$20.0
In Materials Sciences and Engineering, the main increases are for nanoscale science *(FY 2002 $58.0; FY 2003 $65.8)*, neutron and x-ray scattering instrumentation improvements (including $5 million for the Spallation Neutron Source) *(FY 2002 $40.6; FY 2003 $54.4)*, and facility operations (*FY 2002 $263.9; FY 2003 $274.1)*.....+$35.4

Chemical Sciences, Geosciences and Biosciences provides increases for nanoscale science *(FY 2002 $23.2; FY 2003 $27.1, Catalysis (+$6.6M))* and other program changes .....+$12.3

Construction funding keeps the Spallation Neutron Source on schedule *(FY 2002 $276.3; FY 2003 $210.6)*, continues Plant Engineering and Design for the Nanoscale Science Research Centers (NSRCs) *(FY 2002 $3.0; FY 2003 $11.0)*, begins Project Engineering Design on the proposed Linac Coherent Light Source *(FY 2002 $0; FY 2003 $6.0)*, and begins physical construction on the first NSRC-the Center for Nanophase Materials Sciences at Oak Ridge National Lab *(FY 2002 $0; FY 2003 $24.0*).....-$27.7

Advanced Scientific Computing Research (FY 2002 $157.4; FY 2003 $169.6).....+$12.2
The increase in funding is related to biological problems, to enhance Scientific Application Pilot Projects with other Science programs, and to provide additional support for Advanced Computing Research Testbeds for topical applications.

Fusion Energy Sciences (FY 2002 $247.5; FY 2003 $257.3)..... +$9.8
Research and operations of major facilities will increase from 14 weeks in FY 2002 to 21 weeks in FY 2003 at DIII-D *(FY 2002 $50.9; FY 2003 $55.6)*, from 8 weeks of operation to 21 weeks at the Alcator C-Mod *(FY 2002 $17.5; FY 2003 $22.2)*, and up from 12 weeks in FY 2002 to 21 weeks in FY 2003 at the NSTX *(FY 2002 $26.8; FY 2003 $33.1)*.....+$15.7

Decontamination and decommissioning activities for the TFTR at Princeton will be completed in FY 2002.....-$19.6

The increase will initiate design and fabrication of the National Compact Stellerator Experiment (NCSX) at Princeton.....+$11.0

Funding will provide for other international collaborations, education activities, and engineering research..... +$2.7

Science Laboratories Infrastructure (FY 2002 $37.1; FY 2003 $42.7)..... +$5.6
The increase in funding is for general purpose facilities and environment, safety, and health projects (+$9.9 million), and Oak Ridge Landlord functions (+$.6 million). Funding for excess facility disposal is reduced (-$5.0 million).

Safeguards and Security (FY 2002 $47.6; FY 2003 $48.1)..... +$.5
Additional funding is provided for cyber security and protective forces.

Program Direction (FY 2002 $152.5; FY 2003 $139.5).....-$13.0
The decrease is a result of the reduction of 203 full time equivalent employees, from 969 in FY 2002 to 766 in FY 2003.

Environmental Management

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Environmental Management					
Non-Defense Environmental Management	290,735	236,372	166,000	-70,372	-30%
Uranium Facilities Maintenance and Remediation	414,102	423,425	382,154	-41,271	-10%
Defense Environmental Restoration & Waste Management	5,133,223	5,283,148	4,562,707	-720,441	-14%
Defense Facilities Closure Projects	1,101,331	1,092,878	1,091,314	-1,564	-0%
Subtotal, Environmental Management	6,939,391	7,035,823	6,202,175	-833,648	-12%
Uranium Enrichment D&D Fund Discretionary Payment	-419,076	-420,000	-442,000	-22,000	-5%
Use of PY balances and other adjustments	-105,421	-69,803	-4,347	+65,456	+94%
Subtotal, Environmental Management	6,414,894	6,546,020	5,755,828	-790,192	-12%
Environmental Management Cleanup Reform	——	——	800,000	+800,000	n/a
Defense Environmental Management Privatization	-2,400	153,537	158,399	+4,862	+3%
Total, Environmental Management	**6,412,494**	**6,699,557**	**6,714,227**	**+14,670**	**+0%**

PROGRAM DESCRIPTION

The **Environmental Management (EM)** program was created in 1989 to safely manage the cleanup of the environmental legacy from fifty years of nuclear weapons production and nuclear energy research at 114 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 current cleanup program is projected to cost in the range of $220 billion and take 70 years to complete. Costs continue to increase annually while schedules slip. Consequently, Secretary Abraham directed that a top-to-bottom review of the EM program be conducted to find ways to achieve greater risk reduction and cleanup more efficiently and cost effectively.

The review indicates that the EM program has failed to significantly reduce the risk presented to the public and the environment by the Cold War's nuclear legacy. If the program continues along the present path, DOE will not accomplish the very goal EM was originally established to achieve the cleanup and closure of the former weapons complex. The report describes the program's weaknesses and provides specific proposals for improving EM's performance. The goal is to quickly and markedly improve the program's performance in achieving cleanup and closure, and ensure that the Department is reducing risk to its workers, the public, and the environment. Over the next 18 months, the Department will pursue implementing proposals, many of which will require reaching new understandings with State and Federal regulators, as well as fundamental changes in how DOE conducts its business.

Therefore, the EM FY 2003 budget request has been structured to begin this process. But it is only a beginning and must be viewed as the first step in the transition between the program left by previous

Administrations and where the Department will head in FY 2004 and beyond when the recommendations of the top-to-bottom review are implemented. An integral part of the reform is EM's commitment to the President's emphasis on performance based budgeting. The reform builds on EM program's strategic objective to:

> Safely and expeditiously manage waste; clean up facilities and the environment; and stabilize and store nuclear material and spent nuclear fuel, with the intent to complete cleanup of 16 additional sites by the end of 2006 bringing the total number of sites cleaned to 92 out of the total 114.

The Office of Environmental Management is funded through five existing and one proposed separate appropriations accounts: **Defense Facilities Closure Projects** (FY 2002 $1,093M; FY 2003 $1,091M*)*; **Defense Environmental Restoration and Waste Management** *(FY 2002 $5,283M; FY 2003 $4,563M);* **Defense Environmental Management Privatization** *(FY 2002 $154M; FY 2003 $158M);* **Non-Defense Environmental Management** *(FY 2002 $236M; FY 2003 $166M)*; **Uranium Facilities Maintenance and Remediation** *(FY 2002 $423M; FY 2003 $382M);* and the new **Environmental Management Cleanup Reform** *(FY 2002 $0M; FY 2003 $800M*).

PROGRAM HIGHLIGHTS

The FY 2003 budget request totals $6.7 billion, essentially the same level as appropriated for FY 2002. The budget includes a new Environmental Management Cleanup Reform appropriation request of $800 million. Should this new program be successful, the Administration is prepared to request additional funds for it in FY 2003 and beyond.

The budget request will allow the program to continue to protect worker and 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; fully protect nuclear materials from terrorist threats; support accelerated cleanup and closure of the Rocky Flats Environmental Technology Site in Colorado, Fernald Environmental Management Project in Ohio and the Mound Site in Ohio; achieve the increased numbers of shipments to WIPP, critical to meeting cleanup and closure goals; and continue to make progress in completing cleanup projects in accordance with existing approaches and under existing agreements.

A major new aspect of this budget request, that will begin the immediate implementation of the recommendations of the top-to-bottom review, is the new Environmental Management Cleanup Reform appropriation. The new account is designed to enable the Department, the States, and the American taxpayer to begin realizing the benefits of alternative cleanup approaches that will produce more real risk reduction, accelerate cleanup, or achieve much needed cost and schedule improvements. It will provide the stimulus necessary to reach agreement with States and regulators on new, more effective cleanup approaches by ensuring constant or increased funding levels are available to those States for cooperative efforts that lead to greater and faster risk reduction. The Department will work with the regulators to agree on approaches that meet mutual goals of achieving accelerated, risk-based cleanup and eliminates unneeded activities. Once agreement is reached, funds will be made available from the Cleanup Reform Appropriation to fund these new project approaches or supplement existing funding from the base budget for these projects.

Consistent with the recommendations from the review, the EM budget also reflects a refocusing of the Science and Technology program to address specific, short-term applied technology needs for cleanup and closure. Longer-term and more basic research and technology activities will be transferred to the Office of Science. In addition, the Savannah River Ecology Laboratory will also be transferred to the Office of Science.

The FY 2003 request also includes the transfer of safeguards and security responsibility for Argonne National Laboratory-West from the Office of Science to EM.

SIGNIFICANT FUNDING CHANGES–FY 2002 to FY 2003 Request ($ in millions)

Environmental Management Cleanup Reform (New Initiative).....+$800.0
The budget request includes **$800M** to initiate alternative approaches that will enable EM to clean up the environmental legacy expeditiously, cost effectively, and with maximum reduction to risk. This new initiative is the start of EM's reform towards meeting its strategic objectives.

Defense Environmental Restoration and Waste Management (FY 2002 $5,283.1; FY 2003 $4,562.7).....-$720.4
The focus of this appropriation is on maintaining worker and public safety; ensuring the security of nuclear materials; surveillance and maintenance activities to keep waste and nuclear materials in a safe and stable condition; making progress at a number of sites; maintaining increased shipments to WIPP; and supporting the accelerated closure of Rocky Flats, Mound, and Fernald. Funding has been reduced to reflect changes in program priorities, the transfer of the Science and Technology program to the Office of Science. Funding has not been provided for projects that do not directly support EM's cleanup and closure mission.

Non-Defense Site Closure (FY 2002 $43.0; FY 2003 $0) .....-$43.0
The **Weldon Spring Site** Remedial Action Project in Missouri, which is managed by the Oak Ridge Operations Office, will be completed in FY 2002, with no funding being requested in FY 2003. Long-term stewardship activities will be conducted through Idaho/Grand Junction.

Defense Facilities Closure Projects

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Defense Facilities Closure Projects					
Site closure	1,044,115	1,038,903	1,054,153	+15,250	+1%
Safeguards and security	57,216	53,975	37,161	-16,814	-31%
Total, Defense Facilities Closure Projects	**1,101,331**	**1,092,878**	**1,091,314**	**-1,564**	**-0%**

PROGRAM DESCRIPTION

The **Defense Facilities Closure Projects** site closure account supports sites where the goal is to complete cleanup by the end of FY 2006, with no further DOE mission envisioned, other than surveillance and maintenance. Defense Facilities Closure Projects provides funding in two categories: Site Closure and Safeguards and Security. This account includes funding for projects managed by the Ohio Field Office (Mound, Ashtabula, Battelle Columbus Laboratory, Fernald) and the Rocky Flats Environmental Technology Site.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Defense Facilities Closure Projects (FY 2002 $1,092.9; FY 2003 $1,091.3)..... -$1.6

Site Closure (FY 2002 $1,038.9; FY 2003 $1,054.2).....+$15.3
Ohio *(FY 2002 $418.4; FY 2003 $419.7*) Cleanup activities in Ohio comprise four sites: Mound, Ashtabula, Battelle Columbus Laboratory, and Fernald. These sites, managed by the Ohio Field Office, have the goal to release or transfer real property to the State or local communities or to the private owners by completing environmental restoration and waste management projects requiring minimal level of long-term stewardship after project closure. The FY2003 request continues progress at all four sites. Activities include: safe facility shutdown; decontamination and decommissioning buildings; and disposition of contaminated soil, debris and disposal of waste material. The net increase at Fernald supports additional remediation of waste and waste shipments to a DOE disposal site..... +$1.3

Rocky Flats *(FY 2002 $620.5; FY 2003 $634.4)* The Rocky Flats Plant was established by the Atomic Energy Commission in 1951 as one of seven production plants in the U.S. Weapons Complex. The Rocky Flats Plant played an integral part in the Nation's nuclear defense manufacturing of nuclear weapons components from plutonium, beryllium, and uranium. The current Rocky Flats mission encompasses the management of the site waste and special nuclear materials and their removal from the site. This mission also includes deactivation, decommissioning and demolition of the site facilities; and cleanup, closure and conversion of the site for beneficial use in a manner that is safe, responsible, physically secure, and cost-effective. The FY 2003 request continues D&D activities and maintains site closure for FY 2006. The net increase reflects additional remediation efforts and increased D&D activities for the Building 776 cluster facilities .....+$13.9

Safeguards and Security (FY 2002 $54.0; FY 2003 $37.2).....-$16.8
The Safeguards and Security Program ensures appropriate levels of protection for EM facilities and cleanup sites. The FY 2003 request provides for protection of DOE security concerns, anticipates evolving threats, and maintains a balance of the security mission with the operation of the Fernald, Miamisburg, and Rocky Flats sites. The decrease reflects: completion of the majority of planned site security physical upgrades in FY 2002 at Miamisburg; the anticipated special nuclear materials off-site shipments in FY 2002 from Fernald; and anticipated removal of special nuclear material from the Rocky Flats site in late 2002/early 2003.

