DOE/ME-0014

U.S. Department of Energy

Performance and Accountability Report

Fiscal Year 2002

January 31, 2003

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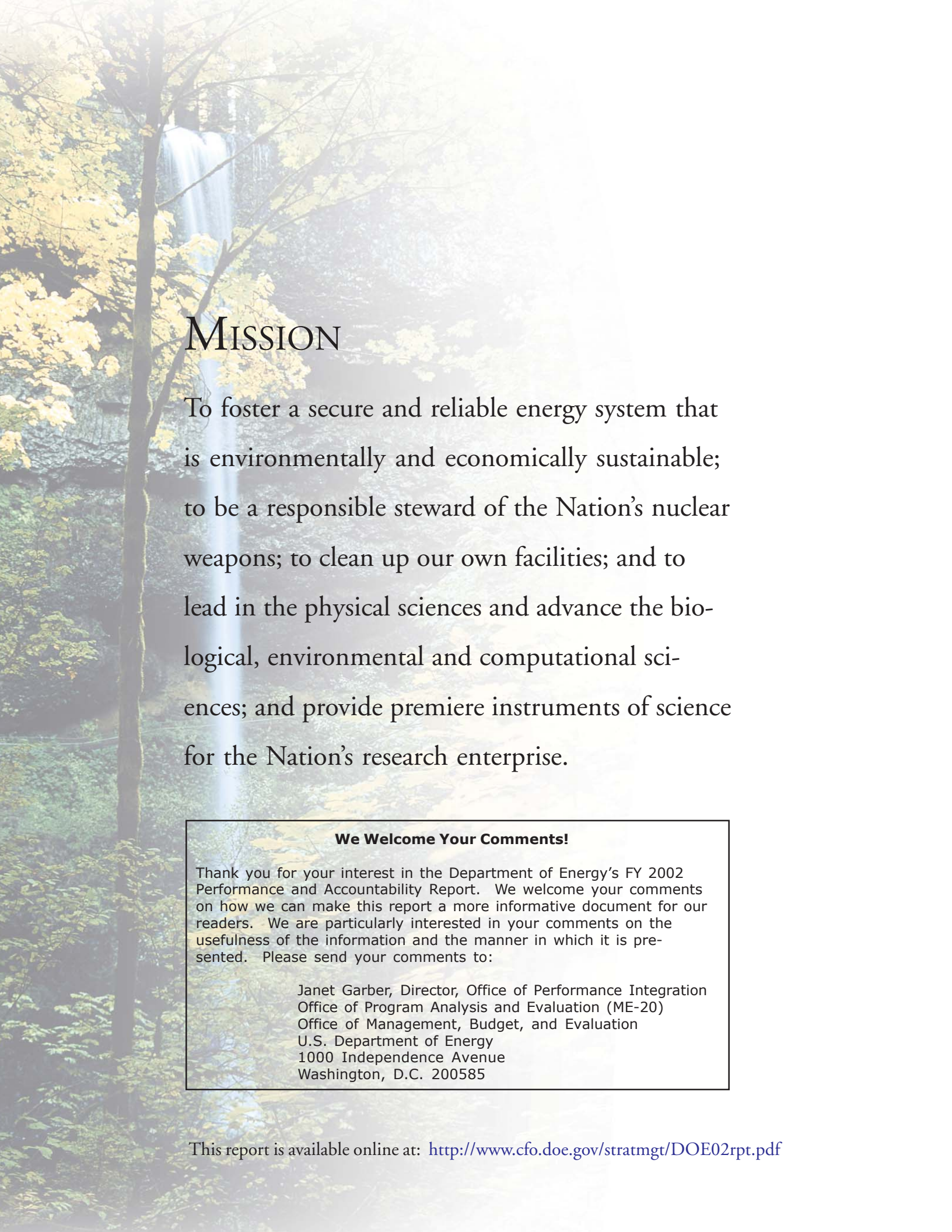

Mission

To foster a secure and reliable energy system that is environmentally and economically sustainable; to be a responsible steward of the Nation's nuclear weapons; to clean up our own facilities; and to lead in the physical sciences and advance the biological, environmental and computational sciences; and provide premiere instruments of science for the Nation's research enterprise.

We Welcome Your Comments!

Thank you for your interest in the Department of Energy's FY 2002 Performance and Accountability Report. We welcome your comments on how we can make this report a more informative document for our readers. We are particularly interested in your comments on the usefulness of the information and the manner in which it is presented. Please send your comments to:

Janet Garber, Director, Office of Performance Integration
Office of Program Analysis and Evaluation (ME-20)
Office of Management, Budget, and Evaluation
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This report is available online at: http://www.cfo.doe.gov/stratmgt/DOE02rpt.pdf

U.S. Department of Energy

Performance and Accountability Report for Fiscal Year 2002

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Message from the Secretary of Energy Spencer Abraham

January 31, 2003

I am pleased to present our Performance and Accountability Report for Fiscal Year 2002. Building on our experience and accomplishments in Fiscal Year 2001, we have developed this report with an eye toward providing an integrated presentation of the Department's programmatic, financial, and management performance.

KPMG LLP has audited the Department's Fiscal Year 2002 consolidated financial statements included in this report and has issued an unqualified audit opinion indicating that our statements present fairly the financial position of the Department. This is the fourth consecutive year the Department has achieved an unqualified opinion, which demonstrates both our continued dedication to sound financial management and the reliability of the financial data upon which we base our critical decisions. I remain committed to ensuring that the Department's data is reliable, accurate, and consistent, as we improve our ability to measure programs against our performance objectives.


AGA

CERTIFICATE OF EXCELLENCE IN ACCOUNTABILITY REPORTING

Presented to the

Department of Energy

In recognition of your outstanding efforts in preparing the DOE's Performance and Accountability Report for the fiscal year ended September 30, 2001.

I am also pleased to report that the Department was awarded the Certificate of Excellence in Accountability Reporting (CEAR) by the Association of Government Accountants for its Fiscal Year 2001 Performance and Accountability Report. The CEAR recognizes agencies whose annual reports achieve the highest standards in presenting their performance and financial affairs, which is a testament to the Department's commitment to quality financial management.

Our focus in Fiscal Year 2002 was on our overarching mission of national security. Accordingly, our work serves the nation in four critical areas—national nuclear security, science, energy resources, and environmental quality. These critical areas are supported by a first-class corporate management function. This report describes our program strategic goals and our Fiscal Year 2002 performance results in each of these areas. Recognizing the role of the Department's employees as public servants, the men and women who manage these programs are entrusted with implementing our objectives and are accountable for the performance and achievements described in this report. At DOE we believe that personal responsibility and an evolving culture of accountability are the foundations of our efforts to ensure the Nation's energy security that our society needs to thrive and prosper.

The Federal Managers' Financial Integrity Act requires the Department to annually evaluate its management controls and identify any material weaknesses. This requirement covers all of the Department's programs and administrative functions. As we work to serve the American people, we must administer our programs as

Message from the Secretary of Energy (continued)

efficiently and economically as possible. To do this, we rely on our system of management controls to provide reasonable assurance that our financial obligations comply with applicable laws, our items of value are safeguarded, and our operations are properly accounted for.

We have evaluated our management controls and find that they comply with the requirements of the Federal Managers' Financial Integrity Act. No material weaknesses that would put the Department's overall system of management controls at risk were identified. To improve our efficiency and effectiveness, we are working on 11 specific areas where significant issues exist. This report describes those significant issues and explains the actions that we are taking. We have also evaluated our financial management system as required by the Federal Managers' Financial Integrity Act and find that it generally conforms to governmental financial system requirements.

The performance results contained in this report, taken as a whole, summarize our success in achieving the performance goals we established for Fiscal Year 2002. However, the need to improve our performance management practices to ensure that, in the future, our goals are results driven and outcome oriented is a significant issue we are working to address.

I welcome your interest in the Department of Energy and its programs as well as its performance. In these challenging and uncertain times, taxpayers can be assured that the Department stands ready to protect the energy security of all Americans and will provide exemplary stewardship over the public funds entrusted to us.

Spencer Abraham
Secretary of Energy

Foreword

The Reports Consolidation Act of 2000 authorizes Federal agencies to consolidate various reports in order to provide performance, financial and related information in a more meaningful and useful format. In accordance with the Act, the information contained in this report is a consolidation of reporting requirements. This report is comprised of three primary sections: the Overview section, the Detailed Performance Results section, and the Financial Statements section.

The **Overview** section provides management's discussion and analysis of information on the Department's mission, its organizational structure, and its resources for FY 2002. It provides summary-level information on the Department's FY 2002 performance in those areas that we consider the most significant to achieving our critical mission objectives. The Overview also contains information on the Department's most serious management control issues, which are referred to as Significant Issues throughout this report. Also included in this section is a description of the methods the Department employed in FY 2002 to monitor, assess, verify and validate our Performance Measures. Statistical information is provided to demonstrate how our planned performance compared with our actual performance, and our plans for instituting corrective action in areas where our performance fell short of expectations.

Detailed information on all performance results is contained in the **Detailed Performance Results** section. This section contains an assessment of our performance against each of our Program Strategic Performance Goals and Targets for the past four years.

Finally, the **Financial Statements** section contains the Audited Financial Statements and Auditors' Reports that support the Department's consolidated FY 2002 and 2001 financial statements.