Defense Environmental Restoration and Waste Management

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Defense Environmental Restoration & Waste Management					
Site/project completion	1,133,993	942,562	787,950	-154,612	-16%
Post 2006 completion					
Hanford tank waste remediation system — ORP	401,171	665,000	619,000	-46,000	-7%
Other office of river protection (ORP)	389,609	360,198	278,988	-81,210	-23%
Other post 2006 completion	1,910,233	1,961,195	1,717,111	-244,084	-12%
Total, Post 2006 completion	2,701,013	2,986,393	2,615,099	-371,294	-12%
Science and technology	203,378	204,732	92,000	-112,732	-55%
Excess facilities	——	4,874	1,300	-3,574	-73%
Multi-Site activities	506,893	553,934	479,871	-74,063	-13%
Safeguards and security	215,893	221,419	228,260	+6,841	+3%
Program direction	372,053	369,234	358,227	-11,007	-3%
Subtotal, Defense environmental restoration and waste management	5,133,223	5,283,148	4,562,707	-720,441	-14%
Use of PY balances and other adjustments	-103,502	-64,803	-4,347	+60,456	+93%
Total, Defense Environmental Restoration and Waste Management	**5,029,721**	**5,218,345**	**4,558,360**	**-659,985**	**-13%**

Site/Project Completion

PROGRAM DESCRIPTION

The **Defense Site/Project Completion** account provides funding for projects expected to be completed by FY 2006 at sites or facilities where a DOE mission will continue (e.g. nuclear weapons stockpile stewardship) beyond FY 2006. The principal Defense EM cleanup sites are managed by the Albuquerque, Idaho, Richland, and Savannah River Operations Offices.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Site/Project Completion (FY 2002 $942.6; FY 2003 $788.0) .....-$154.6
Albuquerque *(FY 2002 $52.9; FY 2003 $32.9)* The Albuquerque Operations Office supports cleanup activities at: the **Kansas City Plant**, Missouri; the **Pantex Plant**, Texas; **Sandia National Laboratory**, California and New Mexico; the **Pinellas Plant**, Florida; and the **South Valley Superfund Site**, New Mexico. The FY 2003 request continues: groundwater treatment and monitoring at the Kansas City Plant, expansion of the perched groundwater treatment system at Pantex Plant, corrective action management unit operations at Sandia National Laboratory, and partial annual payment of Pinellas post-contract medical benefits. The net decrease reflects transfer of funds to higher priority activities, completion of some remediation efforts at the Pantex Plant, reduction in legal expenses needed for the South Valley Superfund Site, and expiration of grants and cooperative agreements for university research projects.....-$20.0

Idaho *(FY 2002 $63.9; FY 2003 $54.6)* The **Idaho National Engineering and Environmental Laboratory** safely manages the disposal of on-site mixed low-level, low-level, hazardous, and

other wastes. The FY 2003 request continues remediation activities; groundwater monitoring; and surveillance and maintenance. The net decrease reflects completion of three major activities (soils remediation at the **Central Facilities Area Remediation;** project closeout of the **Health Physics Instrument Laboratory;** and construction of the **Electrical and Utility Systems Upgrade Project)**, ramping down of construction activities for the **Cathodic Protection System** and reduced treatment/disposal of legacy and newly generated mixed waste ..... -$9.3

Richland *(FY 2002 $437.4; FY 2003 $357.4)* The Richland Operations Office, Hanford Site manages cleanup activities at facilities associated with the production of nuclear materials during the Cold War. The FY 2003 request focuses on cleanup outcomes and includes continued packaging and stabilization of plutonium residues; continued surveillance and maintenance activities to ensure safe operation of associated facilities for stored special nuclear materials; and compliance with International Atomic Energy Agency non-proliferation inspections at the **Plutonium Finishing Plant.** The request also: supports activities at the **K-Basins** (continued removal and drying of degrading spent nuclear fuel and transporting it to storage away from the Columbia River); provides for continued proper treatment, storage and disposal of waste and effulents from the site; and transition of 300 Area buildings and landlord services. The reduction reflects support of higher priority activities .....-$80.0

Savannah River *(FY 2002 $385.6; FY 2003 $337.9)* The Savannah River Site treats and disposes of legacy materials and wastes resulting from nuclear materials produced during the Cold War. The FY 2003 request continues management and stabilization of "at risk" spent nuclear fuel and nuclear materials in the **F and H Areas** in support of Defense Nuclear Facilities Safety Board Recommendations 94-1 and 2000-1; **F-Canyon** exhaust upgrade project; and activities for a plutonium stabilization and packaging capability in the **FB-Line Facility**. The net decrease reflects completion of the upgrades in **F-Area Tank Farm** of all support service lines and retrofits of refrigeration chillers containing chlorinated fluor-carbons. It also reflects a ramp down in construction for 02-D-420, Plutonium Packaging and Stabilization Project.....-$47.7

Post 2006 Completion

PROGRAM DESCRIPTION

The Post 2006 Completion account focuses on projects currently planned to require funding beyond FY 2006. The principal Defense EM cleanup activities will be carried out by the Albuquerque, Idaho, Nevada, Oakland, Oak Ridge, Richland, and Savannah River Operations Offices; the Carlsbad Field Office; and the Office of River Protection, which focuses on the cleanup of tank wastes near the Columbia River in Washington.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Post 2006 Completion (FY 2002 $2,986.4; FY 2003 $2,615.1).....-$371.3

Albuquerque *(FY 2002 $81.6; FY 2003 $59.5)* The Albuquerque Operations Office manages cleanup activities at **Los Alamos National Laboratory** (LANL) and the Albuquerque Nuclear Materials Stewardship Office. The FY 2003 request: continues to store, sort, segregate, and repackage transuranic waste; characterize and store mixed low-level waste; completes transuranic waste shipments to WIPP; and continues remediation activities, groundwater investigations and deep well installations at LANL. The request also provides for Agreements-In-Principle and supports the Albuquerque Nuclear Material Stewardship project office and R&D efforts. The reduction reflects support of higher priority activities .....-$22.1

Carlsbad *(FY 2002 $183.4; FY 2003 $193.2)* The Carlsbad Field Office manages the **Waste Isolation Pilot Plant (WIPP)** for safe disposal of transuranic waste and maintains an effective system for the transportation of transuranic waste. The FY 2003 request for the WIPP will fully support contact-handled mixed transuranic waste shipments from **Rocky Flats, Idaho National Engineering and Environmental Laboratory, Savannah River,** and **Argonne National**

Laboratory-East and limited shipments from other sites. WIPP plans to maintain a receipt rate of 25 contact-handled transuranic waste shipments per week during FY 2003 ..... +$9.8

Idaho *(FY 2002 $371.9; FY 2003 $295.1)* The **Idaho National Engineering and Environmental Laboratory** manages and disposes of high-level radioactive waste, transuranic waste, and spent nuclear fuel. The FY 2003 request continues characterization, treatment, and disposal of transuranic waste to **WIPP**; remediation, waste management, landlord/infrastructure activities; and conceptual design for a sodium-bearing waste treatment project. The decrease primarily reflects completion of: shipment of 3,100 cubic meters of transuranic waste to **WIPP** in early FY 2003; water and aquifer monitoring at the chemical processing plant; the Tank Farm Instrument Upgrade Project; and the Engineering Test Reactor sodium loop and calcine handling tool disposition. The net decrease reflects changes in priorities within the cleanup program .....-$76.8

Nevada *(FY 2002 $85.0; FY 2003 $57.9)* The Nevada Operations Office manages waste cleanup activities at inactive sites and facilities contaminated as the result of historic nuclear testing activities conducted at the **Nevada Test Site, Tonopah Test Range, Nellis Air Force Range** in Nevada, and eight other locations in five States. The FY 2003 request continues the Underground Test Area Project that evaluates groundwater contamination; completes 48 release site assessments and 42 remedial actions at Industrial Sites; completes monitoring wells for the Central Nevada Test Area; completes closure activities for Amchitka, Alaska Subsurface Areas; supports shipment of 128 cubic meters of transuranic waste to **WIPP**; and continues Agreements-In-Principle and grants. The reduction reflects support of higher priority activities .....-$27.1

Oakland *(FY 2002 $42.4; FY 2003 $30.8)* The Primary activities managed through the Oakland Operations Office include planning and implementation of remediation and waste treatment, storage, and disposal activities at the **Lawrence Livermore National Laboratory (LLNL)** in California. The FY 2003 request supports ongoing projects at LLNL, including continued operation and maintenance of groundwater treatment; commercial disposition of mixed low-level waste and low-level waste; and commencement of transuranic waste shipments to WIPP. The reduction reflects support of higher priority activities.....-$11.6

Oak Ridge *(FY 2002 $261.0; FY 2003 $258.8)* Activities managed by the Oak Ridge Operations Office direct and monitor environmental restoration, waste management operations, and materials stabilization activities on the Oak Ridge Reservation and at several off-site locations. The FY 2003 request supports continued disposition of legacy waste at the Oak Ridge Reservation; management and disposal of low-level waste and mixed low-level waste at commercial facilities; and remediation, surveillance, and maintenance activities at Y-12, the Oak Ridge National Laboratory, and the East Tennessee Technology Park. Funding for FY 2003 also supports: completion of the **Y-12 Bear Creek Boneyard/Burnyard** and the **ORNL Main Plant Surface Impoundment** excavation and treatment/disposal activities; continued remediation of the **Solid Waste Storage Area 4 Burial Ground**; and demolition and disposal of building materials from the **New Hydrofracture Facility**..... -$2.2

Richland *(FY 2002 $256.3; FY 2003 $198.2)* Activities managed by the Richland Operations Office, Hanford Site, clean up soil contamination along the Columbia River; decontaminate and decommission surface facilities; and monitor, mitigate, and remediate chemical and radioactive contaminants that have migrated into the vadose zone and groundwater beneath the site. The FY 2003 request supports completion of the **233-S Facility** decontamination and decommissioning (D&D) activities, continued remedial action activities near the N-Reactor disposing of surface contamination; continued reactor interim safe storage work at the **D and F-Reactor** areas; continued water treatment operations in the **100 Area** to mitigate effects of chemical and radioactive contaminants that have migrated into the vadose zone and groundwater; and management of large volumes of liquid and solid wastes generated as a result of site cleanup. The decrease reflects completion of two reactor stabilization projects and re-evaluation of priorities within the cleanup program .....-$58.1

Office of River Protection *(FY 2002 $1,025.2; FY 2003 $898.0)* The Office of River Protection manages the safe operation of the underground high-level waste storage tanks in Hanford, Washington and construction and operation of the tank waste complex to complete the cleanup of Hanford's highly radioactive tank waste. The FY 2003 budget request will begin construction of the Waste Pretreatment Facility, the third (and last) major facility to begin construction under the Waste Treatment and Immobilization Plant project; start the Interim Stabilization of the last six (of 29) single-shell waste tanks; complete closeout of the Infrastructure project (99-D-403), which provides electricity, water and utilities hook-ups to the Waste Treatment and Immobilization Plant; and initiate long-lead procurements for the Immobilized High Level Waste Storage Facility (03-D-403), which will store canisters produced by the Waste Treatment and Immobilization Plant. The reduction reflects changes in priorities in the cleanup program.....-$127.2

Savannah River *(FY 2002 $678.8; FY 2003 $623.2)* Activities managed by the Savannah River Site treat and dispose of the legacy materials and wastes resulting from the production of nuclear materials during the Cold War. The FY 2003 request continues management of spent nuclear fuel; stabilization and storage of nuclear materials; surveillance and maintenance activities; high-level waste management activities at the H-Tank Farm; **vitrification** of approximately 100 canisters of high level-waste at the **Defense Waste Processing Facility**; conceptual design of a **Salt Waste Processing** facility; disposal of mixed, low-level and hazardous waste; site release assessments and remediation; and landlord activities. The net decrease reflects changes in priorities within the cleanup program .....-$55.6

Multi-Site

PROGRAM DESCRIPTION

The Multi-Site account supports management and oversight for various crosscutting EM and DOE initiatives. A variety of multi-site activities are supported, including the EM program's contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Multi-Site (FY 2002 $553.9; FY 2003 $479.9).....-$74.0

Multi-Site *(FY 2002 $133.9; FY 2003 $37.9)* Multi-Site activities provide management and direction for various crosscutting EM and DOE initiatives; establish and implement national and departmental policy; and conduct analyses and integrate activities across the DOE complex. The FY 2003 request supports Headquarters technical support efforts and Emergency Preparedness. The decrease reflects elimination of the centrally funded Hazardous Worker Training, pollution prevention, environmental and regulatory analyses, and nuclear criticality safety training programs. Substantial reductions have been made in funding for long-term stewardship, policy and integration/disposition support activities. Reduction reflects support for higher priority activities .....-$96.0

D&D Fund deposit *(FY 2002 $420.0; FY 2003 $442.0)* These funds provide the EM Program's contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.....+$22.0

Science and Technology (FY 2002 $204.7; FY 2003 $92.0).....-$112.7

The EM's top-to-bottom review identified a need to refocus the **Science and Technology** program. The FY 2003 request reflects this refocusing, including the transfer of the EM Science Program to the Office of Science.

The Science and Technology program is being refocused to support high priority needs and risk reduction goals. The program will concentrate on high priority technical needs at closure sites; short and intermediate-term projects; and high risk, high payoff projects. In addition the program will identify vulnerabilities in baseline technologies, and develop applied technologies to resolve those

vulnerabilities. Alternatives to baseline technologies will be developed with priority on reducing programmatic risk, improving schedules, and reducing costs. Non-related programs which do not meet the needs of the refocused research will be phased out. Potential projects could include for example demonstration of: remote canister decontamination technologies; dismantlement technologies on failed vitrification equipment; safe and reliable systems for long-term surveillance and monitoring of buildings with residual contamination; and innovative technologies to safely and cost-effectively deactivate and decommission hot cells and associated equipment.

Safeguards and Security (FY 2002 $221.4; FY 2003 $228.3)..... +$6.9
The Safeguards and Security program ensures appropriate levels of protection for EM facilities and sites.

Program Direction (FY 2002 $369.2; FY 2003 $358.2).....-$11.0
The Program Direction account supports the federal workforce responsible for the overall direction and administrative support of the EM Program, including both Headquarters and field personnel. The Program Direction account provides funding for salaries, benefits, travel, training, support services, and other related expenses for 2,401 FTEs; 1,996 of these FTEs are located in field offices. Reduced funding reflects a reduction of 252 FTEs and a decrease in support service funding.

Defense Environmental Management Privatization

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Defense Environmental Management Privatization					
Privatization initiatives, various locations	119,692	153,537	158,399	+4,862	+3%
Use of prior year balances	-25,092	——	——	——	——
Rescission	-97,000	——	——	——	——
Total, Defense Environmental Management Privatization	**-2,400**	**153,537**	**158,399**	**+4,862**	**+3%**

PROGRAM DESCRIPTION

Privatization projects are funded in a non-traditional manner where the contractor assumes most of the up-front risk for a project. DOE attempts to obtain the best price for the desired products and services by using open competition to award fixed-price contracts. The selected contractor owns and is responsible for technology, equipment, and facilities necessary to deliver the end-product. The contractor will not receive payment until specified goals are met or services are rendered.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Advanced Mixed Waste Treatment Project, Idaho (FY 2002 $52.0; FY 2003 $105.0).....+$53.0
This project will treat and manage 65,000 cubic meters of alpha and TRU mixed waste located in retrievable storage at the INEEL Radioactive Waste Management Complex (RWMC). Cumulative funding through FY 2003 provides for approximately 85 percent of the funding needed for the physical construction phase of this project based on the awarded fixed-price contract. Funding for the construction phase will continue to be requested through 2004.

Spent Nuclear Fuel Dry Storage Project, Idaho (FY 2003 $49.3; FY 2003 $53.4)..... + $4.1
The project will provide licensed interim dry storage for three types of spent nuclear fuel (SNF) at INEEL. Currently, the fuel resides in facilities at INEEL, various universities, and at foreign research reactors. This project would place SNF, containing approximately 55 metric tons of heavy metal, into interim dry storage. Cumulative funding through 2002 provided 44 percent of the capital funding needed. Funding for the construction phase of this project will continue to be requested through 2007.

Non-Defense Environmental Management

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Non-Defense Environmental Management					
Site closure	52,997	43,000	——	-43,000	-100%
Site/project completion	100,631	64,119	51,272	-12,847	-20%
Post 2006 completion	137,107	125,753	112,887	-12,866	-10%
Excess facilities	——	3,500	1,841	-1,659	-47%
Subtotal, Non-Defense environmental management	290,735	236,372	166,000	-70,372	-30%
Use of prior year balances	-1,919	——	——	——	——
Total, Non-Defense Environmental Management	**288,816**	**236,372**	**166,000**	**-70,372**	**-30%**

PROGRAM DESCRIPTION

The EM Program manages and addresses the environmental legacy resulting from civilian nuclear energy research. The nuclear energy research and development of the Department, and its predecessors generated waste, pollution, and contamination which pose unique problems, including unprecedented volumes of contaminated soil and water, and a vast number of contaminated structures. Sites on the Non-Defense side of the EM program include the **Grand Junction Office** in Colorado; and the **Uranium Mill Tailings Remedial Action** groundwater projects at various locations mostly in the West.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Site Closure (FY 2002 $43.0; FY 2003 $0) .....-$43.0
Site Closure projects will result in the closure of specific sites by 2006, after which no further Departmental mission is envisioned except for long-term surveillance and maintenance. This account includes the Weldon Springs Site in Missouri. Because the project will be completed in FY 2002, no funding is requested in FY 2003 except for long-term stewardship activities that will be conducted through Idaho/Grand Junction.

Site/Project Completion (FY 2002 $64.1; FY 2003 $51.3) .....-$12.8
The Site/Project Completion account provides funding for projects where cleanup is expected to be completed by FY 2006, at sites or facilities with a continuing DOE mission beyond FY 2006. This account includes projects and sites for the Albuquerque, Chicago, Idaho, Oakland, and Richland Operations Offices.

Chicago *(FY 2002 $32.3; FY 2003 $23.9)* The Chicago Operations Office manages EM activities at the Argonne National Laboratory-East (ANL-East) in Illinois, ANL-West in Idaho, and the Brookhaven National Laboratory (BNL) in New York. The goal is to complete remediation of all currently baselined scope activities for Chicago managed sites by FY 2006, and transfer long-term surveillance and maintenance activities to the landlord programs after completion of site cleanup activities. The FY 2003 request supports remediation and groundwater activities, surveillance and maintenance and characterization for the Brookhaven Graphite Research Reactor at BNL; facility decommissioning and remediation at ANL-East; and operation and

maintenance activities for soil remediation and monitoring at ANL-West. In addition, Potentially Responsible Party payments will be for DOE's liability for Princeton University Site A/B remediation costs. The net decrease reflects support of higher priority activities ..... -$8.4

Post 2006 Completion (FY 2002 $125.8; FY 2003 $112.9) .....-$12.9
The Post 2006 Completion account focuses on cleanup projects currently planned to require funding beyond FY 2006. This account includes projects and sites at the Albuquerque, Idaho, and Oakland Operations Offices and the Ohio Field Office. The Multi-Site activity, also funded under this account, supports the Package Approval and Safety program.

Oakland *(FY 2002 $17.2; FY 2003 $13.7)* The Oakland Operations Office manages remediation and waste treatment, storage, and disposal activities at the Energy Technology Engineering Center (ETEC), and the General Electric (GE) Vallecitos Nuclear Center in California. The FY 2003 request supports the continued operation of the Radioactive Materials Handling Facility and the Space Nuclear Auxiliary Reactor, landlord functions, and disposal of low-level and mixed low-level waste at the Energy Technology Engineering Center. The reduction reflects support of higher priority activities..... -$3.5

Multi-Site Activities *(FY 2002 $8.7; FY 2003 $1.0)* The Packaging Certification and Transportation Safety program serves to better coordinate DOE-wide non-defense program efforts and avoids overlaps and inconsistencies. The decrease reflects the completion of activities within the Policy and Management program and support of higher priority activities ..... -$7.7

Excess Facilities (FY 2002 $3.5; FY 2003 $1.8)..... -$1.7
The Excess Facilities Transfer Program is initiated to manage the final disposition of excess contaminated physical facilities to generate significant risk and cost reductions. This program facilitates the cross-program transfer of excess contaminated facilities from the Office of Science and the associated deactivation and decommissioning activities. The request also supports continued surveillance and maintenance of the facilities transferred to EM in FY 2002. The net decrease reflects a delay in the start of deactivation and decommissioning activities.

Uranium Facilities Maintenance and Remediation

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Uranium Facilities Maintenance and Remediation					
Uranium enrichment decontamination and decommissioning fund					
Decontamination and decommissioning.....	273,987	298,641	234,523	-64,118	-21%
Uranium/thorium reimbursement.....	71,842	1,000	1,000	——	——
Total, Uranium enrichment D&D fund.....	345,829	299,641	235,523	-64,118	-21%
Other Uranium activities.....	68,273	123,784	146,631	+22,847	+18%
Subtotal, Uranium Facilities Maintenance and Remediation.....	414,102	423,425	382,154	-41,271	-10%
Use of prior year balances.....	——	-5,000	——	+5,000	+100%
Total, Uranium Facilities Maintenance and Remediation.....	**414,102**	**418,425**	**382,154**	**-36,271**	**-9%**

PROGRAM DESCRIPTION

In FY 2001, Congress directed the consolidation of Uranium Programs previously managed by the Office of Nuclear Energy, Science and Technology with activities supported by the Uranium Enrichment Decontamination and Decommissioning (UED&D) Fund, both to be managed by the Office of Environmental Management. This was done to improve the coordination of activities relating to the three gaseous diffusion plants at: Paducah, Kentucky; Portsmouth, Ohio; and Oak Ridge, Tennessee; which were used to enrich uranium for defense purposes and civilian reactor fuel.

Currently, the United States Enrichment Corporation (USEC) leases and operates the DOE-owned Paducah, Kentucky plant. The Oak Ridge, Tennessee, plant is no longer in operation. In June 2001, the Department placed the Portsmouth Gaseous Diffusion Plant in cold standby under a letter contract with USEC. DOE is responsible for all costs of the non-leased areas of the former gaseous diffusion plants.

The Energy Policy Act of 1992 established the Uranium Enrichment D&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 USEC. The 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 Fund is made by the Department 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 which sold purchased ore to the U.S. Government.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Uranium Facilities Maintenance and Remediation (FY 2002 $423.4; FY 2003 $382.2) ....-$41.2
The EM Program manages the maintenance, decontamination, decommissioning, and remediation of uranium processing facilities. These are the Nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and the East Tennessee Technology Park in Oak Ridge, Tennessee. Other uranium activities supported include R&D; maintenance of facilities and inventories; pre-existing liabilities; and maintaining the Portsmouth Gaseous Diffusion Plant in cold standby. Decreased funding for Uranium Enrichment Decontamination and Decommissioning funded activities reflects the Administration's proposal to significantly reduce these projects to permit EM to accelerate risk reduction elsewhere.

Uranium Enrichment Decontamination and Decommissioning Fund (FY 2002 $299.6; FY 2003 $235.5).....-$64.1

Oak Ridge (FY 2002 $298.6; FY 2002 $234.5) .....-$64.1
East Tennessee Technology Park (ETTP) (formerly K-25) *(FY 2002 $103.4; FY 2003 $82.2)* The East Tennessee Technology Park was built as part of the World War II Manhattan Project and 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. The FY 2003 request supports continued decommissioning of the last three cascade units in process building K-31; complete excavation and disposal of K-1070A contaminated burial ground project from 62 pits and 26 trenches; and continued surveillance and maintenance.....-$21.2

Paducah *(FY 2002 $93.4; FY 2003 $73.5)* The 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 United States Enrichment Corporation in accordance with the Energy Policy Act of 1992. The FY 2003 request supports completion of the North/South Ditch remedial action; site-wide sediment control removal action; and continuation of scrap metal removal action. Complete characterization of DOE Material Storage Areas, and areas C-409-01/02; and characterize, package, treat and dispose of newly generated mixed low-level and low-level wastes .....-$19.9

Portsmouth *(FY 2002 $89.7; FY 2003 $68.1)* The Portsmouth Gaseous Diffusion Plant began operation in 1952. In 1993, uranium enrichment operations were leased to the United States Enrichment Corporation in accordance with the Energy Policy Act of 1992. The FY 2003 request supports the X-747H scrap yard project to package and dispose of approximately 3,800 tons of low-level contaminated scrap metal; completed construction of the X-749 Peter Kiewit landfill five year corrective measure and initiates construction of a barrier wall; continued safe storage of legacy mixed low-level and low-level waste, and disposal of sanitary and hazardous waste; characterizes, treats, and disposes of various low-level waste streams .....-$21.6

Other Uranium Activities (FY 2002 $123.8; FY 2003 $146.6).....+$22.8
Oak Ridge *(FY 2002 $84.5; FY 2003 $121.3)* The Oak Ridge Operations Office manages Other Uranium Activities that include research and development, maintenance of facilities and inventories, pre-existing liabilities, and placing the Portsmouth Gaseous Diffusion Plant in cold standby. DOE currently stores 680,000 metric tons of depleted uranium as solid uranium hexaflouride. The FY 2003 request supports maintenance of the uranium inventory at the **Paducah and Portsmouth Gaseous Diffusion Plants** and the **East Tennessee Technology Park** in Oak Ridge, Tennessee. Funds will also support pre-existing liabilities, including activities and expenses associated with post-retirement life and medical benefits and long-term disability benefits. The net increase reflects placement of the **Portsmouth Facility** on cold-standby which includes the cost of winterizing and heating the facility. Funding is provided to continue research and explore alternatives for disposition of depleted uranium hexafluoride.....+$36.8

Environmental Management Cleanup Reform

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Environmental Management Cleanup Reform					
Environmental management cleanup reform.....	**——**	**——**	**800,000**	**+800,000**	**n/a**

PROGRAM DESCRIPTION

The Department is requesting a new appropriation – **Environmental Management Cleanup Reform** – of $800 million that is critical to beginning implementation of the recommendations from the top-to-bottom review. The new appropriation is designed to enable the Department, the States, and the American taxpayer to begin realizing the immediate benefits of alternative cleanup approaches that will produce more real risk reduction, accelerated cleanup, or cost and schedule improvements.

EM will work with our regulators to agree on approaches that meet our mutual goals of achieving accelerated, risk-based cleanup that eliminates unneeded activities. Once agreement is reached and a new cost savings and funding profile established for the acceleration or alternate cleanup strategy, funds will be made available from the EM Cleanup Reform appropriation to fund or supplement existing funding from the base budget for the project.

This new appropriation will provide the stimulus necessary to reach agreement with States and regulators on new, more effective cleanup approaches and ensure that constant or greater funding levels are available to those States whose cooperative efforts lead to greater and faster risk reduction. The review identified candidate projects as examples for discussion. These projects along with others identified by the States and/or the regulators will be considered. These alternative approaches offer the potential of earlier true risk reduction and could save the taxpayers tens of billions of dollars.

PROGRAM HIGHLIGHTS

FY 2003 is the first year of funding for this new approach to reforming and accelerating cleanup. The request provides $800 million. The staffing associated with this appropriation is covered in the consolidated program direction line in Defense Environmental Management. Should this program prove successful, the Administration is prepared to seek additional funding in FY 2003

Nuclear Waste Disposal (including defense)

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Civilian Radioactive Waste Management — Financing					
Nuclear Waste Disposal					
Repository program	127,992	39,000	146,713	+107,713	+276%
Program direction	64,914	58,278	65,332	+7,054	+12%
Total, Nuclear Waste Disposal	192,906	97,278	212,045	+114,767	+118%
Defense nuclear waste disposal	199,725	280,000	315,000	+35,000	+13%
Total, Civilian Radioactive Waste Management	**392,631**	**377,278**	**527,045**	**+149,767**	**+40%**
Civilian Radioactive Waste Management — Activities					
Yucca Mountain site characterization	312,985	296,886	424,922	+128,036	+43%
Waste acceptance, storage & transportation	2,661	4,103	17,100	+12,997	+317%
Program management & integration	12,071	18,011	19,691	+1,680	+9%
Program direction	64,914	58,278	65,332	+7,054	+12%
Total, Civilian Radioactive Waste Management	**392,631**	**377,278**	**527,045**	**+149,767**	**+40%**

PROGRAM DESCRIPTION

The **Office of Civilian Radioactive Waste Management (OCRWM)** fulfills the Federal government's responsibility for permanent geologic disposal of spent nuclear fuel and high-level radioactive waste resulting from the Nation's atomic energy defense activities. The program provides leadership in developing and implementing strategies to accomplish this mission to ensure public health and safety and protect the environment in ways that are economically viable.

Congress makes two separate appropriations for the program, one from the Nuclear Waste Fund (Civilian), the other through a Defense Nuclear Waste Disposal appropriation. These appropriations are recorded in separate internal accounts. Although the Nuclear Waste Fund is composed of a user fee that is dedicated utility money, funding to conduct the waste management program is appropriated and subject to the total spending limits imposed on all discretionary programs.

Nuclear Waste Disposal (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 November 30, 2001, there is a total of $16,453 million in fees and interest collected in the Nuclear Waste Fund, of which $5,760 million has been disbursed for a balance of $10,693 million.

Defense Nuclear Waste Disposal. Congress provides appropriations for the disposal of high-level waste generated from atomic energy defense activities. The primary focus of this appropriation is to fund the national defense programs' share of a long-term geological repository for defense nuclear waste.

The **National Energy Policy Group** recommends that the President support the expansion of nuclear energy in the United States as a major component of our energy strategy. A component of this recommendation is the construction of a deep geological repository for disposal of nuclear waste. The Department expects to submit a repository site recommendation to the President in FY 2002.

The **Yucca Mountain Site Characterization Office** manages the scientific and technical analyses of the Yucca Mountain candidate site. Successful completion of the planned scope of work will provide the scientific and technical information needed for development of a license application for submittal to the Nuclear Regulatory Commission to obtain a license to construct the repository.

The Office of Civilian Radioactive Waste Management (OCRWM) is committed to the President's emphasis on performance-based budgeting. The following is OCRWM's strategic objective:

> Complete the characterization of the Yucca Mountain site and, assuming it is determined suitable as a repository and the President and Congress approve, obtain requisite licenses, construct, and, in 2010, begin acceptance of spent nuclear fuel and high-level radioactive wastes at the repository.

PROGRAM HIGHLIGHTS

On January 10, 2002, Secretary of Energy Spencer Abraham notified Nevada Governor Kenny Guinn and the Nevada Legislature that he intends to recommend to President Bush that the Yucca Mountain site is scientifically sound and suitable for development as the Nation's long-term geological repository for nuclear waste, which would help ensure America's national security through the secure disposal of nuclear waste, provide for a cleaner environment, and support energy security.

The Office of Civilian Radioactive Waste Management will, at the time of site recommendation to the President in FY 2002, have reached the end of the site characterization phase of the Yucca Mountain Project. Assuming that Yucca Mountain is recommended and approved as the repository site, OCRWM, in FY 2003, will focus on the activities necessary to develop a license application for the development of a repository at Yucca Mountain and other activities associated with the Federal government's waste acceptance obligation. The program will also focus on activities required for repository construction and development of a national transportation capability.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Yucca Mountain Characterization (FY 2002 $296.9; FY 2003 $424.9) .....+$128.0
The increase in funds provides for technical activities to support development of the license application, continue design work to develop final construction drawings and specifications, conduct performance confirmation testing, monitoring, and evaluation activities, as required by the Nuclear Regulatory Commission's licensing regulations, and continue development of the Nevada transportation design and planning. The Nevada Transportation budget element is new in FY 2003 and includes $6 million for initial conceptual design and technical support.

Waste Acceptance, Storage & Transportation (FY 2002 $4.1; FY 2003 $17.1).....+$13.0
The increase in funds provides for the major activities that will precede removal and transportation of the spent nuclear fuel from reactor sites to the proposed repository, the preparation of acquisition documents, technical specifications, and issuance of a draft Request for Proposal (RFP) for acquisition of waste acceptance and transportation services after repository site selection, and the issuance of Nuclear Waste Policy Act Section 180(c).