Legislated Reporting Requirements

This report meets the following legislated reporting requirements:

- Annual report on the Department's activities as required by the Department of Energy Organization Act;
- Assessment of the Department's financial systems for adherence to government-wide Federal Financial Management Improvement Act of 1996 requirements;
- Management actions taken in response to Inspector General audits as required by Amendments to the Inspector General Act of 1978;
- Performance results achieved against all goals established for the year as required by the Government Performance and Results Act of 1993;
- Status of the Department's management controls and the most serious problems identified as required by the Federal Managers' Financial Integrity Act of 1982; and,
- Audited financial statements, including an overview of performance results, as required by the Government Management Reform Act of 1994.

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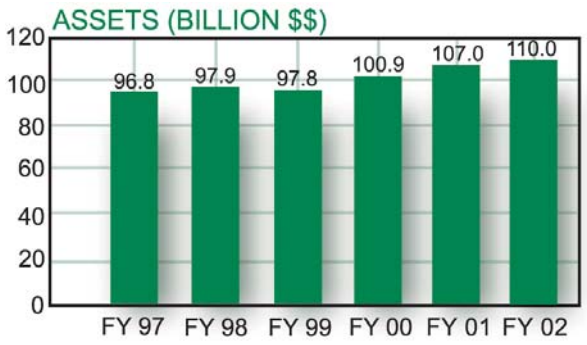
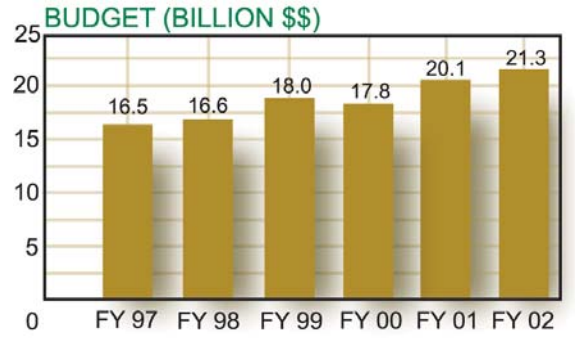
Department at a Glance

In 1977, the new Department of Energy ("DOE" or "The Department") brought together for the first time not only most of the government's energy programs, but also science and technology programs and defense responsibilities, which included the design, construction, and testing of nuclear weapons. At that time, a score of organizational entities from a dozen departments and agencies, each with its own history and traditions, joined together.

Today, the Department of Energy plays a key role in our national security and economic growth by working to improve and modernize the energy infrastructure of America. Through efforts to develop promising new technologies for cleaner, less expensive, and more efficient energy, the Department of Energy protects our environment and promotes innovation.





Reliable, Affordable, and Environmentally Sound Energy for America's Future

When President Bush was sworn in on January 20, 2001, the U.S. lacked a coherent plan to confront our long-term energy needs. The seriousness of the situation was brought home by the severe electricity crisis then afflicting California and by the sharp increases in oil and natural gas prices that contributed to the economic slowdown in 2001.

Within ten days of taking the oath of office, President Bush established the National Energy Policy Development Group, directing it to "develop a national energy policy designed to help the private sector, and, as necessary and appropriate, state and local governments, promote dependable, affordable, and environmentally sound production and distribution of energy for the future."

At the same time, the Administration began working with state and local officials in California, as well as industry representatives and the Federal Energy Regulatory Commission, to address the state's short-term problems by increasing conservation and expediting the permitting of new energy projects. These steps helped California escape blackouts in the summer of 2001.

In May 2001 the Bush Administration released the National Energy Policy (NEP), a comprehensive set of legislative and administrative proposals designed to guarantee the United States' energy security for the 21st century. The President's energy plan will enable our Nation to meet the huge increases in energy demand that will be needed to sustain rising standards of living and our national security in the decades to come.

The NEP's recommendations were specifically designed in an environmentally sensitive fashion to meet the nation's growing energy demand, which includes a 45 percent increase for electricity over the next 20 years, 50 percent increase in natural gas demand and 33 percent for oil. The NEP established specific goals to meet that demand — while still guaranteeing America's continued growth and prosperity — that include increasing conservation, diversifying energy supplies, improving and accelerating environmental protection, modernizing the aging energy infrastructure, and strengthening America's energy security.

President George W. Bush and Secretary of Energy Spencer Abraham addressed Department of Energy employees regarding the National Energy Policy.

Moving Forward in FY 2002

"The National Energy Policy's first year has been a notable success," Secretary Abraham said. "We've already seen a very positive impact. The national energy policy's recommendations have enjoyed broad support in Congress. Of the 22 specific proposals that required legislative action, 21 have either already been enacted into law, or are contained in either the House or the Senate energy bills that are headed to Conference and we expect that a balanced and comprehensive bill will be headed to the President for signature this year."

DOE in the past year has made several advances in implementing the NEP. Among them:

- Conducted a comprehensive review of existing energy efficiency and renewable energy programs and asked Congress for over $1.2 billion — the largest budget request in over 20 years – for these programs;

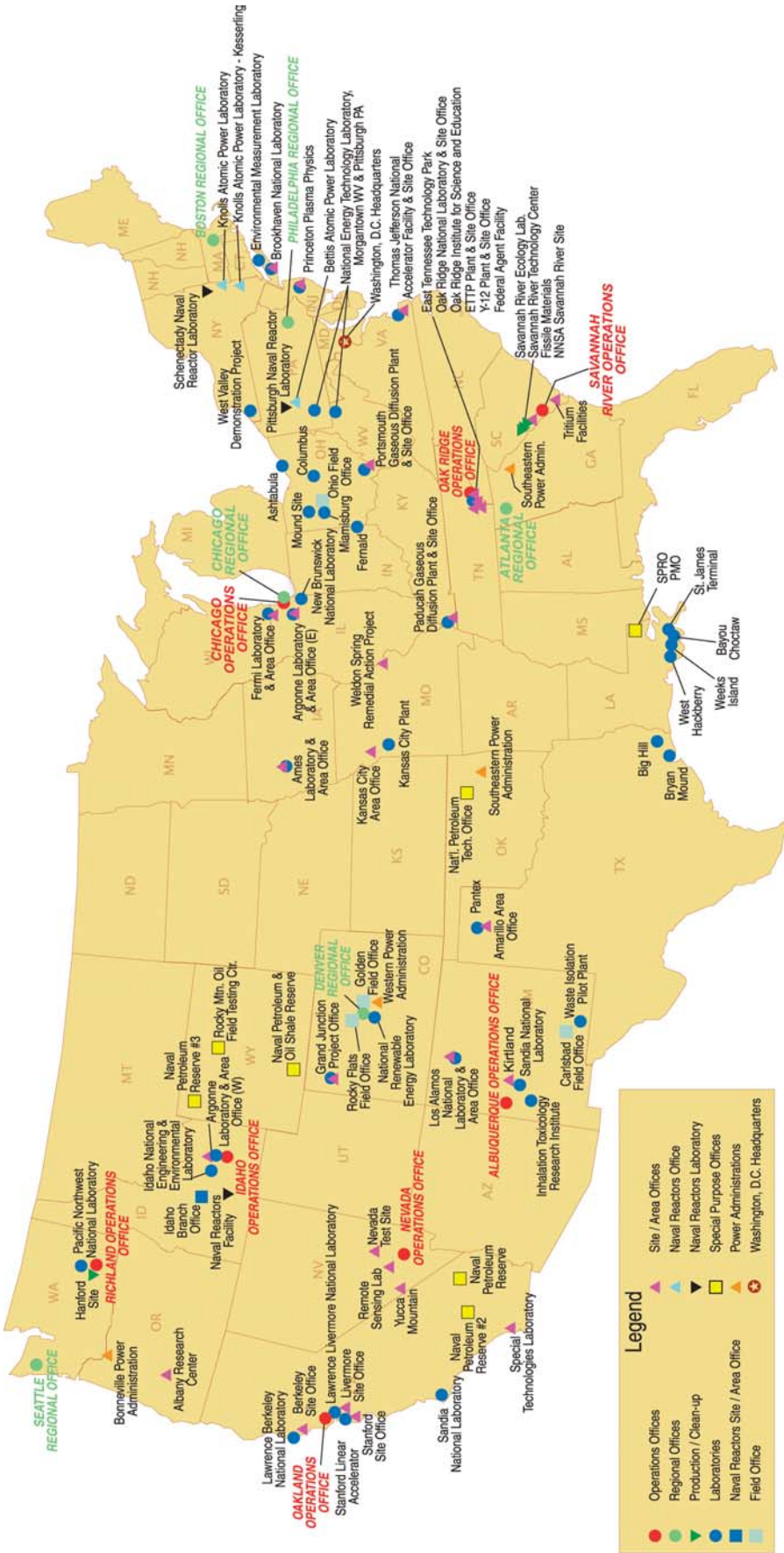
- Improved funding for research and development and focused on the cutting-edge technologies that will fuel the 21st century and beyond;
- Expanded several programs such as Energy Star, which promotes the purchase of energy efficient appliances and machines; and
- Launched a plan to increase the use of energy efficient Combined Heat and Power generating facilities.

DOE has implemented several innovative actions to increase and diversify supply, as well. In the past year, the department formed a fast track inter-agency task force that is clearing the way to get Alaska's abundant natural gas resources to the continental U.S. by speeding construction of an Alaskan Gas Pipeline. Legislation has been proposed to re-license hydro-power plants, providing increased electricity to the nation, and to build a central waste storage site at Yucca Mountain in Nevada, a proposal endorsed by over 300 members of the House of Representatives.