Program Direction (FY 2002 $58.3; FY2003 $65.3)..... $7.0
The increase will provide for additional 11 FTEs, from 200 in FY 2002 to 211 in FY 2003, to support preparation of the license application. In addition, the increase will support computer upgrades to the OCRWM network since Microsoft will no longer support Windows 95 and Lotus Notes 4.6X, the current program standards. Additional management and technical support for Information Management is needed as the program moves toward a license application.

Departmental Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Departmental Administration					
Administrative operations:					
Office of the Secretary	5,081	4,784	4,731	-53	-1%
Board of contract appeals	917	953	785	-168	-18%
Congressional and intergovernmental affairs	5,275	4,777	5,224	+447	+9%
Economic impact and diversity	6,916	6,504	6,821	+317	+5%
General counsel	23,894	23,925	23,964	+39	+0%
Management, budget and evaluation	116,824	112,505	110,841	-1,664	-1%
Chief information officer	73,978	76,380	84,160	+7,780	+10%
Policy and international affairs	17,237	16,816	21,619	+4,803	+29%
Public affairs	4,244	4,057	4,685	+628	+15%
Total, Administrative operations	254,366	250,701	262,830	+12,129	+5%
Cost of work for others	74,027	71,837	69,916	-1,921	-3%
Subtotal, Departmental Administration (gross)	328,393	322,538	332,746	+10,208	+3%
Funding from other defense activities	-24,945	-22,000	-25,587	-3,587	-16%
Use of PY balances and other adjustments	-8,009	-10,936	——	+10,936	+100%
Total, Departmental Administration (gross)	295,439	289,602	307,159	+17,557	+6%
Miscellaneous revenues	-107,103	-137,810	-137,524	+286	+0%
Total, Departmental Administration (Net)	**188,336**	**151,792**	**169,635**	**+17,843**	**+12%**

PROGRAM DESCRIPTION

The **Departmental Administration** appropriation account funds eight Department-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, and public affairs. Funding for the **Office of the Secretary** is provided separately from the other administrative functions within the Departmental Administration account. The Departmental Administration account also budgets for **Cost of Work for Others** and receives miscellaneous **Revenues** from other sources.

The Department 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)

	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Business Line Activities			
Supplies	2,857	2,854	2,854
Mail Services	1,737	2,227	2,227
Photocopying	2,371	2,588	2,610
Printing and Graphics	4,047	3,567	3,567
Building Occupancy	56,409	54,384	55,066
Telephones	6,843	6,910	6,965
Desktop	1,199	1,234	1,248
Networking	6,125	6,401	6,469
Contract Closeout	703	719	719
Payroll and Personnel	3,102	5,270	5,270
Online Learning Center	N/A	109	109
Total, Working Capital Fund	**85,392**	**86,262**	**87,104**

In general, the Departmental Administration offices broadly support all of the President's **National Energy Policy (NEP)** initiatives by providing a full array of management and administrative support for the entire Department. In addition, because of the administrative nature of the Departmental Administration offices, all of these offices indirectly support the Secretary's eight priorities under the National Security mission.

The offices funded by Departmental Administration are committed to the President's emphasis on performance-based budgeting. The Departmental Administration's strategic objectives are:

Achieve effective and efficient management of the Department of Energy by implementing the President's Management Agenda initiatives on strategic management of human capital; competitive sourcing; improved financial performance; and budget and performance integration.

Advocate and implement E-government citizen service delivery office in FY 2003.

Ensure secure, efficient, effective and economical operations of the Department's Information Technology Systems and Infrastructure.

Provide analysis of domestic and international energy policy, develop implementation strategies, ensure policies are consistent across DOE and within the Administration, communicate analyses and priorities to the Congress, public, industry, foreign governments, and domestic and international organizations, and enhance the export and deployment of energy technologies internationally.

PROGRAM HIGHLIGHTS

The FY 2003 request provides $4.7 million for 34 full time equivalents within the Office of the Secretary. This request also provides $258.1 million for salary and benefits, travel, contractual services, and program support expenses for 1,179 full-time equivalent employees for the other organizations within the Departmental Administration Account. Cost of Work for Others and Revenues are budgeted at $69.9 million and -$137.5 million, respectively. Cost of Work includes $40 million for safeguards and security in FY 2003.

In FY 2003, the Office of the Chief Information Officer will be transferred from the Office of Security in the Other Defense Activities account to the Departmental Administration account. The Chief Information Officer program defines and implements policies to ensure efficient, economical, and effective management, planning and acquisition of information resources in support of the Department's missions. The program is also responsible for coordinating corporate cyber security policy, planning, and technical development, directing the replacement of outdated corporate information systems, and delivering shared or common services.

On July 26, 2001, the Secretary of Energy announced the reorganization of the former Offices of Management and Administration and the Chief Financial Officer into the Office of Management, Budget and Evaluation. The consolidation of these two organizations will better integrate budgeting and enable more efficient management of resources.

The Policy and International Affairs budget includes support for an expanded Energy Security and Assurance program in other Defense Activities. Funding will provide energy policy analysis to support energy infrastructure defense activities.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Office of Management, Budget and Evaluation (FY 2002 $112.5; FY 2003 $110.8) ..... -$1.7
The decrease is a result of increased efficiencies from the consolidation of the offices of Management and Administration and the Chief Financial Officer.

Office of Policy and International Affairs (FY 2002 $16.8; FY 2003 $21.6) ..... +$4.8
Increase of seven additional FTEs and associated costs (travel, working capital fund, etc.) to adequately support the implementation of the National Energy Policy (NEP) ..... +1.8

Conduct analysis and support implementation of the NEP recommendations ..... +1.0

Provide energy policy analytical support to the Energy Security and Assurance activity in Other Defense Activities working to protect the Nation's energy infrastructure against severe disruptions in energy supplies ..... +2.0

Office of the Chief Information Officer (FY 2002 $76.4; FY 2003 $84.2) ..... +$7.8
The increase supports the development of detailed specifications for acquisition of a modernized Procurement and Assistance system, infrastructure initiatives (CSIA applications) and expands the effort for review and analysis of Cyber Security Program Plans. In addition, four modernization initiatives will be initiated in FY 2003. The five projects are: Voice Telecommunications Systems Upgrade; Centralized Locater; Repository Enhancement; Defense Message System Pilot and Corporate Repository Data Exchange.

Cost of Work for Others (FY 2002 $71.8; FY 2003 $69.9) ..... -$1.9
Decrease reflects a reduction in the number of shipments of Foreign Research Reactor Spent Fuel to Savannah River and Idaho.

Inspector General

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Office of the Inspector General					
Office of inspector general.....	**33,556**	**33,856**	**38,872**	**+5,016**	**+15%**

PROGRAM DESCRIPTION

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

Statutory requirements direct the OIG to conduct annual financial statement audits required by the **Government Management Reform Act of 1994**, review the Department's information security systems as required by the **Government Information Security Reform Act of 2001**, and review the Department's implementation of the **Government Performance and Results Act of 1993**. In addition, the OIG conducts reviews of the most significant management challenges facing the Department, including NNSA. Current management challenges include contract administration, energy supply/demand technology, environmental standards and stewardship, human capital, information technology, infrastructure and asset management, performance management, research and development investment, security and safety, and stockpile stewardship.

The Office of Inspector General is committed to the President's emphasis on performance-based budgeting. The following is OIG's strategic objective:

> Operate a robust review program and provide timely performance information and recommendations to facilitate: (1) implementation of the President's Management Agenda; (2) resolution of Management Challenges; (3) execution of the Secretary's priorities; (4) completion of statutory Inspector General mandates; (5) recovery of monies and opportunities for savings; and (6) the integrity of the Federal and contractor workforce.

PROGRAM HIGHLIGHTS

The FY 2003 request supports statutory requirements including work associated with the Government Information Security Reform Act of 2001 to evaluate unclassified information systems and audit the Department's review of classified information systems. The OIG will also operate a robust review program with greater emphasis on evaluating the Department's program performance and management improvements in each of the President's five key Management Initiatives, the Secretary's priorities, and the most serious management challenges facing the Department.

SIGNIFICANT FUNDING CHANGES-FY 2002 to FY 2003 Request ($ in millions)

Inspector General (FY 2002 $33.9; FY 2003 $38.9) ..... +$5.0
The increase in FY 2003 is due to four additional full time equivalent employees (FTEs) from 262 in FY 2002 to 266 in FY 2003 to meet requirements associated with the reviews of the Department's critical management challenge areas. In addition, the increase will fully support the **Government Information Security Reform Act of 2001** to evaluate unclassified information systems and audit the Department's review of classified information systems.

OTHER DEFENSE ACTIVITIES

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Other Defense Activities					
Energy security and assurance	3,244	3,269	27,686	+24,417	+747%
Security	166,263	179,239	187,218	+7,979	+4%
Independent oversight and performance assurance	22,275	22,386	22,615	+229	+1%
Environment, safety & health	119,170	111,454	99,910	-11,544	-10%
Worker and Community Transition	41,958	20,091	25,774	+5,683	+28%
National security programs administration support	24,945	22,000	25,587	+3,587	+16%
Office of hearings and appeals	3,265	3,157	3,136	-21	-1%
Subtotal, Other Defense Activities	462,353	448,881	479,568	+30,687	+7%
Use of PY balances and other adjustments	-4,700	-18,958	-7,412	+11,546	+61%
Total, Other Defense Activities	**457,653**	**429,923**	**472,156**	+42,233	+10%

The organizations supported by the Other Defense Activities appropriation include: Energy Security and Assurance; Security; Independent Oversight and Performance Assurance; Environment, Safety and Health; Worker and Community Transition; National Security Programs Administration Support; and Office of Hearings and Appeals.

Energy Security and Assurance - Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Energy security and assurance					
Energy security	2,994	2,994	23,411	+20,417	+682%
Program direction	250	275	4,275	+4,000	>999%
Total, Energy security and assurance	**3,244**	**3,269**	**27,686**	**+24,417**	**+747%**

PROGRAM DESCRIPTION

America's energy supply is essential to a strong economy and national security. Increasing energy demand, vulnerability to disruptions from natural or malevolent causes, and a changing restructured industry could compromise the stability and reliability of our energy supplies. Failure to address these issues could threaten our Nation's economic prosperity, compromise our national security, and alter the way we live our lives.

Recognizing this weakness, on October 16, 2001, the Administration issued an Executive Order on Critical Infrastructure Protection in the Information Age. As part of this focus, the Department of Energy is organizing a strong public-private program to address this serious problem. Though protecting our energy vulnerabilities will largely be accomplished through the private sector, there is a strong national coordinating and analytical role to be filled by the federal government.

In FY 2003, funding is requested to fully deploy an Energy Security and Assurance program within the Office of Emergency Operations. This activity will support the national security of the United States by working to protect the Nation against severe energy supply disruptions. This will be accomplished in close collaboration with the private sector, by providing technical expertise to identify system critical components and interdependencies, identify threats to the systems, undertake or recommend actions to correct or mitigate vulnerabilities, plan for response and recovery to system disruptions, support the National Infrastructure Simulation and Analysis Center (NISAC), and provide technical response support during energy emergencies.

The Energy Security and Assurance program builds on activities previously conducted by the Critical Infrastructure Protection program in the Office of Security. The expanded activity will support the strategic objective previously established for the Critical Infrastructure Protection program:

> Direct Department-wide energy sector critical infrastructure protection activities and lead and coordinate Departmental efforts to work with industry, state and local governments, and national and international entities. Work with the national energy sector to develop the capability required to assure the Nation's energy infrastructures, including the physical and cyber components of the electric power, oil and gas infrastructures, the interdependencies among those components, and the interdependencies with the other critical national infrastructures. Identify DOE technologies that can help assure our Nation's critical energy infrastructures and facilitate their use by the private sector and other federal agencies. Work with state and local governments to develop plans and procedures for recovery from an attack on the energy infrastructure through training, exercise and technical assistance programs.

PROGRAM HIGHLIGHTS

National security includes assured energy security for the Nation. The tragic events of September 11th and the reality of widespread regional energy disruptions have brought to the forefront the need to build a strong defense of our energy infrastructure. A new Energy Security program is proposed in FY 2003 to meet this need. Through the application of sophisticated modeling technologies, development of training and information materials, and outreach with local officials and industry representatives, the resources provided by this program will better inform and facilitate efforts to protect the Nation's critical energy infrastructure.

SIGNIFICANT FUNDING CHANGES –FY 2002 to FY 2003 Request ($ in millions)

Energy Security and Assurance (FY 2002 $3.0; FY 2003 $4.1)..... +$1.1
Additional funds expand regional outreach and training with industry and local officials, DOE participation at federal emergency coordinating meetings, and "hands-on" planning capabilities to achieve real-time solutions to potential and actual energy emergencies. This funding will also support new tasking associated with support of the President's National Energy Policy and a recent Executive Order on critical infrastructure protection.

Policy analysis within DOE's Office of Policy and International Affairs will also support the Energy Security and Assurance program. Funding for energy systems analysis ($2.0 million) is requested separately in the Department's Office of Policy and International Affairs budget.

National Infrastructure Simulation and Analysis Center (FY 2002 $0; FY 2003 $19.3).....+$19.3
Increase supports the National Infrastructure Simulation and Analysis Center (NISAC) a public/private technical partnership led by Los Alamos and Sandia National Laboratories. NISAC will provide a fundamentally new technical planning and decision support environment for the analysis of critical infrastructures, their interdependencies, vulnerabilities, and complexities for policy analysis and emergency planning. Funding supports enhancements to computing capability. No construction or capital equipment expenditures are planned for NISAC in FY 2003.

Program Direction (FY 2002 $0.3; FY 2003 $4.3)..... +$4.0
Funding will provide the federal staffing resources and expenses associated with the technical direction and administrative support for an Energy Security and Assurance function within the Office of Emergency Operations. The funding request supports 22 FTEs, 9 of which are transferred from other existing DOE functions (2 FTE from Critical Infrastructure Protection formerly in the Office of Security and 7 FTE formerly in Nuclear Weapons Incident Response/Emergency Management).

Security – Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Security					
Nuclear safeguards and security	83,808	85,605	91,102	+5,497	+6%
Security investigations	32,927	44,927	45,870	+943	+2%
Program direction	49,528	48,707	50,246	+1,539	+3%
Subtotal, Security	166,263	179,239	187,218	+7,979	+4%
Use of PY balances and other adjustments	-906	-5,262	-712	+4,550	+86%
Total, Security	**165,357**	**173,977**	**186,506**	**+12,529**	**+7%**

PROGRAM DESCRIPTION

The **Office of Security,** develops policies and provides programmatic direction governing the protection of national security and other assets entrusted to the Department of Energy. The Office also provides safeguards and security training and field assistance to ensure the efficient and effective implementation of Departmental security policy. The office's programs include:

Nuclear Safeguards and Security provides policy, programmatic direction, and training associated with DOE's nuclear weapons, nuclear materials, classified information and facilities, and security at DOE Headquarters. **Security Investigations** provides funding for background investigations for all DOE federal and contractor personnel who require access authorizations for classified information or access to Special Nuclear Materials due to the nature of their official duties. The program relies on the Federal Bureau of Investigation and the Office of Personnel Management to complete background investigations. **Program Direction** provides for salaries and benefits, travel, support services, and other related expenses associated with overall management, direction, and administration.