The Department also sought to increase domestic oil production and reduce the nation's reliance on imported oil by developing resources in a small section of the remote Arctic National Wildlife Refuge, and launched the North American Energy Working Group with Canada and Mexico to identify ways to improve energy opportunities to the benefit of each nation.

In another initiative to increase the nation's energy security, the President ordered that the Energy Department fill the Strategic Petroleum Reserve to capacity for protection against economic harm in the event of oil supply disruptions.

"This administration has made remarkable progress in a short twelve months toward implementing a comprehensive and balanced energy policy that is both practical and visionary," Secretary Abraham said. "President Bush addressed this need by promoting a long-term National Energy Policy with specific, action-oriented recommendations that will promote reliable, affordable and environmentally sound energy for today and for the future."



Our Major Field Facilities

The Department accomplishes its missions through its unique scientific assets located throughout the United States and include outstanding national laboratories, facilities, and employees.

Our Organization: Its Goals and Resources

Organizationally, the Department's programs are grouped into four program areas and a corporate management support function. Each program area has missions and goals that underlie those of the Department. The chart below also shows each program area's major resources to accomplish those goals.

Goals

National Nuclear Security

- Maintain nuclear weapons stockpile
- Maintain nuclear development capability
- Reduce danger of global nuclear proliferation
- Maintain security of nuclear assets
- Provide nuclear power plants to U.S. Navy

Resources

- Federal Employees (full time equivalents) 2,479
- Operational Net Costs (in millions) $6,763
- Net Budget Authority (in millions) $7,595

Science

- Develop future energy technology options
- Develop scientific foundations to protect our planet
- Understand impact of energy on health and environment
- Maintain U.S. scientific leadership

- Federal Employees (full time equivalents) 928
- Operational Net Costs (in millions) $2,812
- Net Budget Authority (in millions) $3,309

Energy Resources

- Promote energy conservation
- Modernize the energy infrastructure
- Increase energy supplies
- Protect the environment
- Increase energy security

- Federal Employees (full time equivalents) 6,599
- Operational Net Costs (in millions) $2,151
- Net Budget Authority (in millions) $2,397

Environmental Quality

- Clean up nuclear contamination at DOE sites
- Establish repository for U.S. civilian and defense high-level nuclear waste

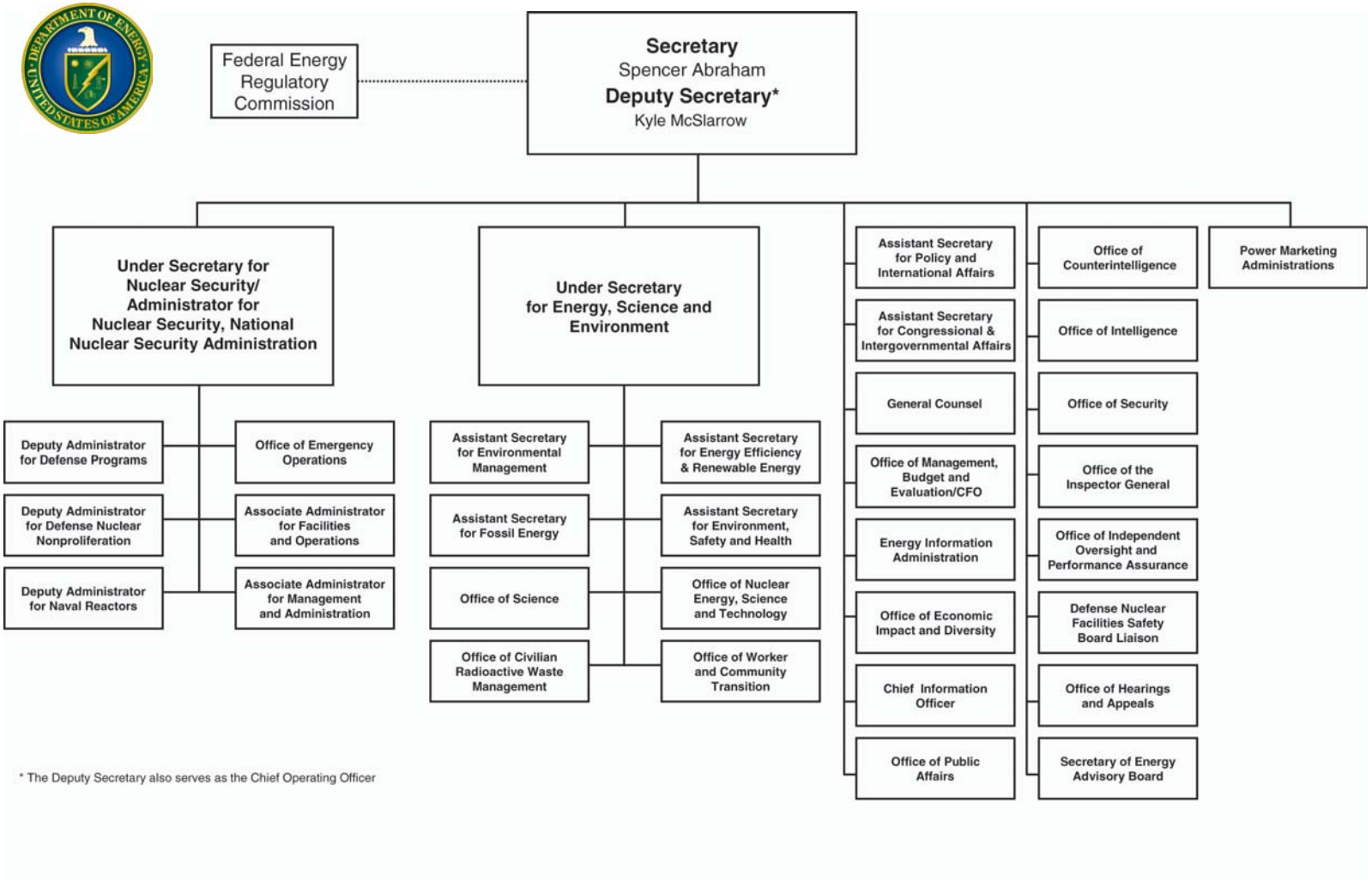
- Federal Employees (full time equivalents) 2,639
- Operational Net Costs (in millions) $997
- Net Budget Authority (in millions) $7,215

Corporate Management

- Ensure safety and health of workforce and public
- Maintain effective management of all DOE activities

- Federal Employees (full time equivalents) 2,050
- Operational Net Costs (in millions) $270
- Net Budget Authority (in millions) $793

U.S. Department of Energy



Financial Overview

The following financial overview section provides a concise description of the Department of Energy's financial position.

The Department prepares consolidated financial statements that include a Balance Sheet, Statements of Net Cost, Statements of Changes in Net Position, Statements of Budgetary Resources, Statements of Financing, and Statements of Custodial Activity. Overall, these statements summarize the financial activity and financial position of the Department. The following table summarizes these statements at a high level and provides a quick overview of significant balances. Analysis of the most significant changes for FY 2001 to FY 2002 is provided on pages 196-197 of the Financial Section.

BALANCE SHEET

Assets	(Dollars in Billions) 09/30/02	09/30/01
Fund Balances with Treasury Primarily appropriated funds to pay current liabilities and finance authorized purchase commitments.	$ 14.1	$ 13.6
Investments Primarily monies managed for the Nuclear Waste Fund and the Uranium Enrichment Decontamination and Decommissioning Fund. Fees paid by owners and generators of spent nuclear fuel and high-level radioactive waste, and fees collected from domestic utilities, are deposited in the respective funds to pay current program costs, with any excess funds invested in Treasury securities.	$ 17.3	$ 16.0
Accounts Receivable *Intragovernmental* - Primarily for reimbursable work performed for other Federal agencies. *Governmental* - Primarily for Nuclear Waste Fund and Uranium Enrichment Decontamination and Decommissioning Fund fees.	$ 4.9	$ 5.2
Inventory Materials Crude oil at the Strategic Petroleum Reserve, Nuclear Materials, and Other Inventory.	$ 38.2	$ 36.8
General Property, Plant and Equipment Includes over 126 million square feet of buildings located on over 2.6 million acres of land.	$ 20.3	$ 19.4
Regulatory Assets Associated with the Department's power generation and management responsibilities. These assets represent the Bonneville Power Administration's (BPA) right to future revenues generated from non-Federal power generator projects in return for BPA's payment of debt issued to complete these projects.	$ 11.6	$ 11.8
Other Assets	**$ 3.6**	**$ 4.2**
TOTAL ASSETS	**$ 110.0**	**$ 107.0**