The Office of Security is committed to the President's emphasis on performance-based budgeting. The following is the Office of Security's strategic objective:

> Reduce adverse security incidents, worker injuries, and environmental releases through policy development, and oversight of the Nation's energy infrastructure, nuclear weapons, materials, facilities and information assets.

PROGRAM HIGHLIGHTS

The FY 2003 request provides $186.5 million to continue security activities in the three major program activities, a $12.5 million increase over the FY 2002 funding level of $174.0 million. The FY 2003 budget bolsters support, training, and staffing for safeguards and security personnel and improves security at DOE Headquarters. The FY 2003 budget also provides the essential funding for operating support, including Nuclear Materials Accountability Systems and security investigation activities.

In FY 2003, the Office of the Chief Information Officer will be transferred from the Office of Security to the Departmental Administration account.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Nuclear Safeguards and Security (FY 2002 $85.6; FY 2003 $91.1)..... +$5.5
Funding increases primarily for Headquarters security upgrades and guard force increases (+$4.6), the Nonproliferation and National Security Institute (+$2.5) to meet increased demand for safeguards and security personnel, and replacement and equipment upgrades at the New Brunswick Laboratory (+$0.5), offset by reductions in Technology and Systems Development (-$3.4) and other activities. The Cyber Security program was transferred to the Chief Information Officer program in Departmental Administration, and the Critical Infrastructure Program was transferred to the Energy Security and Assurance program.

Security Investigations (FY 2002 $44.9; FY 2003 $45.9)..... +$1.0
Funding increases primarily for hardware and software upgrades needed to support the Security Investigations program (+$0.6), expansion of the Accelerated Access Authorization Program (+$0.2), and funding background investigations (+$0.2).

Program Direction (FY 2002 $48.7; FY 2003 $50.2)..... +$1.5
Provides funding increase for 11 additional Federal executive protection and security specialists and escalation of expenses due to inflation.

Independent Oversight and Performance Assurance – Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Independent oversight and performance assurance	**22,275**	**22,386**	**22,615**	**+229**	**+1%**

PROGRAM DESCRIPTION

The **Independent Oversight and Performance Assurance** program performs independent evaluations of the Department of Energy's nuclear safeguards and security, environment, safety, and health, cyber security, and emergency management activities. The program plays a key role in supporting the Department's national security mission by providing program managers with tools and assessments needed to preserve and effectively protect critical national security interests, which include the safeguarding of nuclear weapons, materials, facilities, information assets, and the protection of the environment, as well as safety and health of workers and the public.

The Office of Independent Oversight and Performance Assurance (OA) is committed to the President's emphasis on performance-based budgeting. The following is OA's strategic objective:

> Reduce adverse security incidents, worker injuries, and environmental releases through policy development, and oversight of the Nation's energy infrastructure, nuclear weapons, materials, facilities and information assets.

PROGRAM HIGHLIGHTS

The FY 2003 request provides $22.6 million to continue independent evaluations of the Department's nuclear safeguards and security, environment, safety, and health, cyber security, and emergency management activities. The requested funding is essentially the same as the FY 2002 funding level.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Independent Oversight and Performance Assurance (FY 2002 $22.4; FY 2003 $22.6)…… +$0.2
The increase is a result of consolidation of oversight activities and integration of the Department's safeguards and security programs.

Environment, Safety and Health – Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Environment, safety & health					
Environment, safety and health (defense).....	98,736	91,688	81,892	-9,796	-11%
Program direction.....	20,434	19,766	18,018	-1,748	-9%
Subtotal, Environment, safety and health.....	119,170	111,454	99,910	-11,544	-10%
Use of prior year balances.....	——	-11,231	——	+11,231	+100%
Total, Environment, safety & health.....	**119,170**	**100,223**	**99,910**	**-313**	**-0%**

PROGRAM DESCRIPTION

The **Office of Environment, Safety and Health (EH)** 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 EH plays a critical role by developing meaningful programs and policies, conducting independent reviews of environment, safety and health performance, and providing technical services, resources, and information sharing. DOE is externally regulated for compliance with applicable environmental laws administered by other Federal agencies. Accordingly, EH serves as DOE's advocate to assure the Department's interests are reflected in the formulation of environmental regulations and standards. EH develops environment, safety, and health directives and policies, performs Price-Anderson enforcement, and funds radiation health studies. EH also assists workers in obtaining information and medical records when applying for benefits under the **Energy Employees Occupational Illness Compensation Program Act.**

Funding for EH is provided in two accounts within the Energy and Water Development Appropriation: Energy Supply and Other Defense Activities. Defense-related activities of the Office of Environment, Safety and Health include: Corporate Safety Assurance, Health Studies, the Radiation Effects Research Foundation (RERF), and Energy Employee Occupational Illness Compensation (EEOIC).

The Office of Environment, Safety and Health is committed to the President's emphasis on performance based budgeting. The following is the Office of Environment, Safety and Health's strategic objective:

> Reduce the number of deaths, injuries and illnesses and environmental releases from environment cleanup and other operational activities such that DOE organization activities remain below their averages established by DOE's last five years of data for (1) Total Recordable Case Rate; (2) Occupational Safety Cost Index; (3) Hypothetical Radiation Dose to the Public; (4) Average measurable dose to DOE workers; and (5) Reportable Occurrences of Releases to the Environment.

PROGRAM HIGHLIGHTS

The EH Oversight program has transitioned during FY 2002 to the **Corporate Safety Assurance (CSA)** program. In 2001, the Secretary of Energy restructured the Department to provide a central oversight organization to oversee environment, safety and health and safeguards and security, within NNSA and the rest of DOE. This organization, known as Independent Oversight and Performance Assurance (OA), reports to the Secretary of Energy, and is not part of the Office of EH.

In FY 2003, CSA is expected to make a significant contribution to the effective integration and application of safety, including environment, safety, and health, into all DOE and NNSA missions and activities. **Employees Compensation** activities will increase support to the compensation of current and former DOE workers with work-related illness resulting from their employment at DOE nuclear weapons sites.

SIGNIFICANT FUNDING CHANGES - FY 2002 to FY 2003 Request ($ in millions)

Corporate Safety Assurance (FY 2002 $5.4; FY 2003 $2.4)..... - $3.0
The reduction is a result of improved operating procedures and reduced contractual support.

Health Studies (FY 2002 $57.8; FY 2003 $50.0)..... - $7.8
The request includes net decreases for the beryllium medical surveillance program within the **DOE Former Workers** program *(FY 2002 $19.8; FY 2003 $13.9)*, which provides occupational medical surveillance throughout the complex, and associated information technology *(FY 2002 $3.5; FY 2003 $1.9)*. This decrease also reduces funding for public health activities *(FY 2002 $19.3; FY 2003 $19.0)* and the Medical Surveillance Information System *(FY 2002 $0.1; FY 2003 $0).*

Employee Compensation Initiative (FY 2002 $15.0; FY 2003 $16.0)..... +$1.0
Both DOE and the Department of Labor fund this program. This increase is a result of an increased funding level required for DOE's portion of the program budget.

Program Direction (FY 2002 $19.8; FY 2003 $18.0)..... -$1.8
The decrease is a result of the reduction of 30 full-time equivalent employees (FTEs) from 161 in FY 2002 to 131 in FY 2003. This action has been taken in concert with the Secretary's DOE-wide initiative to conduct the Department's mission in a more effective and efficient manner and to improve the management and effectiveness of the Department

Worker and Community Transition – Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Worker and Community Transition					
Worker and community transition	38,853	18,000	22,965	+4,965	+28%
Program direction	3,105	2,091	2,809	+718	+34%
Subtotal, Worker and community transition	41,958	20,091	25,774	+5,683	+28%
Use of prior year balances	-59	-266	——	+266	+100%
Total, Worker and Community Transition	**41,899**	**19,825**	**25,774**	**+5,949**	**+30%**

PROGRAM DESCRIPTION

The Worker and Community Transition program ensures the fair treatment of workers and communities adversely affected by downsizing or closing of Departmental facilities due to a change in program mission. The program operates to oversee work-force planning, assist in developing benefit packages for displaced workers, oversee labor relations efforts, and lessen the impact of downsizing on affected workers and communities by fostering alternative employment opportunities.

Since FY 1993, the program has successfully managed the reduction of about 50,000 contractor personnel. More than two-thirds of the separations to date were voluntary, with an average separation cost of approximately $15,000 per position, including workers separated through attrition. When attrition is excluded, average separation costs have been approximately $21,000 per position. Annual savings to date from these reductions are estimated to exceed $4 billion.

The Office of Worker and Community Transition (WT) is committed to the President's emphasis on performance based budgeting. The following is WT's strategic objective:

> Assist DOE contract workers and communities that have been adversely affected as the result of downsizing or closing of Department facilities due to a change in, or termination of, program mission by providing (1) separation benefits comparable to industry standards while achieving annual savings that are three times the one-time cost of separation, and (2) creating and retaining jobs in the communities to absorb the displaced workers.

PROGRAM HIGHLIGHTS

The FY 2003 request provides $25.8 million to continue Worker and Community Transition activities, a $5.9 million increase above the FY 2002 funding level. The FY 2003 budget boosts funding for work-force restructuring due to expected downsizing in other DOE programs.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Work Force Restructuring (FY 2002 $9.1; FY 2003 $15.7)..... +$6.6
Work force actions in the Department's programs are expected to result in downsizing that will require additional funding for enhanced separation.

Community Transition Assistance (FY 2002 $8.9; FY 2003 $7.3) ..... - $1.6
Alternative resources and other sources of funding are expected to decrease the need for community transition grants.

Program Direction (FY 2002 $2.1; FY 2003 $2.8)..... +$0.7
Increase for salaries and expenses and support services that, in part, were paid for in FY 2002 from carryover balances not reflected in these tables.

Office of Hearings and Appeals – Other Defense Activities

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Office of Hearings and Appeals					
Office of hearings and appeals	3,265	3,157	3,136	-21	-1%
Use of prior year balances	——	-33	——	+33	+100%
Total, Hearings and Appeals	**3,265**	**3,124**	**3,136**	**+12**	**+0%**

PROGRAM DESCRIPTION

The **Office of Hearings and Appeals (OHA)** is responsible for all the Department's adjudicatory processes except those administered by the Federal Energy Regulatory Commission. The program receives funding in both the Energy and Water Development and Interior and Related Agencies Appropriations Bills. 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 Departmental elements.

This section discusses OHA activities within the jurisdiction of the Energy and Water Development Appropriation. The program is also requesting funds ($1.5 million) in the Interior Appropriation, discussed later in this document, for a total FY 2003 request of $4.6 million.

PROGRAM HIGHLIGHTS

Other Defense Activities supported functions will continue in FY 2003 although Interior supported work will begin a three-year phase-out. The FY 2003 budget of $3.1 million is a slight increase over FY 2002 levels and is requested to investigate and adjudicate whistle blower complaints and to consider appeals of other Departmental actions, including determinations issued under the Freedom of Information and Privacy Acts and adverse security clearance determinations. OHA will reduce its federal full-time equivalent employees from 22 in FY 2002 to 17 in FY 2003.

Power Marketing Administrations

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Power Marketing Administrations					
Southeastern Power Administration					
Southeastern power administration.....	39,714	39,620	24,856	-14,764	-37%
Use of PY balances and other adjustments.....	-35,563	-34,463	-20,072	+14,391	+42%
Total, Southeastern Power Administration.....	4,151	5,157	4,784	-373	-7%
Southwestern Power Administration					
Southwestern power administration.....	30,242	30,883	29,132	-1,751	-6%
Use of PY balances and other adjustments.....	-1,188	-1,800	-688	+1,112	+62%
Total, Southwestern Power Administration.....	29,054	29,083	28,444	-639	-2%
Western Area Power Administration					
Western area power administration.....	244,195	364,183	199,988	-164,195	-45%
Use of PY balances and other adjustments.....	-71,207	-186,124	-31,200	+154,924	+83%
Total, Western Area Power Administration.....	172,988	178,059	168,788	-9,271	-5%
Falcon and Amistad Operating and Maintenance Fund.....	2,663	2,663	2,734	+71	+3%
Total, Power Marketing Administrations.....	**208,856**	**214,962**	**204,750**	**-10,212**	**-5%**

PROGRAM DESCRIPTION

The **Power Marketing Administrations (PMAs)** sell electricity primarily generated by hydropower projects located at Federal dams. Preference for the sale of power is given to public bodies and electric cooperatives. Revenues from selling the power and transmission services are used to repay all PMA costs, including annual operating and maintenance costs, capital investments with interest, and other features of certain projects. The Southeastern, Southwestern, and the Western Area Power Administrations primarily receive appropriations for expenses. The Bonneville Power Administration self-finances using revenues.

The **Southeastern Power Administration** markets Federal hydroelectric power from 23 Corps of Engineers (Corps) multipurpose projects to preference customers in an eleven-state area in the southeastern United States. Since Southeastern does not own or operate any transmission facilities, it contracts with regional utilities that own electric transmission systems to deliver the Federal hydropower to Southeastern's customers.

The **Southwestern Power Administration** operates within a six-state area marketing hydroelectric power produced at 24 U.S. Army Corps of Engineers multipurpose projects. To transmit power to its customers, Southwestern maintains 1,380 miles of high-voltage transmission lines, 23 substations, and 46 microwave and VHF radio sites. Direct appropriations support personnel to conduct all activities connected with the marketing and delivery of Federally-generated hydroelectric power to customers, maintain transmission lines, substations, and communication systems, and replace equipment at such facilities.

The **Western Area Power Administration** markets and transmits Federal power in a 15 state area from 55 Federally owned hydroelectric power plants operated by the Bureau of Reclamation, the Corps, and the International Boundary and Water Commission. Western also markets the United States' entitlement from the Navajo coal-fired power plant near Page, Arizona. More than half of its appropriation covers program direction for Federal personnel who perform operations, maintenance, and construction activities associated with Western's transmission system and other power marketing activities.

The **Bonneville Power Administration** provides electric power, transmission, and energy services to a 300,000-square-mile service area in eight states in the Pacific Northwest. Bonneville sells, wholesale, the power produced at 30 operating projects operated by the Corps and the Bureau of Reclamation and from certain non-Federal hydro and thermal generating facilities. Bonneville, which is self-financed with revenues, funds the expense portion of its budget, the power operations and maintenance costs of the Bureau of Reclamation and the Corps in the Federal Columbia River Power System. The capital portion of the budget is funded through borrowing from the U.S. Treasury and is repaid with revenues from electricity sales.

The Power Marketing Administrations are committed to the President's emphasis on performance-based budgeting. The following is the Power Marketing Administrations' strategic objective:

> Ensure Federal hydropower is marketed and delivered while passing the North American Electric Reliability Council's Control Compliance Ratings, meeting planned repayment targets, and achieving a recordable accident frequency rate at or below our safety performance standard.