Liabilities	09/30/02	09/30/01
	(Dollars in Billions)	
Environmental Liabilities Represents the Department's obligation to correct the environmental damage incurred throughout the DOE complex while researching, producing, and testing nuclear weapons.	$ 209.6	$ 238.4
Debt and Appropriated Capital Owed to Treasury Represents amounts which the Department has obligations to pay for borrowing from Treasury, refinanced appropriations, and non-Federal projects.	$ 17.2	$ 17.5
Accounts Payable *Intragovernmental* - Includes liability for allocation transfers, accrued expenses, and interest. *Governmental* - Includes contract holdbacks and accrued expenses.	$ 3.4	$ 3.8
Pensions and Other Actuarial Liabilities Represents amounts which the Department has obligations to pay for specified benefits to contractor employees having approved defined benefit pension plans and post-retirement benefits other than pensions.	$ 8.9	$ 7.6
Other Liabilities, Including Deferred Revenues and Contingencies Primarily represents Nuclear Waste Fund revenues that exceed the Nuclear Waste Fund expenses and DOE's unfunded environment, safety, and health liability. Nuclear Waste Fund revenues are accrued based on fees assessed against owners and generators of high-level radioactive waste and spent nuclear fuel and are recognized as costs are incurred for Nuclear Waste Fund activities. The environment, safety, and health liability represents those activities necessary to bring facilities and operations into compliance with existing laws and regulations.	$ 22.0	$ 21.6
TOTAL LIABILITIES	**$ 261.1**	**$ 288.9**
BEGINNING NET POSITION	**$ (181.9)**	**$ (182.8)**
Net Costs of Programs	$ 8.9	$ (23.5)
	2002	2001
National Nuclear Security Activities	6.8	5.9
Science	2.8	2.7
Energy Resources	2.1	2.5
Environmental Quality	1.0	0.2
Other Programs	0.3	0.1
Total Program Areas Costs	13.0	11.4
Costs Not Assigned to Programs	(21.9)	12.1
Financing Sources Represents appropriations used, taxes, imputed financing, and transfers.	$ 20.4	$ 22.7
Other Adjustments/Changes to Results of Operations Represents prior period adjustments, changes in Nuclear Waste Fund deferred revenues, and changes in unexpended appropriations.	$ 1.5	$ 1.7
ENDING NET POSITION	**$ (151.1)**	**$ (181.9)**
TOTAL LIABILITIES AND NET POSITION	**$ (110.0)**	**$ (107.0)**

More detailed explanations of these and other balances on the statements are included in the Notes to the Financial Statements.

Our Significant Issues for FY 2002

The Department is continually striving to improve the efficiency and effectiveness of its programs and administrative activities. This is an ongoing process, with many improvements made by the Department's managers as part of their day-to-day operations. However, there are some specific areas within the Department's operations that merit a higher level of attention and focus. These areas represent significant issues for the Department. They are described briefly below and in more detail on the page indicated.

Title	Summary	Page
Environmental Cleanup	There are long-term environmental problems at DOE facilities resulting from past nuclear weapons activities.	58
Security	Improvements are needed to DOE's security plans and activities related to physical and cyber security.	76
Nuclear Waste Disposal	The opening of a permanent repository for the nation's civilian and high-level defense radioactive waste has experienced a number of delays.	55
Human Capital Management	DOE needs to ensure that its Federal workforce has the skills necessary to meet its missions.	63
Information Technology Management	DOE needs to meet Federal requirements for improved and more cost-effective use of information technology.	69
Facilities and Infrastructure Management	Deteriorating facilities are impacting some of DOE's program missions and resulting in increased safety risks.	24, 26, 66
Project Management	Cost overruns, schedule slippages and other problems have occurred in large, important projects.	21, 64
Performance Management	DOE's programs are not always results driven or focused on achieving outcome-oriented goals.	66
Stockpile Surveillance and Testing	There are problems with DOE's surveillance and testing of the Nation's nuclear weapons stockpile.	20
Safety and Health	Safety and health issues at DOE facilities have the potential to impact workers and the public.	60
Program Oversight of Contractors	Program managers are not providing consistent oversight of the contractors performing work for DOE.	66

CLOSURE OF SIGNIFICANT ISSUES REPORTED IN PRIOR YEARS

Last year the Department reported two additional areas where specific issues existed. Due to substantive actions taken, we no longer believe these represent issues of such significance that we need to report them as requiring additional attention.

Energy Markets

Supporting private-sector efforts to ensure secure and reliable energy supplies is intrinsic to the Department's mission, and we will continue to provide real solutions to ensure the Nation has economically and environmentally sustainable energy systems. In the past, the Department reported the vulnerability of U.S. energy markets to supply and delivery disruptions as a significant problem, and it remains a significant policy concern. Since that time, the Department has moved aggressively to implement key components of the President's *National Energy Policy* and introduced comprehensive energy legislation in order to mitigate the impacts of future energy supply disruptions. Based on our progress in reducing our vulnerability, we no longer consider this area to be a significant management problem.

Surplus Fissile Materials

In 1997, the Department identified its extensive inventories of fissile nuclear materials no longer needed for defense purposes as a significant problem. Specifically, the Department had not developed a method for disposing of those materials, and there were concerns related to unnecessary storage and security costs, as well as the potential for global proliferation. In addition, there were concerns regarding similar materials in Russia. Since then, the Department has established the Office of Fissile Materials Disposition to address this issue, transferred over 19 metric tons of U.S. and Russian highly enriched uranium to the United States Enrichment Corporation for conversion to low enriched uranium, and taken steps initiating the construction of a facility to dispose of excess plutonium through irradiation of mixed oxide fuel in domestic reactors. We have also completed material, protection, control, and accounting upgrades on 179 metric tons of Russian weapons-usable nuclear material. Due to the substantive actions taken, Surplus Fissile Materials is no longer considered to be a significant issue.

Our Program Areas for FY 2002

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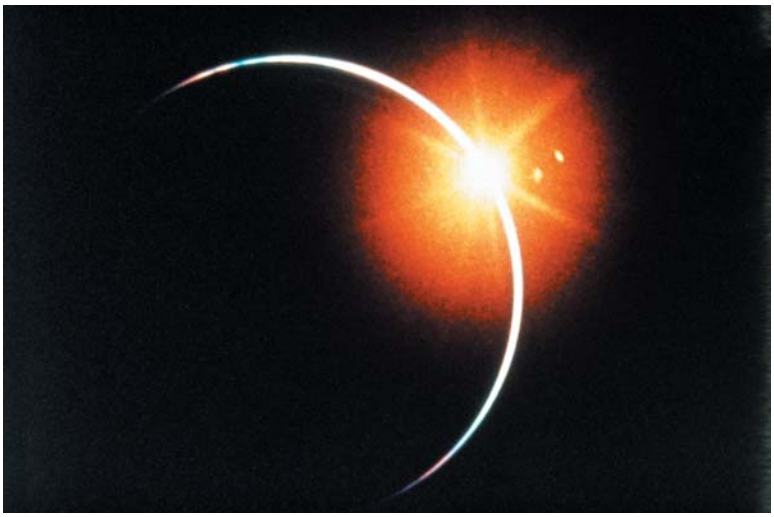
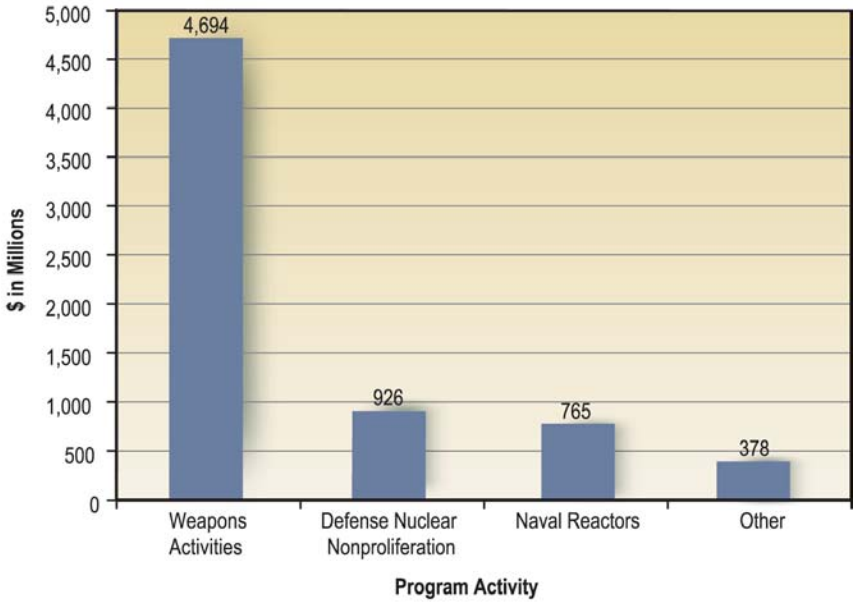
National Nuclear Security

For almost 50 years, America's national security has relied, in part, on the deterrence provided by nuclear weapons. Designed, built, and tested by the Department of Energy and its predecessor agencies, these weapons helped win the Cold War, and they remain a key component of the Nation's security posture.



The Department's National Nuclear Security Administration (NNSA) now faces a new and complex set of challenges to its mission in countering the threats of the 21st century. One of the most critical challenges is met by the Stockpile Stewardship Program, which maintains the safety, security, and reliability of our nuclear deterrent in the absence of underground nuclear testing. Another critical challenge is the proliferation of weapons of mass destruction — the threat of nuclear, chemical, or biological weapons or nuclear materials being used against U.S. interests, both domestically and internationally. Additionally, international events and crises continue to arise, against which the United States must project a forward presence and quickly protect our national interests. The United States will continue to meet those military deployment objectives using nuclear-powered submarines and aircraft carriers.