PROGRAM HIGHLIGHTS

The FY 2003 budget resumes the phase-out of Federal financing for the Southeastern, Southwestern, and Western Area Power Administrations' purchase power and wheeling activities. The phase-out assumes that PMA customers, acting independently or in partnerships, will increasingly enter energy markets to arrange directly with suppliers for their energy and related service needs. In addition, the change eliminates the need for the PMAs to finance these activities in advance and instead places this responsibility on PMA customers. The PMAs also may continue to assist their customers in arranging the funding of these activities through alternative financing mechanisms.

The FY 2003 budget will propose through an authorization proposal, an additional $700 million in borrowing authority for Bonneville Power Administration. This additional authority will allow Bonneville to finance new energy infrastructure investments in the Northwest to assure the continuity of a reliable Northwest energy supply.

In FY 2003, Western will oversee the construction of the non-Federal Los Banos-Gates transmission upgrade project to relieve the Path 15 constraint in central California. Through a public/private partnership, approximately $300 million of non-Federal funds will be invested to expand the capacity of the transmission system by 1,500 megawatts.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Southeastern Power Administration (FY 2002 $5.2; FY 2003 $4.8)..... -$0.4
Southeastern Power Administration's FY 2003 program level is $24.9 million, funded by $4.8 million in budget authority, $0.1 million of prior year balances to defray program requirements, and $20.0 million in power revenue to pay for purchase power and wheeling (PPW) activities.

Southeastern Power Administration - Purchase Power and Wheeling (FY 2002 $34.5; FY 2003 $20.0).....-$14.5
The FY 2003 request continues the phase-out that began in FY 2001 of Federal financing of the PMAs' purchase power and wheeling (PPW) expenses. In FY 2003, Southeastern will use $20.0 million in power revenues to finance the PPW expenses that it will incur on behalf of its customers. Southeastern will also continue to assist its customers in developing alternative financing mechanisms (net billing, bill crediting, and reimbursable authority) that enable customers to meet more of their demand for power and related services through increasing participation in energy markets.

Southwestern Power Administration (FY 2002 $29.1; FY 2003 $28.4)..... -$0.7
Southwestern Power Administration's FY 2003 program level is $29.1 million, funded by $28.4 million in budget authority, $0.4 million of prior year balances, and $0.3 million in power revenues to pay for the purchase of power and wheeling activities.

Southwestern Power Administration - Purchase Power and Wheeling (FY 2002 $1.8; FY 2003 $0.3) ..... -$1.5
The FY 2003 request continues the phase-out that began in FY 2001 of Federal financing of the PMAs' purchase power and wheeling expenses. In FY 2003, Southwestern will use $0.3 million in power revenues to finance the PPW expenses that it will incur on behalf of its customers. Southwestern will also continue to assist its customers in developing alternative financing mechanisms (net billing, bill crediting, and reimbursable authority) that enable customers to meet more of their demand for power and related services through increasing participation in energy markets.

Western Area Power Administration (FY 2002 $178.1; FY 2003 $168.8)..... -$9.3
Western's FY 2003 Construction, Rehabilitation, Operation and Maintenance program is $200.0 million, to be funded by $168.8 million in budget authority, $1.2 million of prior year balances, and $30.0 million in revenues from the sale of electricity for purchase power and wheeling expenses.

Western Area Power Administration - Purchase Power and Wheeling (FY 2002 $186.1; FY 2003 $30.0).....-$156.1
The FY 2003 request continues the phase-out that began in FY 2001of the Federal financing of the PMAs' purchase power and wheeling expenses. In FY 2003, Western will use $30.0 million in power revenues to finance the PPW expenses it will incur on behalf of its customers. Western will also continue to assist its customers in developing alternative financing mechanisms (net billing, bill crediting, and reimbursable authority) that enable customers to meet more of their demand for power and related services through increasing participation in energy markets

Western Area Power Administration - Program Direction (FY 2002 $115.5; FY 2003 $114.4). -$1.1
The net decrease includes an increase in salaries and benefits offset by a reduction of 30 FTEs, from 1,052 in FY 2002 to 1,022 in FY 2003, reduced travel, and other related expenses and by using Federal staff rather than support services to perform economic and environmental analyses associated with Western's Construction and Rehabilitation program.

Western Area Power Administration - Construction and Rehabilitation (FY 2002 $18.8; FY 2003 $17.8)..... -$1.0
The program increases the funding for ongoing upgrade/replacement of obsolete analog communication systems in North and South Dakota and in the Rocky Mountain Region. The transmission line and substation work focuses on maintaining reliability. Reducing transmission line upgrades and implementing a smaller substation program offsets the increases.

Western Area Power Administration - Utah Reclamation Mitigation and Conservation Account (FY 2002 $6.0; FY 2003 $0)..... -$6.0
The FY 2003 request does not include Western's funding for the Utah Reclamation Mitigation and Conservation Account. This Account funds environmental mitigation covering fish and wildlife and recreation resources affected by the Central Utah and Colorado River Storage Projects in the State of Utah. Western already separately finances mitigation activities at its two projects in Utah, Flaming Gorge and Lake Powell/Glen Canyon Dams. Western also contributes to mitigation on tributaries that flow into Lake Powell through its funding of the Recovery Implementation Program (P. L. 106-392).

Bonneville Power Administration (FY 2002 $494.2; FY 2003 $630.8)..... +$136.6
Bonneville, which is self-financing using revenues, does not receive annual appropriations. In FY 2003, the total requirements of all Bonneville programs include estimated budget obligations of $3,669.0 million. This amount includes operating expenses of $3,013.2 million and total capital investments that require budget obligations and use of existing borrowing authority of $630.8 million. These investments provide electric utility and general plant maintenance associated with the Federal Columbia River Power System's transmission services, capital equipment, hydroelectric projects, conservation, and capital investments in environment, fish, and wildlife. The increase in capital investments is needed to improve power system reliability and accommodate the first phase of major transmission infrastructure improvements. Bonneville's remaining borrowing authority is insufficient to fund all projects that have been identified to help relieve the infrastructure problems encompassing the West Coast. As a result, Bonneville's FY 2003 budget includes a legislative proposal to increase Bonneville's limit on borrowing authority by $700 million. In implementing the new borrowing authority, Bonneville will encourage non-Federal and joint financing of significant transmission line expansions and additions.

Bonneville Power Administration - Power Business Line (FY 2002 $165.7; FY 2003 $197.5)..... +$31.8
The Power Business Line provides for additions, improvements, and replacements of existing U.S. Bureau of Reclamation and Corps of Engineers' hydroelectric projects in the Pacific Northwest. The increase is to improve power system reliability of hydroelectric projects, implement additional high priority fish and wildlife projects, and promote energy conservation in lieu of purchasing generating resources.

Bonneville Power Administration - Transmission Business Line (FY 2002 $300.0; FY2003 $405.5)..... +$105.5
The Transmission Business Line provides for additions, upgrades, and replacements to the Federal transmission system, conducts pollution prevention and abatement activities in compliance with environmental laws and regulations, and mitigates environmental risks associated with operation of the power system. The transmission infrastructure improvements and additions will bring the Federal transmission system into compliance with national reliability standards, allow for interconnection of needed new generation, remove constraints that limit economic trade, remove constraints that limit the ability to maintain the system, and replace aging equipment. The first phase includes nine major projects: 1) Puget Sound Area additions to allow a full return of power due to Canada under a treaty; 2) North of Hanford/North of John Day; 3) West of McNary; 4) Starbuck generation; 5) Lower Monumental & McNary Area generation; 6) Cross Cascades North; 7) Celilo Converter Station control system modernization; 8) I-5 Corridor generation; and 9) Spokane Area and Western Montana generation additions.

Federal Energy Regulatory Commission

PROGRAM DESCRIPTION

The Federal Energy Regulatory Commission (Commission) regulates key interstate aspects of the electric power, natural gas, oil pipeline, and hydroelectric industries. 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.

In response to a series of energy problems in late 2000 and early 2001, including price volatility in both electricity and natural gas and shortages of electricity in California and the West, the Commission is giving new focus to the areas of energy infrastructure, competitive markets, and market oversight.

The Commission aims to promote a secure, high quality, and environmentally responsible energy infrastructure through consistent policies. Among other things, it will promote market investment through ensuring sufficient excess supplies, standardizing interconnection of power generation plants, and shortening processing times for hydropower licensing and gas pipeline certification. It also will provide clarity of cost recovery to infrastructure investors by acting quickly on rate proposals and other measures, addressing landowner, safety, and environmental concerns proactively, particularly through collaboration with affected parties, stimulating the use of new technology, and promoting measures for infrastructure security and reliability.

The Commission will foster nationwide competitive energy markets through establishing regional transmission organizations (RTOs). The RTOs must operate the transmission system, cover reasonably large geographic areas, and operate independently of all other market participants. In addition, the Commission will establish balanced, self-enforcing market rules.

The Commission will protect customers and market participants through vigilant and fair oversight of energy markets. This will include improving the agency's understanding of energy market operations, assuring pro-competitive market structures, and remedying individual market participant behavior as needed to ensure just and reasonable market outcomes.

PROGRAM HIGHLIGHTS

A successful transition to competitive energy markets will require an enhanced oversight effort to prevent severe market malfunctions and the exercise of market power and to respond quickly to problems that arise. It is now clear that these efforts are especially important during the transitional period when markets are coming into existence. The FY 2003 budget request includes additional funding for both full time equivalent employees (FTEs) and technology to enhance the Commission's market monitoring and enforcement capabilities.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Federal Energy Regulatory Commission (FY 2002 $192.1; FY 2003 $199.9)..... +$7.8
The Commission's FY 2003 request funds 1,250 FTEs. 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 2003.

Fossil Energy Research and Development

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Fossil Energy Research And Development					
Coal and other power systems					
President's Coal Research Initiative	268,277	338,377	325,600	-12,777	-4%
Other power systems	51,274	58,124	49,500	-8,624	-15%
Total, Coal and other power systems	319,551	396,501	375,100	-21,401	-5%
Natural gas technologies	43,925	45,200	22,590	-22,610	-50%
Petroleum — Oil technology	65,095	55,999	35,400	-20,599	-37%
Cooperative research and development	7,858	8,240	6,000	-2,240	-27%
Fossil energy environmental restoration	9,978	9,500	9,715	+215	+2%
Import/export authorization	2,295	2,400	2,500	+100	+4%
Program direction and management support	84,098	90,373	89,550	-823	-1%
GP-F-100 General plant projects	3,891	13,450	2,000	-11,450	-85%
Advanced metallurgical processes	5,214	5,200	5,300	+100	+2%
Subtotal, Fossil Energy Research and Development	541,905	626,863	548,155	-78,708	-13%
Use of prior year balances	-4,350	-6,000	-14,000	-8,000	-133%
Use of previously appropriated clean coal funds	-95,000	-33,700	-40,000	-6,300	-19%
Total, Fossil Energy Research and Development	**442,555**	**587,163**	**494,155**	**-93,008**	**-16%**
Fossil Energy Coal Program					
Fossil Energy R&D/Coal & other power systems	*319,551*	*396,501*	*375,100*	*-21,401*	*-5%*
Clean Coal Technology	*104,427*	*42,463*	*40,000*	*-2,463*	*-6%*
Use of previously appropriated clean coal funds	*-95,000*	*-33,700*	*-40,000*	*-6,300*	*-19%*
Total, Fossil Energy Coal Program	***328,978***	***405,264***	***375,100***	***-30,164***	***-7%***

PROGRAM DESCRIPTION

The **Fossil Energy (FE)** Research and Development program's goal is to ensure that economic benefits from moderately priced fossil fuels and a strong domestic industry, which creates domestic jobs related to export markets, 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 enhance U.S. economic and energy security by: (1) managing and performing energy-related research to promote efficient and environmentally sound production and use of fossil fuels; (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. To ensure that Federally funded research and development technologies and analyses are relevant to market and public needs, and transferred to commercial applications, the Office of Fossil Energy participates in joint partnerships with industry utilizing mechanisms such as cost-shared contracts and cooperative research and development agreements.

The Office of Fossil Energy is also responsible for administering the Elk Hills School Lands Fund, operating the Strategic Petroleum Reserve, Naval Petroleum Reserves, and the Northeast Home Heating Oil Reserve, all of which are described elsewhere in this document. Applied research is supported by Fossil Energy Research and Development activities which includes the following:

The **President's Coal Research Initiative** includes the **Clean Coal Power Initiative,** the activities formerly carried out in the **Clean Coal Technology Demonstration Program**, and the coal research and development program. The Initiative includes the following activities:

	(dollars in thousands)		
	FY 2001 Comparable	FY 2002 Comparable	FY 2003 Request
President's Coal Initiative	0	150,000	150,000
Coal Research & Technology	268,277	188,377	175,600
Total	268,277	338,377	325,600

The **Clean Coal Power Initiative (CCPI)** is a key component of the National Energy Policy to address the reliability and affordability of the Nation's electricity supply, particularly from its coal-based generation, and responds to the President's commitment to conduct research on clean coal technologies to meet this challenge. The CCPI is a cooperative, cost-shared program between the government and industry to rapidly research, develop and demonstrate emerging technologies in coal-based power generation and to 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.

Central Systems are focused on improving existing utility plant performance and on conducting research on innovative technology for new plants to support a longer-term goal of dramatically improving the efficiency of power systems while reducing emissions of pollutants to near zero levels. The National Energy Policy report recognizes the importance of looking to technology to help the Nation meet the goals of increasing electricity generation while protecting the environment. The Central Systems program includes several advanced power systems based on coal combustion or coal gasification, advanced environmental control technologies, and advanced gas turbine technology. Many of these technologies will evolve into the high-tech modules that will comprise the *Vision 21* pollution-free energy plant of the future.

The Vision 21 concept integrates program goals to develop the full potential of the Nation's abundant fossil fuel resources while addressing climate change concerns. Vision 21 plants will be comprised of a portfolio of fuel-flexible systems and modules capable of producing electricity and/or a varied slate of high-value fuels or commodities tailored to market demands in the 2010-2015 timeframe.

Sequestration is focused on cost-effective novel concepts for capturing, reusing or storing, or otherwise mitigating carbon and other greenhouse gas emissions. The principal thrust of this activity is to develop the applied science and new technologies for addressing the cost-effective management/sequestration of carbon emissions from the production and use of fossil fuels. The Department recognizes the importance of continuing to study future options for reducing the buildup of greenhouse gases that will be low cost and environmentally safe.

The **Fuels** program focuses on research activities to provide clean transportation fuels needed for the 21st Century from both petroleum and non-petroleum based fossil resources (natural gas, coal, petcoke, and petroleum waste). The program will emphasize new ceramic

membranes that will effectively produce synthesis gas that can be used to produce a variety of clean liquid products and hydrogen.

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 is a set of crosscutting studies and assessment activities in environmental, technical and economic analyses, coal technology export and integrated program support. The second includes fundamental and applied research programs that focus on developing the technology base critical to the development of super-clean, very high efficiency coal-based power and coal-based fuel systems.