National Nuclear Security Activities Net Costs in FY 2002 – $6,763 Million



Congress created the NNSA through the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65) to bring focus to the management of the Nation's defense nuclear programs. Three existing organizations within the Department of Energy (DOE)—Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors—were combined into a new, separately organized and managed agency headed by an Administrator. The Administrator, who is also an Under Secretary within DOE, has authority over, and is responsible for, all programs and activities necessary to accomplish NNSA's mission.

The vision of the NNSA is to be an integrated nuclear security enterprise, operating an efficient and agile nuclear weapons complex, contributing to the reduction of the global danger from the proliferation of weapons of mass destruction, and recognized as preeminent in technical leadership and program management.

The goal of our National Nuclear Security program is to strengthen United States security through the military application of nuclear energy, and by reducing the global threat from terrorism and weapons of mass destruction. In support of the Department's vision and goals for the NNSA program, several high-profile actions or initiatives were undertaken in FY 2002:

President Bush visits Argonne National Laboratory with Secretary of Homeland Security Tom Ridge, Secretary of Energy Spencer Abraham, and Speaker of the House Dennis Hastert.

- The U.S. Nuclear Posture Review (NPR), conducted jointly by the Departments of Defense (DoD) and Energy for the U.S. Congress, reached the following conclusions relevant to DOE:
  - NPR reaffirms that nuclear weapons will remain a key element of U.S. national security strategy; NNSA must continue to certify the safety and reliability of the U.S. nuclear stockpile.
  - NPR also reaffirms the stockpile refurbishment plan previously agreed to by DoD and NNSA. NNSA is given an even stronger mandate to reverse the deterioration of its nuclear weapons infrastructure.
  - The NPR describes a "New Triad" that consists of: nuclear and non-nuclear strike capability; active and passive defenses; and research and development (R&D) and industrial infrastructure needed to develop, build, and maintain nuclear offensive forces and defensive systems. This reflects recognition of the importance of NNSA's other nuclear initiatives, including:
  - Enhanced underground nuclear test readiness;
  - Reestablish nuclear warhead advanced concepts teams at national labs and Headquarters; and
  - Accelerate preliminary design work on a modern pit facility.
- In the Fall of 2001, key outcomes from a National Security Council Study on Non-Proliferation Assistance to Russia relevant to DOE included:
  - Confirmed the need to continue DOE's non-proliferation work;
  - Confirmed the need for the program to eliminate Russian, as well as U.S., excess plutonium; and
  - Transferred management from DoD to DOE of the program to eliminate Russian weapon-grade plutonium production.

The results achieved for our most significant program strategic goals and key performance measures for FY 2002 follow.

KEY PERFORMANCE GOAL: Maintain the Nation's Nuclear Weapons Stockpile

NS1-1: Conduct a program of warhead evaluation, maintenance, refurbishment, and production, planned in partnership with the Department of Defense.

Key Performance Measure	Result	FY 2002 Assessment
Meet all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD. This includes meeting milestones in the FMFIA corrective action plan for the Department Challenge of Stockpile surveillance and testing.	Met all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD. In addition, the final Federal Manager's Financial Integrity Act (FMFIA) Stockpile Surveillance and Testing corrective action for FY 2002—development and implementation of a Comprehensive Significant Finding Investigation (SFI) database—is closed. The Sandia National Laboratory-maintained SFI database was upgraded to make it comprehensive, become operational in June 2002. A separate database is currently under development at NNSA/Albuquerque (AL) to track corrective actions taken and plans developed in response to SFIs. This database is scheduled to be fully operational on March 31, 2003.	Met Goal
Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile.	The sixth annual letter to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile was transmitted in July 2002.	Met Goal

Copper, aluminum, silver, gold and plutonium nonnuclear weapons parts are shown separated for recycling. There is an outlet for all component parts resulting from dismantling nuclear weapons. Uranium parts are returned to the Oak Ridge Y-12 Plant, tritium bearing parts to Savannah River, and recyclable parts to the original site of manufacture. Other waste materials are separated for recycling or shipment to U.S. Environmental Protection Agency (EPA) approved disposal sites.

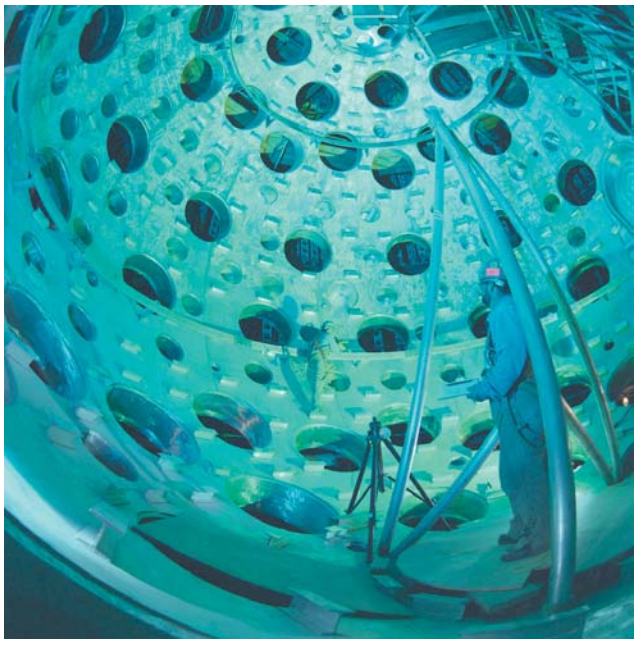
Significant Issue: Stockpile Surveillance and Testing

Since the moratorium on underground testing of nuclear weapons, the Department's responsibility to ensure the safety, security, and reliability of the nuclear weapons stockpile has been met through its Stockpile Stewardship Program. Successful implementation of the Stockpile Stewardship Program is key to the Secretaries of Defense and Energy's annual certification to the President that the nuclear stockpile is safe and reliable. Deficiencies have been identified in surveillance tests of stockpiled nuclear weapons, a key component of the Stockpile Stewardship Program. Surveillance testing has been characterized as the first line of defense for maintaining high confidence in the stockpile and the link between stewardship activities and the annual certification process. Each year, the Department randomly selects 11 weapons of each type to conduct surveillance tests. The Department has developed and is implementing a management plan, with goals and milestones, to address the backlog of flight, laboratory, and component tests. These tests are critical for understanding weapon system reliability. During FY 2002, the Department also renewed safety studies of weapons prior to surveillance testing and continued to eliminate the laboratory-testing backlog and expects to eliminate the remaining backlog in FY 2004.

Deficiencies have also been identified in the conduct of Significant Finding Investigations to determine the cause and impact of problems identified by surveillance tests, and recommend corrective actions. The Department has not been meeting internally established timeframes for initiating and conducting investigations of defects and certain malfunctions in nuclear weapons. As a result of investigation delays, test data and findings related to weapon reliability were not readily available to the Departments of Energy and Defense. If these delays were to continue, the Department might not be able to certify the aging nuclear weapons stockpile.

The Department initiated immediate action in FY 2001 to upgrade an existing database that tracks the notification and resolution of Significant Finding Investigations. These upgrades were completed in June 2002. A separate database is currently under development to track corrective actions taken and plans developed in response to Significant Finding Investigations. This second database is scheduled to be operational March 31, 2003. Use of both of these databases will facilitate comprehensive tracking of Significant Finding Investigations, helping to ensure their timely identification, corrective action, and closure and ensuring the safety, security, and reliability of the Nation's nuclear weapons stockpile.

The National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL) is one of the cornerstones of DOE's Stockpile Stewardship Program. NIF will use the world's largest laser to heat fusion fuel to thermonuclear ignition in experiments that will help scientists sustain confidence in the nuclear weapons stockpile without actual testing, and produce additional benefits in basic science and fusion energy.



Significant Issue: Project Management

Project Management is a significant issue within NNSA. A cost, scope, and milestone review conducted by the Inspector General at the Administrator's request indicated that policies and procedures need to be reinforced.

In response to the Inspector General's report, NNSA took management actions to reinforce policies and procedures associated with management of the Tritium Extraction Facility project, including development of a new project baseline that addresses scope and funding issues. NNSA expects the Tritium Extraction Facility project to move forward with these changes.

Staging bunkers at Pantex used for temporary staging of nuclear weapons. Plutonium pits (the components in nuclear weapons that contain fissile material) from disassembled weapons will be held at Pantex. Weapons and Safety specialists from the Lawrence Livermore and Sandia National Laboratories are working to ensure that nuclear weapons are dismantled and in accordance with technical and scientific requirements. Highly secure bunkers are used for interim storage of sealed pits that have been removed from disassembled weapons.

KEY PERFORMANCE GOAL: Protect or Eliminate Weapons and Weapons-Usable Nuclear Material

NS2-3: Protect or eliminate weapons and weapons-usable nuclear material or infrastructure and redirect excess foreign weapons expertise to civilian enterprises.