Other Power Systems includes **Distributed Generation Systems** and **Novel Generation Systems**. These activities offer the potential to cost-effectively meet peak demand, and in some cases base and intermediate load, without the need for capital intensive central station capacity or costly investments in transmission and distribution. Fuel cell distributed generation systems have the additional advantage of being capable of reducing criteria pollutants well below current New Source Performance Standard levels, reducing non-criteria pollutants such as carbon dioxide and acid rain precursors, and reducing thermal emissions to the environment

The **Natural Gas Technologies** program focuses on technical and market needs, and is closely coordinated with industry. Activities seek to ensure long-term availability of natural gas at reasonable prices and to investigate hydrates as a potential source for natural gas supply.

The **Petroleum – Oil Technology** program seeks to enhance energy security through increased domestic production, as well as helping the U.S. to be a responsible steward of its oil resources. The objectives of the oil technology program include stemming the decline in domestic oil production, improving the capability of the Nation's petroleum industry to increase the supply of secure domestic oil, and reducing and resolving environmental issues associated with domestic oil production and processing.

The Fossil Energy Research and Development Program is committed to the President's emphasis on performance-based budgeting. The program's strategic objectives are to:

Create public-private partnership to provide technology to ensure continued electricity production from the extensive U.S. fossil fuel resource, including control technologies to permit reasonable-cost compliance with emerging regulations, and ultimately, by 2015, zero emission plants (including carbon) that are fuel-flexible, and capable of multi-product output and efficiencies over 60 percent with coal and 75 percent with natural gas.

By 2010, add over 1 million barrels a day of domestic oil production and almost 2 TCF per year of additional gas production as a result of technologies and practices from DOE supported research and development.

BUDGET HIGHLIGHTS

In FY 2003, the Fossil Energy Research and Development Program will consolidate all coal programs. This realignment of structure encompasses the **President's Clean Coal Research Initiative** and the current coal programs into a single decision unit. All of the Clean Coal Technology demonstration balances will be transferred to Fossil Energy Research and Development. The shift will make existing budget authority available to the Fossil Energy R&D account for expenditure on clean coal efforts. The Distributed Generation Systems program has been merged with a newly established program which has a focus on Novel Generation Systems in a decision unit entitled **Other Power Systems**. Natural gas is and will continue to be the primary fuel used for distributed power applications. Other changes include the transfer of the Natural Gas Technologies' infrastructure program to the Department of Transportation's Office of Pipeline Safety.

The Fossil Energy Research and Development Program is consistent with the President's Management Agenda that directs the application of specific criteria to the Department's applied R&D investments. The FY 2003 budget request takes into consideration the National Energy Policy and maintains core research and development with an emphasis on cost-sharing and industry collaboration. Program activities focus on emphasizing fundamental the research and development activities.

The Administration is requesting $150.0 million for joint government/industry-funded research, development and demonstration of new technologies to enhance the reliability and environmental performance of coal-fired power generators. The CCPI will also develop the technological foundation for the next generation of even cleaner, more efficient technologies for both new power plants and for modernizing older ones. This appropriation is part of a ten-year, $2 billion commitment to clean coal R&D.

SIGNIFICANT FUNDING CHANGES- FY 2002 to 2003 Request ($ in millions)

President's Coal Research Initiative (FY 2002 $338.4; FY 2003 $325.6).....-$12.8
Central Systems *(FY 2002 $96.0; FY2003 $85.0)* .....-$11.0

Innovations for Existing Plants *(FY 2002 $23.5; FY 2003 $21.2)* The request will support development of control technologies to reduce mercury and other air toxics and particulate matter emissions..... -$2.3

Advanced Systems *(FY 2002 $72.5; FY 2003 $63.8)* The Integrated Gasification Combined Cycle subprogram supports the continuation of development efforts at the Wilsonville Power Systems Development Facility, co-production feasibility studies, and laboratory scale investigations of Vision 21 activities. The *Pressurized Fluidized Bed* subprogram continues combustion hybrid technology development activities, and gas stream cleanup development and tests, with a significant reduction in efforts in support of Vision 21. The *Turbines* subprogram supports the continued development and testing of coal-fired Next Generation Turbine systems..... -$8.7

Sequestration R&D *(FY 2002 $32.2; FY 2003 $54.0)* The increase provides for exploratory research and testing of novel and advanced concepts for greenhouse gas capture, separation, storage and reuse, and increased research facilities and capabilities to conduct research in the area of sequestration.....+$21.8

Fuels *(FY 2002 $32.2; FY 2003 $5.0)* The request will conclude technical/economic assessments and laboratory and bench scale research on technologies for the manufacture of carbon products with prior year funds and conclude cost-shared industrial research for the development of ultra-clean fuels technology for fossil resources with prior year funds. The decrease is a result of activities in the Solid Fuel and Feedstocks and Advanced Fuels Research that will be phased out using prior year funds.....-$27.2

Advanced Research *(FY 2002 $28.0; FY 2003 $31.6)* Continue to pursue research in support of the *Vision 21* concept of a power and fuels complex. ..... +$3.6

Other Power Systems (FY 2002 $58.1; FY2003 $49.5)..... -$8.6

Distributed Generation-Fuel Cells *(FY 2002 $58.1; FY 2003 $47.0) C*ontinue the activities in the program but at a reduced level. Activities reduced include Advanced Research (-$1.0); Fuel Cell Systems (-$3.5); Vision 21 Hybrids (-$2.0); and Innovative Systems Concepts (-$4.6).....-$11.1

Novel Systems *(FY 2002 $0.0; FY 2003 $2.5)* The increase will support research on distributed generation applications utilizing a variety of fuel gases including waste gases..... +$2.5

Natural Gas Technologies (FY 2002 $45.2; FY 2003 $22.6).....-$22.6

Exploration & Production *(FY 2002 $20.5; FY 2003 $15.5)* The net decrease provides additional funds for Exploration and Production and Stripper Well Revitalization and reduced funding for advanced diagnostics and imaging systems..... -$5.0

Gas Hydrates *(FY 2002 $9.8; FY 2003 $4.5)* The request scales back industry-led field activities to collect samples of naturally occurring hydrate from the Alaska permafrost and Gulf of Mexico and scales back characterization of Arctic and offshore hydrate resources ..... -$5.3

Infrastructure *(FY 2002 $10.0; FY 2003 $0.0)* In keeping with the Goals of the President's Management Agenda to consolidate programs to reduce duplication, this activity has been transferred to the Department of Transportation's Office of Pipeline Safety .....-$10.0

Emerging Processing Technology *(FY 2002 $2.3; FY 2003 $0.0)* This activity is being phased out ..... -$2.3

Petroleum - Oil Technology (FY 2002 $56.0; FY 2003 $35.4).....-$20.6
Exploration & Production *(FY 2002 $32.4; FY 2003 $16.4)* The request reduces research on oil basin, analysis, advanced seismic technologies, smart well technologies, advanced recovery methods, and fundamental technologies for frontier oil production.....-$16.0

Reservoir Life Extension/Management *(FY 2002 $12.9; FY 2003 $9.5*) The technology research and development with independents will be supported at a reduced level. The decrease also reflects a smaller Recovery Field Demonstration Program..... -$3.4

Effective Environmental Protection *(FY 2002 $10.7; FY 2003 $9.5*) The request decreases efforts to develop and demonstrate technologies to reduce environmental performance related to upstream and downstream oil industry activities. The reduction will impact streamlining and risk-based assessment projects..... -$1.2

Plant and Capital Equipment (FY 2002 $13.5; FY 2003 $2.0).....-$11.5
Request provides for general plant projects at the National Energy Technology Laboratory (NETL) sites and the Albany Research Center. No funding is requested for the NETL office/lab building.

Cooperative Research and Development (FY 2002 $8.2; FY 2003 $6.0)..... -$2.2
The request continues research and development at the Western Research Institute and the University of North Dakota Energy and Environmental Research Center and does not fund the cooperative research effort with the University of Alaska.

Naval Petroleum and Oil Shale Reserves

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Naval Petroleum & Oil Shale Reserves					
Production operations	10,196	8,029	8,370	+341	+4%
Management	16,683	14,588	12,699	-1,889	-13%
Subtotal, Naval petroleum & oil shale reserves	26,879	22,617	21,069	-1,548	-7%
Use of prior year balances	-25,050	-5,000	——	+5,000	+100%
Total, Naval Petroleum & Oil Shale Reserves	**1,829**	**17,617**	**21,069**	**+3,452**	**+20%**

PROGRAM DESCRIPTION

The Department of Energy has historically managed, operated, maintained and produced from the **Naval Petroleum and Oil Shale Reserves** while attempting to achieve the greatest value and benefit to the United States. As a result of the National Defense Authorization Act FY 1996, NPR-1 (Elk Hills) was sold to Occidental Petroleum Corporation and all three Naval Oil Shale Reserves (NOSR) have been transferred outside the Department.

Administrative jurisdiction for NOSR-1 and NOSR-3 was transferred to the Department of the Interior to be made available for leasing. The other oil shale reserve, NOSR-2, was transferred to the Ute Indian Tribe in January, 2000. The U.S. retains a 9 percent royalty interest in the value of any oil, gas, other hydrocarbons, and other minerals produced from the conveyed land, which will be applied to costs for remediation of the uranium mill tailings site near Moab, Utah.

The most significant post-sale activity is the settlement of ownership equity shares with the former unit partner in the NPR-1 field, Chevron USA Inc. Geologic petroleum and reservoir engineering services are required to prepare and support the Government's equity position before an independent petroleum engineer and the Assistant Secretary for Fossil Energy, who are to impartially determine final equity shares. Each percentage point change in equity is worth millions of dollars to the Government.

Under the Rocky Mountain Oilfield Testing Center (RMOTC) program, the Naval Petroleum Reserves Office offers NPR-3 (Teapot Dome) to the oil industry as a working laboratory on a cost-shared basis for applied research and development projects.

PROGRAM HIGHLIGHTS

The FY 2003 request provides for the operations and management of the three remaining activities: NPR-2, NPR-3, and RMOTC. The Elk Hills closeout work includes reservoir engineering analysis to determine final equity percentages, legal support for all sale-related issues, and environmental remediation and cultural resource activities required as a result of the sale agreement. Responsibilities for the other properties include management and environmental compliance of the 17 NPR-2 leases, operations and maintenance of NPR-3 field operations, and environmental remediation of NPR-3.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Naval Petroleum and Oil Shale Reserves (FY 2002 $22.6; FY 2003 $21.1) ..... -$1.5
The decrease in funding reflects reduced staffing and support services.

Elk Hills School Lands Fund

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Elk Hills School Lands Fund					
California teachers' pension fund payment.....	——	——	36,000	+36,000	n/a
Advance appropriation.....	36,000	36,000	36,000	——	——
Total, Elk Hills School Lands Fund.....	**36,000**	**36,000**	**72,000**	**+36,000**	**+100%**

PROGRAM DESCRIPTION

The National Defense Authorization Act for Fiscal Year 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 the Department and the State, dated October 11, 1996, provides for payment of nine percent of the net sales proceeds generated from the divestment of the government's interest in Elk Hills. Under the terms of the Act, a contingency fund containing nine percent of the net proceeds of sale has been established in the U.S. Treasury and is reserved for payment to the State.

The first installment payment was appropriated in FY 1999. While no appropriation was provided in FY 2000, the Act provided an advance appropriation of $36.0 million to become available in FY 2001. Similarly, the FY 2001 and the FY 2002 Appropriations Act provided an advance appropriation of $36.0 million in subsequent years.

PROGRAM HIGHLIGHTS

The FY 2002 Interior and Related Agencies Appropriations Act provided an advance appropriation of $36 million to become available in fiscal year 2003. The terms of the Settlement Agreement requires the Department to seek funds when there is a change in when the obligation is payable.

The FY 2003 budget provides $36 million in funding for payment to the State of California in accordance with Public Law 104-106. The Settlement Agreement calls for payment to the State payable over a seven-year period, without interest. The first five installments are for $36 million each year, and any remaining balance is to be paid in two equal installments in years six and seven unless the seventh installment is deferred until after equity finalization is complete. FY 2003 is the fifth installment of the Agreement.

SIGNIFICANT FUNDING CHANGES– FY 2002 to FY 2003 Request ($ in millions)

California Teachers' Pension Fund Payment (FY 2002 $0; FY 2003 $36.0).....+$36.0
The request provides funding for payment to the State of California in accordance with Public Law 104-106.

Energy Conservation

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Energy Conservation					
Building technology, state and community sector					
Weatherization grants	152,664	230,000	277,100	+47,100	+20%
State energy program grant	37,916	45,000	38,798	-6,202	-14%
Research and development	102,761	105,270	92,893	-12,377	-12%
Total, Building technology, state and community sector	293,341	380,270	408,791	+28,521	+8%
Federal energy management program	25,661	23,300	27,880	+4,580	+20%
Industry sector	145,986	148,924	138,359	-10,565	-7%
Power technologies	47,346	63,846	63,904	+58	+0%
Transportation sector	251,462	252,715	222,664	-30,051	-12%
Policy and management	46,046	46,415	42,706	-3,709	-8%
Total, Energy Conservation	**809,842**	**915,470**	**904,304**	**-11,166**	**-1%**

PROGRAM DESCRIPTION

The **Office of Energy Efficiency and Renewable Energy (EE)** conducts research, development, and deployment to advance energy efficiency and clean power technologies. The overall goal of EE's **Energy Conservation** program is to develop technologies that can provide efficient cost-effective, clean, and reliable energy services when and where they are needed. EE's energy conservation programs focus activities on the largest energy-consuming sectors of the economy: buildings, industrial use, transportation, power generation, and Federal facilities.

The Office of Energy Efficiency and Renewable Energy's **Energy Conservation** program is composed of the following sectors or programs. The **Building Technology, State, and Community** sector works in partnership with industry and State government to develop, promote, and integrate energy technologies and practices that make buildings more efficient, productive, and affordable. The Buildings sector also includes the **Weatherization Assistance Program,** which delivers cost-effective, energy efficient improvements to lower-income households, and the **State Energy Program,** which supports energy efficiency projects at the State and local levels through formula grants.

The **Federal Energy Management Program (FEMP)** works to increase the energy security and decrease the environmental impact of government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at Federal sites. The **Industry** sector works to develop and implement more energy-efficient technologies to help American industry boost productivity and competitiveness and improve the environment. The **Transportation** sector partners with industry, research organizations, State governments, and other Federal agencies to support research, development, and the use of advanced vehicle technologies and fuels. In **Power Technologies**, the Department is leading research efforts to significantly improve energy reliability and power quality through the use of on-site distributed energy resources that reduce energy losses and increase the stability of national electricity supplies.

The Office of Energy Efficiency and Renewable Energy's research, development, demonstration, and deployment (RD^3) portfolio addresses three of America's most pressing energy security concerns: over half of our Nation's transportation system runs on imported oil, our Nation's electricity infrastructure is vulnerable to natural or man-made failures, and dramatically fluctuating energy prices and energy trade deficits harm the economic vitality of our Nation.

In addition to increasing U.S. energy security, EE's portfolio supports four additional goals of the President's **National Energy Policy**: modernize energy conservation, modernize our energy infrastructure, increase energy supplies, and accelerate the protection and improvement of the environment.