Key Performance Measure	Result	FY 2002 Assessment
Accelerate rapid and comprehensive upgrades on at-risk plutonium, highly enriched uranium, and naval nuclear weapons at Russian sites and Second Line of Defense deployments.	Completed comprehensive upgrades on an additional two percent of the 600 metric tons (MTs) of weapons-usable nuclear material, raising the total to 17 percent. Completed comprehensive upgrades on an additional 22 percent of the estimated 4,000 Navy warheads, raising the total to almost 40 percent. Completed comprehensive upgrades at an additional three sites, raising the total to 40 of 95 sites completed. Converted an additional 0.8MT of highly enriched uranium to low enriched uranium, increasing the total amount converted to 3.2MTs of weapons-grade nuclear material by converting it to non-weapons-grade. Installed radiation detection equipment at 15 strategic transit and border sites, raising the total to 23 sites. The outstanding FY 2001 target for completing comprehensive upgrades on the remaining one percent (of the original goal of eight percent) of 850MTs was fulfilled in FY 2002.	Met Goal
Develop a plan for U.S. and Russian plutonium disposition that is politically, fiscally, and technically feasible; and obtain White House approval.	Following the Administration's review in February, the U.S. plutonium disposition program has been restructured, focusing on the irradiation of Mixed Oxide (MOX) fuel in domestic reactors and eliminating immobilization. Insofar as Russia is concerned, the Russian Federation has announced their intent to focus on the use of VVER-1,000 reactors (light water) as well as the possible export of plutonium for disposition outside of Russia. The Russians have accepted the design of the U.S. MOX plant. The outstanding FY 2001 target regarding the shipment of the remaining 3MT (out of a goal of 9MT) of surplus U.S. highly enriched uranium to the United States Environment Corporation (USEC) was partially completed with the shipment of 1.5MT in FY 2002. The remaining 1.5MT will be shipped during FY 2003.	Met Goal
Sign an agreement with the Russian Ministry of Atomic Energy for access to closed nuclear cities.	Access agreement was signed on February 14, 2002, and submitted to Congress by the Secretary of Energy. The agreement covers the work in Sarov, Snezhinsk, and Zheleznogorsk.	Met Goal

KEY PERFORMANCE GOAL: Provide the U.S. Navy with Safe, Militarily-Effective Nuclear Propulsion Plants

NS3-1: Ensure the safety, performance reliability, and service-life of operating reactors for uninterrupted support of Fleet demands, which includes 124 million miles steamed for nuclear powered ships, and maintaining a utilization factor of at least 90 percent for operation of test reactor plants.

Key Performance Measure	Result	FY 2002 Assessment
Maintain utilization factors of at least 90 percent for operation of test reactor plants, and 124 million miles steamed for nuclear-powered ships.	Nuclear-powered ships steamed over two million miles, surpassing 124 million miles of safe operation. In addition, the Naval Reactors program exceeded 90 percent utilization for operation of test reactor plants.	Met Goal

A bow view of the nuclear-powered aircraft carrier U.S.S Dwight D. Eisenhower underway off the coast of St. Thomas, Virgin Islands.

A starboard bow view of the nuclear-powered strategic missile submarine U.S.S. Nevada underway.

Significant Issue: Facilities & Infrastructure Management

The Department risks not being able to meet its defense production mission objectives if the condition of its facilities is not adequately addressed. Aging facilities are operating beyond design life and have deteriorated due to insufficient maintenance and necessary upgrades. In response, the Department has taken action to evaluate the condition of the infrastructure, define needs to meet mission requirements, and develop comprehensive plans for each site. During FY 2002, the National Nuclear Security Administration completed ten-year site plans to ensure that infrastructure needs are consistent with projected workload and developed a five-year budget planning cycle to integrate those requirements. For FY 2003, the National Nuclear Security Administration plans to complete the Defense facilities assessments and finalize development of its Facilities Management Process Plan addressing defense infrastructure modernization needs. The condition of the Department's facilities is also impacting the Department's performance of world-class science and long-term cleanup missions. Therefore, this issue is also discussed in the Science and Corporate Management program areas.

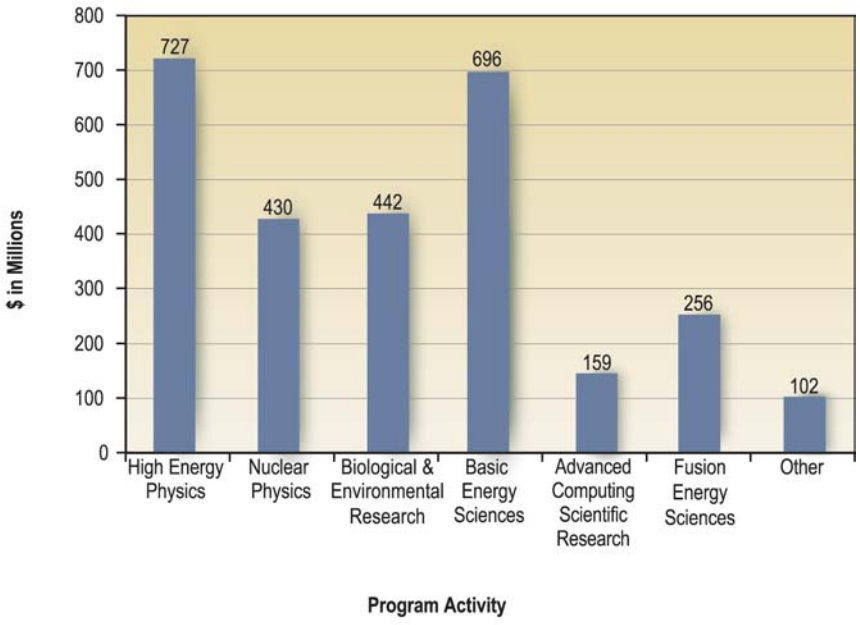
Building accurate graphical models of physical environments, some of which are too dangerous for human access, combines a remote, head-slaved stereo camera platform with interactive 3D graphics. Applications of this work include building models of waste sites for remediation and nuclear facilities for verification. Sandia National Laboratory's (SNL) virtual reality (VR) lab was established to explore application of VR technology to all aspects of computer-human interaction.

Science

The Department of Energy's (DOE's) Science Program leads the nation in its support for the physical sciences, and is a significant contributor in the fields of computation, biology, physics, and environmental sciences through research efforts supportive of DOE's missions. The DOE Science Program represents the third-largest government sponsorship of basic research in the United States, and is viewed as one of the premier science organizations in the world. The DOE Science Program is managed by the Office of Science (SC), formerly the Office of Energy Research, and conducts research at universities, national laboratories, and private research facilities in the areas of materials and chemical sciences, engineering and geosciences, energy biosciences, magnetic fusion energy, health and environmental research, high energy and nuclear physics, and computational sciences. These programs fulfill the DOE's science mission, while providing an essential foundation for DOE's applied missions in energy resources, environmental quality, and national security.

The Office of Science is also the steward of ten national laboratories that support the missions of its science programs. The national laboratory system, created over a half-century ago, represents the most comprehensive research system of its kind in the world. These laboratories

Science Activities Net Costs in FY 2002 – $2,812 Million



perform research and development for which there is a strong public and national purpose.

The DOE's cadre of large-scale scientific facilities located at the labs supports the United States' position as the worldwide leader in science. The broad variety of world-class facilities, such as large accelerators, experimental reactors and detectors, high-precision instruments, synchrotron light sources, supercomputers, high-capacity networks, and high-resolution microscopes, provides the scientific base to support the Nation's national security and energy security interests.

The goals of our Science Program are to deliver the scientific knowledge and discoveries for the Department of Energy's applied missions; advance the frontiers of the physical sciences and areas of the environmental and computational sciences; and provide world-class research facilities and essential scientific human capital to the Nation's overall science enterprise.

Significant Issue: Facilities & Infrastructure Management

The Department risks not being able to meet its world-class science mission objectives if the condition of its facilities is not adequately addressed. Aging facilities are operating beyond design life and have deteriorated due to insufficient maintenance and necessary upgrades. In response, the Department has taken action to evaluate the condition of the infrastructure, define needs to meet mission requirements and develop comprehensive plans for each site. During FY 2002 the Office of Science developed and implemented a five-year program plan for addressing infrastructure needs. For FY 2003, the Office of Science will update its five-year plan and submit its Semiannual Facilities and Infrastructure Report to Congress. The condition of the Department's facilities is also impacting Department's long-term cleanup and defense production missions. Therefore, this issue is also discussed in the NNSA and Corporate Management program areas.

"A serious commitment to National Security and Energy Security means a serious commitment to Science."
– Spencer Abraham, Secretary of Energy

The results achieved for our most significant program strategic goals and key performance measures for FY 2002 follow.

KEY PERFORMANCE GOAL: Establishing the Foundation for a New Understanding of the Physical Universe

The study of high energy physics (HEP), also known as particle physics, grew out of nuclear and cosmic ray physics in the 1950's that used a relatively new technology, particle accelerators. Today, that technology has advanced so that particle accelerators produce exquisitely controlled beams with energies of trillions of electron-volts and intense enough to melt metal. While science has revolutionized our understanding of how the universe works, elements of the technology have helped transform other fields of science, medicine, and even everyday life. This area of science will be remembered as one of the highlights of the history of the late 20th century.

High energy physics is poised to make new discoveries that may well change our understanding of the universe. The High Energy Physics program is focused on unique opportunities for great discoveries in physics, utilizing the world-class facilities built for this purpose.

In particular, the discovery of the quark structure of matter was a scientific advance that may be compared to the discovery of the atomic nucleus in the early 20th century. This new knowledge is part of the Standard Model, our theory of the fundamental particles and their interactions. The Standard Model proposes that an interaction called the Higgs Field permeates the universe and gives mass to elementary particles. Finding evidence of the Higgs Field has been a principal goal of high energy physics for years, with searches underway at accelerator facilities around the world.

SC1-1: Exploit U.S. leadership at the energy frontier by conducting an experimental research program that will establish the foundations for a new understanding of the physical universe.