The Office of Energy Efficiency and Renewable Energy's commitment to the President's emphasis on performance-based budgeting is demonstrated by the following strategic objectives:

Use public-private partnerships to promote energy efficiency and productivity technologies in order to enhance the energy choices and quality of life of Americans in 2020 relative to 2000 by: reducing the oil intensity of the U.S. economy by 25 percent (compared to 23 percent without EE programs); reducing energy intensity in the U.S. economy by 32 percent (compared to 28 percent without EE programs); and, reducing the need for additional electricity generating capacity by 10 percent (compared to the case without EE programs).

Use public private partnerships to bring cleaner, more reliable, and more affordable energy technologies to the marketplace, enhancing the energy choices and quality of life of Americans in 2020 relative to 2000 by: increasing the share of renewable energy to 10% (compared to 8 percent without EE programs); increasing the share of renewable-generated electricity to 12 percent (compared to 8 percent without EE programs); and, doubling the share of capacity additions accounted for by distributed power, which increases distributed generation to 11 percent of all electricity generation (compared to 8 percent without EE programs).

Reduce the burden of energy prices on low-income families by working with state and local agencies to weatherize at least 123,000 homes per year from 2003 through 2005.

PROGRAM HIGHLIGHTS

The FY 2003 request proposes several program shifts to more efficiently and effectively meet national energy needs. These changes reflect the Office of Energy Efficiency and Renewable Energy's Strategic Program Review, directed by the **National Energy Policy**, as well as the President's Management Agenda initiative on research and development investment criteria. As such, in FY 2003, EE will terminate projects that provide insufficient public benefit, redirect activities to better provide public benefits, place certain activities on a watch list to ensure they advance effectively, and expand several programs that could achieve significantly increased benefits with additional funding.

One such shift is a new partnership to advance automotive technologies, called **FreedomCAR**, to replace and build on the successes of the Partnership for a New Generation of Vehicles (PNGV) program. This new public-private partnership will work with U.S. automakers to develop cost-effective hydrogen-powered fuel cell vehicles. This new program will further the President's **National Energy Policy** recommendation for increased research in hydrogen technology to diversify and enhance America's energy security. Another change is an initiative to integrate bioenergy RD^3 activities in Energy Conservation (Industry sector, the Transportation sector) and Renewable Energy Resources (Biomass/Biofuels Energy Systems program) towards a single cross-cutting effort.

SIGNIFICANT FUNDING CHANGES - FY 2002 to 2003 Request ($ in millions)

Building technology, state, and community sector (FY 2002 $380.3; FY 2003 $408.8)..+$28.5
Weatherization grants – As a Presidential Initiative and **National Energy Policy** recommendation, this activity is increased by 20 percent over the FY 2002 level. (FY 2002 $230.0; FY 2003 $277.1). State Energy Program grants – Reduced funding for the State Energy grant program maintains the FY 2001 funding level. (FY 2002 $45.0; FY 2003 $38.8)

Research and Development – The elimination of two Congressionally initiated programs (Energy Efficiency Science Initiative and Cooperative Programs with States) and the completion of a phase of the technology roadmaps partially offsets increases for the Energy Star, Building America and Rebuild America programs. (FY 2002 $105.3; FY 2003 $92.9)

Federal Energy Management Program (FY 2002 $23.3; FY 2003 $27.9)..... +$4.6
To respond to the National Energy Policy recommendation, this activity is increased to enhance the energy efficiency and renewable energy use at Federal facilities.

Industry sector (FY 2002 $148.9; FY 2003 $138.4).....-$10.5
The decrease reflects the elimination of the Industries of the Future Petroleum Vision Program and the Congressionally initiated Energy Efficiency Science Initiative.

Transportation sector (FY 2002 $252.7; FY 2003 $222.7).....-$30.0
The decrease reflects a reduction in funding for vehicle technologies, fuels, and materials research and development, and the elimination of the Congressionally initiated Energy Efficiency Science Initiative and Cooperative Programs with States. The new FreedomCAR partnership with the auto industry will be funded in this sector and in the Renewable Energy Resources Hydrogen program.

Policy and management (FY 2002 $46.4; FY 2003 $42.7)..... -$3.7
The decrease is due to progress made in addressing some areas of the President's Management Agenda including workforce restructuring to reduce redundancies, gain management efficiencies, and improved financial management.

Northeast Home Heating Oil Reserve

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Strategic Petroleum Reserve					
Northeast Home heating oil reserve.....	**8,000**	**8,000**	**8,000**	——	——

PROGRAM DESCRIPTION

On July 10, 2000, the President directed the Department of Energy 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 further supply. Two million barrels of heating oil will protect the Northeast against a disruption for 10 days, the time required for ships to carry heating oil from the Gulf of Mexico to New York harbor for distribution.

On March 6, 2001, Energy Secretary Abraham formally notified Congress that the Administration would establish the Reserve as a permanent part of America's energy readiness effort, separate from the Strategic Petroleum Reserve. The two million barrel reserve was originally established in commercial facilities located in New York Harbor and New Haven, Connecticut. On August 6, 2001, the Secretary approved the relocation of 250,000 barrels of heating oil inventory from Connecticut to Rhode Island, giving the reserve additional truck and marine loading options.

PROGRAM HIGHLIGHTS

On August 31, 2001, the Department exercised contract options with Amerada Hess, Equiva, and Motiva for continued storage at East Coast terminals through September 2002. A competition for new storage contracts will be conducted in Spring 2002.

The FY 2003 request of $8 million is level with FY 2002 funding.

Office of Hearings and Appeals – Economic Regulation

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Economic Regulation					
Office of hearings and appeals.....	**2,268**	**2,257**	**1,617**	**-640**	**-28%**

PROGRAM DESCRIPTION

The **Office of Hearings and Appeals (OHA)** continues work related to previous enforcement activities of the Department to equitably terminate the regulatory program implementing the Emergency Petroleum Allocation Act of 1973. OHA provides administrative review and resolution services for the Department and provides adjudication pertaining to Interior-funded programs.

OHA programs are funded under two appropriations, Energy and Water Development and Interior and Related Agencies. The Energy and Water Development activities are discussed separately in this document.

All programs stemming from the Emergency Petroleum Allocation Act of 1973 are coming to an end. OHA is preparing a report detailing its plan to terminate all economic regulatory activities within the next three fiscal years. The largest on-going refund proceeding is the crude oil proceeding in which OHA distributed funds recovered by the Department to consumer claimants, including individuals, farmers, businesses, hospitals, school districts, and cooperatives. OHA divides the remaining 80 percent of crude oil overcharge funds equally between the States and the Federal Government for indirect restitution to injured consumers. The remaining crude oil monies available for restitution exceed $300 million.

PROGRAM HIGHLIGHTS

This section discusses OHA activities within the jurisdiction of the Interior and Related Agencies Appropriation. The program is also requesting funds ($3.1M) in the Energy and Water Development Appropriation.

The FY 2003 budget of $1.6 million, to be appropriated by the Interior and Related Agencies Subcommittee, would finance the phase-out of remaining oil overcharge activities (EPCA). The FY 2003 request is a 28 percent reduction from FY 2002 levels and is the result of the initiation of a three-year phase-out of the Economic Regulation activities.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Office of Hearings and Appeals Economic Regulation (FY 2002 $2.3; FY 2003 $1.6)…… -$0.6

The reduction in personnel compensation reflects the start of a three-year phase-out of these activities. Full-time equivalent employees (FTEs) will be reduced from 16 in FY 2002 to 8 in FY 2003.

Strategic Petroleum Reserve

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Strategic Petroleum Reserve					
SPR — Facilities development.....	**157,483**	**171,908**	**169,754**	**-2,154**	**-1%**

PROGRAM DESCRIPTION

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 a maximum rate crude oil drawdown within 15 days of Presidential notification. The SPR maintains this continual readiness posture through a comprehensive program of systems maintenance, exercises, and tests.

The current storage capacity is 700 million barrels at the four sites with inventory and accounts receivable totaling 592 million barrels of crude oil. This inventory provides the equivalent of 53 days of net import protection.

The Strategic Petroleum Reserve is committed to the President's emphasis on performance-based budgeting. The following is the strategic objective of the Strategic Petroleum Reserve:

> Maintain the Strategic Petroleum Reserve in a state of readiness to supply oil at sustained rate of 4.2 million barrels per day for 90 days within 15 days notice by the President.

PROGRAM HIGHLIGHTS

Due to continued geothermal heating and renewed gas intrusion into the SPR crude oil, the program has initiated a vapor pressure mitigation program. A contract for construction of a Degas plant was awarded in November 2001. Continuous removal of excess gas from the SPR crude oil inventory will commence by April 2004.

The Department, in a joint initiative with the Department of the Interior, implemented a royalty oil transfer plan in 1999 that competitively exchanged 28 million barrels of royalty oil at offshore platforms for crude oil that meets the Reserve's specifications. In November 2001, the President directed the Secretary of Energy to continue using this technique as one of the means to fill the Reserve to its current capacity of 700 million barrels.

The FY 2003 request provides for continued storage site maintenance, operations, security, drawdown testing, and drawdown readiness for the Reserve, in addition to funding the vapor pressure mitigation activities.

SIGNIFICANT FUNDING CHANGES – FY 2002 to 2003 Request ($ in millions)

Strategic Petroleum Reserve (FY 2002 $171.9; FY 2003 $169.8)..... -$2.1
The reduction reflects savings associated with streamlining of the management activities.

Strategic Petroleum Reserve (Petroleum Account)

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Strategic Petroleum Reserve					
SPR petroleum account					
Oil acquisition	——	——	11,000	+11,000	n/a
Transfer of PY balances	-16,000	——	——	——	——
Total, SPR petroleum account	**-16,000**	**——**	**11,000**	**+11,000**	**n/a**

PROGRAM DESCRIPTION

The Strategic Petroleum Reserve (SPR) Petroleum Account, created by the Energy Policy and Conservation Act, is the source of funds required 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.

The Strategic Petroleum Reserve Program is committed to the President's emphasis on performance-based budgeting. The following is the program's strategic objective:

In FY 2005, fill the SPR to its 700 million barrel capacity with Royalty-In-Kind oil.

PROGRAM HIGHLIGHTS

The Department was directed by the President on November 13, 2001, to add approximately 108 million barrels of royalty oil from Federal offshore leases to the SPR to reach its full capacity. Fill operations are scheduled to commence in April 2002, with completion in 2005.

SPR's current storage capacity is 700 million barrels at its four sites. The inventory of the four sites, inclusive of accounts receivables, totals 592 million barrels of crude oil. This equates to 53 days of net import protection.

SIGNIFICANT FUNDING CHANGES – FY 2002 to 2003 Request ($ in millions)

Strategic Petroleum Reserve (Petroleum Account) (FY 2002 $0; FY 2003 $11.0).....+$11.0
The increase represents the incremental cost for terminalling/transportation, power, and third party inspections for oil fill during FY 2003. FY 2002 activities of $3 million were financed using prior year balances.

Energy Information Administration

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Energy Information Administration					
National energy information system.....	78,154	81,199	83,301	+2,102	+3%
Use of prior year balances.....	——	——	-500	-500	n/a
Total, Energy Information Administration.....	**78,154**	**81,199**	**82,801**	**+1,602**	**+2%**

PROGRAM DESCRIPTION

The **Energy Information Administration (EIA),** an independent statistical agency, collects, analyzes, produces, and disseminates 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. Most of EIA's activities are required by statute, such as developing and maintaining a comprehensive energy database, producing specific reports, and disseminating reports and analysis for a variety of customers. Other activities satisfy inquiries for energy information from policymakers, the energy industry, and the general public.

EIA supports the President's **National Energy Policy (NEP)** by serving as the Administration's primary source of energy information, analyses, and forecasts. EIA maintains the accuracy and reliability of high priority energy data systems, updates selected survey frames and data systems, and continually seeks further efficiency gains through the use of information processing and communications technologies.

The Energy Information Administration is committed to the President's emphasis on performance-based budgeting. The following is EIA's strategic objective:

> Provide national and international energy data, analysis, information and forecasts to meet the needs of the energy decision-makers and the public in order to promote sound policymaking, efficient energy markets and public understanding.

PROGRAM HIGHLIGHTS

The Energy Information Administration's priority is to maintain high-quality core energy data programs and forecasting systems needed to provide timely data, analysis and forecasts. The FY 2003 request continues to update and overhaul EIA's 20-year old consumption surveys, overhauls the electricity surveys and data systems to recognize and accommodate the changes in the energy industry brought on by deregulation, improves data quality and accuracy in several key energy areas (including petroleum, natural gas and electricity), and enhances energy data collection and analysis capabilities to improve EIA's ability to provide more regional energy information. The FY 2003 request increases by $1.6 million over the FY 2002 level, allowing the program to make investments in data quality, enhance systems to provide data on a regional basis, and collect information on the energy impacts of the digital economy.

SIGNIFICANT FUNDING CHANGES – FY 2002 to FY 2003 Request ($ in millions)

Oil and Gas (FY 2002 $20.9; FY 2003 $22.7) ..... +$1.8
The increase reflects the EIA's initiative to address petroleum and natural gas data quality issues, redesign and revise survey systems, and conduct the weekly natural gas underground storage survey. The increase will be offset (-$0.5) by the use of prior year deobligations.

Energy Markets and End Use (FY 2002 $11.5; FY 2003 $12.6) ..... +$1.1
The increase is primarily due to initiation of a study in FY 2003 to measure the energy demand effects of the digital economy.

Integrated Analysis and Forecasting (FY 2002 $10.1; FY 2003 $9.2) ..... -$0.9
This activity maintains the National Energy Modeling System used for mid-term energy supply and demand projections and policy analysis. In FY 2003, EIA will begin integrating 15 regional energy models to create an enhanced International Model. This is offset by a net decrease reflecting the completion of international analyses capabilities enhancements.

Clean Coal Technology

(dollars in thousands)

	FY 2001 Comparable Approp.	FY 2002 Comparable Approp.	FY 2003 Request to Congress	FY 2003 vs. FY 2002	
Clean Coal Technology					
Advance appropriation	171,000	82,000	40,000	-42,000	-51%
Retirement	447	463	——	-463	-100%
Rescission	-20	——	——	——	——
Deferral	-67,000	-40,000	——	+40,000	+100%
Total, Clean Coal Technology	**104,427**	**42,463**	**40,000**	**-2,463**	**-6%**

PROGRAM DESCRIPTION

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 (reducing CO_2 emissions), efficiently, and 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 a critical energy resource, 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.

The technologies being demonstrated in the program are grouped into four primary market applications: Advanced Electric Power Generation Systems, which offer the prospect of much higher efficiency coal-based power plants to meet the energy demands of the Nation well into the next century; Environmental Control Devices, which offer more attractive ways to reduce emissions from existing powerplants and industrial facilities both domestically and internationally; Coal Processing for Clean Fuels, which offer coal feedstock conversion to produce a stable fuel of high-energy density to produce steam electricity, or for use as a transportation fuel; and Industrial Applications, which offer superior ways to competitively manufacture key commodities such as steel, in an environmentally responsible manner.

PROGRAM HIGHLIGHTS

The Clean Coal Technology program operates with previously appropriated funding. The Department proposes to transfer the $40 million of previously deferred funds, and all the unobligated balances, to the Fossil Energy Research and Development budget.