Key Performance Measure	Result	FY 2002 Assessment
Deliver integrated luminosity as planned (80 pb-1) to Collider Detector Facility (CDF) and D-Zero at the Tevatron. Begin implementation of second phase of accelerator upgrades: install four performance improvements to existing systems, and begin design and construction of two new systems.	Delivered integrated luminosity as planned (80 pb-1) to Collider Detector Facility (CDF) and D-Zero at the Tevatron. Began implementation of second phase of accelerator upgrades: installed four performance improvements to existing systems, and began design and construction of two new systems.	Met Goal

Collection and analysis of data from Fermilab's Tevatron began in FY 2002 after completion of accelerator and detector upgrades and commissioning in FY 2001, meeting schedule goals. However, accelerator performance has not met expectations, and upgrades have been delayed as lab efforts have been redirected to focus on accelerator performance issues.

FERMI'S two detectors, the collider detector facility (CF) and the D-Zero, are about four stories high, and weigh about 5,000 tons each. The particle collisions occur in the middle of the detectors, which are crammed with electronic instrumentation.

SC7-1A: Manage High Energy Physics (HEP) facility operations to the highest standards of performance, using merit evaluation with independent peer review. Meet U.S. commitments to the accelerator and detector components of the Large Hadron Collider (LHC) facility now under construction.

HEP facilities met their performance targets in FY 2002 and underwent annual, independent peer review to evaluate their performance. Commitments for U.S. supplied accelerator and detector components of the LHC are largely on schedule.

Key Performance Measure	Result	FY 2002 Assessment
Meet the completion targets for the U.S. portion of the LHC project: • Compact Muon Solenoid (CMS) - 77 percent • Argonne Tandem Linac Accelerator System (ATLAS) - 72 percent • Accelerator - 85 percent	CMS completion percentage was 71 percent in FY 2002; ATLAS was 73 percent; and the accelerator was 80 percent. Some elements of the U.S. LHC effort are inextricably linked to the LHC completion schedule, which was slipped by one year by CERN; and, therefore, completion of certain components of the U.S. program were necessarily delayed. Also, CMS recently assumed additional scope, which had the effect of lowering the percent completed. Nevertheless, CMS is on schedule to fulfill its obligations on time and at cost. With regard to the accelerator, there is sufficient schedule float that we are fully confident that it will be finished on time.	Mixed Results*

***Plan of Action:** The U.S. projects are revising their schedules to match the new LHC completion schedule, and carefully worked out the end-game strategies. Revisions to the project completion date and funding profile have been developed and the Baseline Change Proposal has been submitted. ESAAB is scheduled for November 19 and FY04 budget request reflects these revised plans, which will result in 97 percent of project completion by end of FY05 and remaining three percent by end of FY08.

ATLAS pulsed power experimental facility (ATLAS) built at LANL to validate certain elements of nuclear weapons computer codes as part of the stockpile stewardship program.

KEY PERFORMANCE GOAL: Increasing Our Understanding of the Composition, Structure, and Properties of Atomic Nuclei

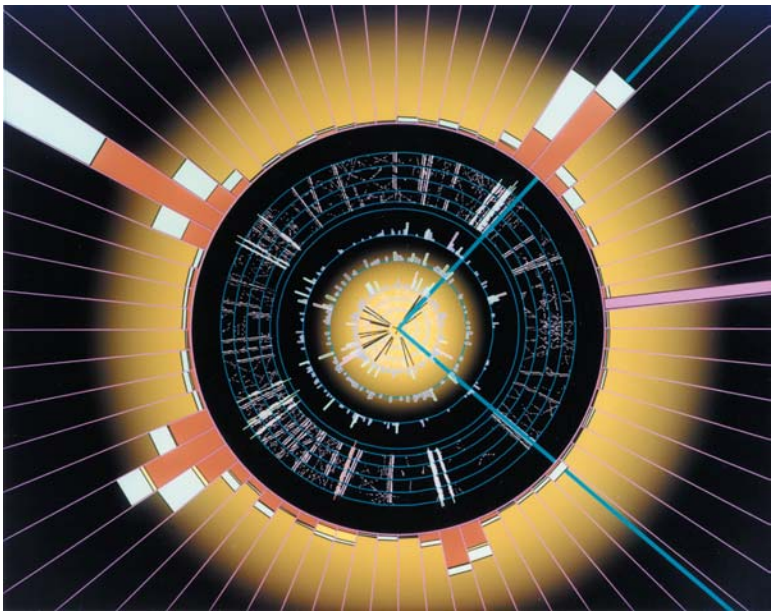
Nuclear science began by studying the structure and properties of atomic nuclei as assemblages of protons and neutrons. Great benefit, especially to medicine, emerged from these efforts. But today, nuclear science's reach extends from the quarks and gluons that form the substructure of the once-elementary protons and neutrons, to the most dramatic of cosmic events—supernovae. At its heart, nuclear physics attempts to understand the composition, structure, and properties of atomic nuclei by studying the following:

- *What is the structure of the nucleon?*
- *What is the structure of nucleonic matter?*
- *What are the properties of hot nuclear matter?*

Other major questions of equal importance for nuclear physics overlap with major questions that drive the fields of astrophysics and particle physics:

- *What is the nuclear microphysics of the universe?*
- *What will the new Standard Model be?*

The Department will be a participant in research to address these issues.

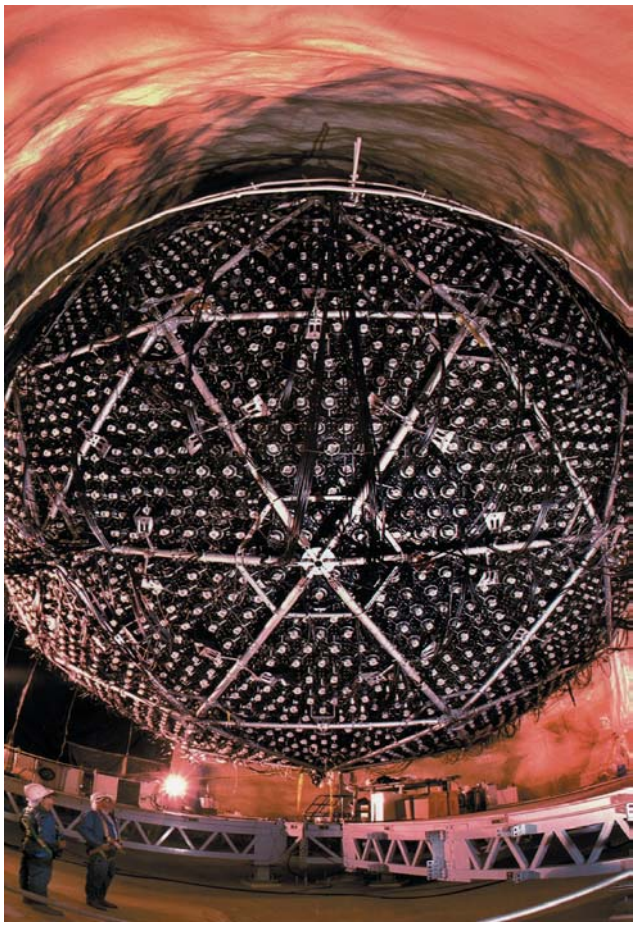


At great speed, protons and antiprotons collide in the Tevatron, producing top and bottom quarks. Quarks are the particles that make up the protons and neutrons in an atom's nucleus. This end view shows the final decay products: two muons (turquoise), a neutrino (pink), and four jets of particles.

SC2-3: Determine the low energy properties of nuclei, particularly at their limits of stability. Use these properties to understand energy generation and the origin of the elements in stars, and the fundamental symmetries of the "Standard Model" of elementary particle physics.

The program is making excellent progress, with data from neutral current interactions from Sudbury Neutrino Observatory (SNO) being published ahead of schedule and with the R&D program for Rare Isotope Accelerator (RIA) proceeding on track. The results from SNO definitively confirm the initial results from SNO that neutrinos change "flavor," oscillating from one type to another, indicating that they have mass — a profound discovery.

Key Performance Measure	Result	FY 2002 Assessment
Construct a prototype high-energy, high-power gas catcher for RIA.	The assembly of the mechanical parts of the seven sections of the main body was completed, and the complete full-scale gas catcher was installed successfully.	Met Goal



The geodisc outer steel structure supporting the SNO. Built 2 km underground in a cavity the size of a ten-story building, the Sudbury Neutrino Observatory (SNO) involves 70 scientists from the U.S., Canada and Great Britain. Scientists will study the tiny bursts of light seen when neutrinos collide with other particles, gaining an understanding of the nature of the neutrino and of the dark matter and missing mass in the universe.

KEY PERFORMANCE GOAL: Advance Biological Science to Address National Security Needs

The 21st Century may be called the "biological century" – an era when advances in biology, spurred by achievements in genomic research, including the sequencing of the human genome, will bring revolutionary and unconventional solutions to some of our most pressing and expensive challenges in health, energy, the environment, and national security. We will understand how living organisms interact with and respond to their environments so well that we will be able to use biology to produce clean energy, remove excess carbon dioxide from the atmosphere, and help clean up the environment. Our understanding of global climate change and our ability to predict climate over periods of decades to centuries will enable us to develop science-based solutions to reduce and minimize the impacts of climate change and to better plan for our Nation's future energy needs.

SC3-1: Determine, compare, and analyze DNA sequences of microbes and other organisms that will underpin development of biotechnology solutions for clean energy, carbon sequestration, environmental cleanup, and bioterrorism detection and defeat.

To date, DOE's microbial genomics research program has supported the DNA sequencing of 75 microbes with potential to address DOE mission needs.

Key Performance Measure	Result	FY 2002 Assessment
Produce draft DNA sequence of more than 30 microbes that cover a range of functional relevance to DOE's life and environmental sciences and security missions - including carbon sequestration, environmental cleanup, bioremediation, and bioterrorism.	The Joint Genome Institute (JGI) has draft sequenced 35 microbes. Of these 35 microbes, 11 are relevant to bioterrorism concerns. The remaining 24 organisms are relevant to other DOE missions.	Met Goal
By the end of FY 2002, the DOE JGI will complete the high quality DNA sequencing of human chromosomes 16 and 19 and produce six billion base pairs of DNA sequence from model organisms (e.g., mouse, Fugu, and Ciona) to help understand the human sequence as part of the Human Genome Program.	The DOE Joint Genome Institute (JGI) has completed the high quality sequencing of Human Chromosome 19, approximately 92 percent of Human Chromosome 16, and 97 percent of Human Chromosome 5. The JGI has also produced seven billion bases of sequences completing the draft sequencing of Fugu (the pufferfish) and Ciona (the sea squirt) as its contribution to the Human Genome Program. Our current assessment is that both Human Chromosomes 16 and 5 will be completed by the end of calendar year 2002.	Not Met*

***Plan of Action:** Although DOE JGI was more productive in FY 2002 than anticipated, completion of chromosome 16 was delayed two months to support an accelerated sequencing completion date for all chromosomes by end of calendar year 2002 that was imposed by the International Human Genome Program (IHGP) during FY 2002. The deadline for finishing the Human Genome was pushed forward by one year during FY 2002 as well. Chromosomes 5 and 16 will be completed to the international standard by the end of December.

KEY PERFORMANCE GOAL: Global Climate Change Research

DOE's Global Climate Change Research program continues to support research facilities to generate scientific publications that are used by the international community to understand and predict global climate change.

SC3-2: Establish the scientific foundation for determining a safe level of greenhouse gases and aerosols in the atmosphere by resolving or reducing key uncertainties in predicting their effects on climate, and provide the foundation to predict, assess, and mitigate potential adverse effects of energy production and use on the environment.

Key Performance Measure	Result	FY 2002 Assessment
Develop and test a fully coupled atmosphere-ocean-land-sea-ice climate model that has twice the spatial resolution of coupled models available in FY 2000 as part of Climate Modeling and Prediction research. Support multi-disciplinary teams of scientists at multiple institutions using DOE supercomputers to perform model simulations, diagnostics and testing.	The new coupled model was released in May 2002, with an average resolution of 280 km in the atmosphere and 60 km in the ocean. The previous version had resolutions of 200 km and 200 km, respectively. An 800-year equilibrium climate simulation was executed at the National Energy Research Supercomputer Center.	Mixed Results*

***Plan of Action:** Testing is underway using atmospheric resolutions of 140 km, 70 km, and 35 km. A fully tested version of the coupled model with 140 km atmospheric resolution is over 80 percent complete and ready by the end of December 2002.

Linked to nearly 100 monitoring sites, ORNL's carbon dioxide (CO_2) information analysis center is the most comprehensive carbon dioxide data center on earth. Here a scientist investigates climate change using a sophisticated climate modeling system.

KEY PERFORMANCE GOAL: Advances in Nanoscale Science

Scientific endeavors that once were considered "observational" – endeavors as diverse as plant sciences or metal and alloy sciences – now are understood at the atomic level. This atomic-level understanding touches all of the disciplines supported by our Basic Energy Sciences programs.

This new atomic-level understanding that allows us to see how the machinery of life functions, atom-by-atom, comes from the great synchrotron x-ray and neutron scattering sources, the electron microscopes, and other atomic probes as well as the terascale computers.

SC4-2: Enable U.S. leadership in nanoscale science, allowing the atom-by-atom design of materials and integrated systems of nanostructured components having new and improved properties for applications as diverse as high-efficiency solar cells and better catalysts for the production of fuels.

In FY 2002, Basic Energy Science continued to make strides toward the full scope of its nanoscale science research program by achieving its FY 2002 targets. The main elements of this research program are: (1) establishment of five Nanoscale Science Research Centers (NSRCs), which is Department of Energy's (DOE) flagship activity within the National Nanotechnology Initiative, and (2) support for research in specifically targeted areas that will create a comprehensive national program that addresses forefront science and DOE mission needs.

Key Performance Measure	Result	FY 2002 Assessment
Award 40 grants to universities and six projects at DOE laboratories in selected areas of nanoscale science, engineering, and technology.	Forty-six new grants were awarded to universities. Twelve projects at DOE laboratories were initiated in selected areas of nanoscale science, engineering, and technology.	Met Goal
Begin engineering and design of three Nanoscale Science Research Centers (NSRC). Complete six percent of total Project Engineering Design (PED) at LBNL, 60 percent at ORNL, and 24 percent at SNL by the end of FY 2002.	Project Engineering Design was begun on three NSRCs. PED funding was obligated to LBNL (six percent complete), ORNL (60 percent complete), and SNL (24 percent complete).	Met Goal

KEY PERFORMANCE GOALS: Advances in Scientific Computing Research

Computational modeling and simulation are among the most significant developments in the practice of scientific inquiry in the 20th Century. Within the past two decades, scientific computing has become a cornerstone of all scientific research programs. Computation is particularly important for the solution of research problems that are insoluble by traditional theoretical and experimental approaches, hazardous to study in the laboratory, or time-consuming or expensive to solve by traditional means. All of the research programs in the U.S. Department of Energy's Office of Science—in Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, and High-Energy and Nuclear Physics—have identified major scientific challenges that only can be addressed through advances in scientific computing.

The Advanced Scientific Computing Research (ASCR) program underpins DOE's leadership in critical science areas by discovering, developing, and deploying advanced scientific computing and communications tools, and operation of the high performance computing and network facilities that researchers need to analyze, model, simulate, and predict the behavior of complex natural and engineered systems of importance to SC and DOE. Two services provided by ASCR are:

- **NERSC (National Energy Research Scientific Computing Center)** NERSC is a computational production center providing access to state of the art computational resources to applications researchers.
- **ESnet** is a facility that provides networking expertise and user services.

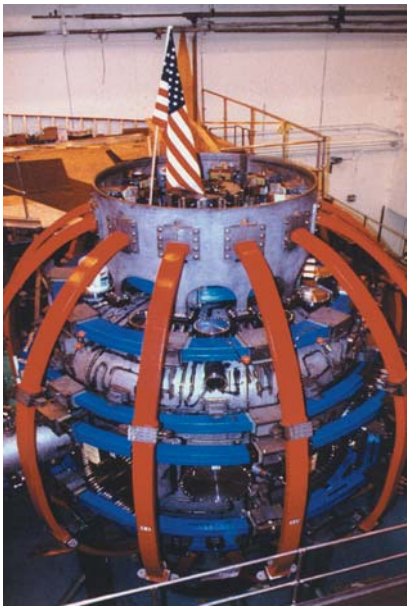
SC5-2: Create the Mathematical and Computing Systems Software and the High Performance Computing Facilities that enable scientific simulation and modeling codes to take full advantage of the extraordinary capabilities of terascale computers, and the Collaboratory Software Infrastructure to enable geographically-separated scientists to effectively work together as a team as well as provide electronic access to both facilities and data.

To enable scientific advances to support the missions of the Department of Energy's Office of Science, the National Energy Research Scientific Computing Center (NERSC), operated by the Lawrence Berkeley National Laboratory, annually serves about 2,400 scientists throughout the U.S. These researchers work at DOE laboratories, universities, and other Federal agencies. Computational science conducted at NERSC covers the entire range of scientific disciplines using the most powerful high-performance computing capabilities in the world.

Key Performance Measure	Result	FY 2002 Assessment
Achieve operation of the IBM-SP computer at 5.0-teraflop "peak" performance. These computational resources will be integrated by a common high performance file storage system that facilitates inter-disciplinary collaborations. Transfer the users with the largest data processing and storage needs to the IBM-SP from the previous generation Cray T3E.	Phase two of the NERSC system was brought online at the end of FY 2001. This 3,328-processor IBM-SP system achieved a peak performance of five teraflops. During FY 2002, NERSC increased disk cache and added Fibre Channel disks. Archive storage was also expanded. Approximately 400 Cray T3E users are being transferred to the higher performance IBM-SP computer.	Met Goal

KEY PERFORMANCE GOAL: Burning Plasma Physics Advances Key to the Future of Fusion Energy

Fusion science is a sub-field of plasma science that studies the fundamental processes taking place in plasmas where the temperature and density approach the conditions needed to allow the nuclei of low-mass elements such as hydrogen isotopes to join together, or fuse. When these nuclei fuse, a large amount of energy is released. There has been great progress in fusion science during the past three decades, in both magnetic and inertial confinement, and today the world is at the threshold of a major advance in fusion power development—the study of burning plasmas, in which the self-heating from fusion reactions dominates the plasma behavior.



National Spherical Torus Experiment (NSTX), a magnetic fusion device constructed by Princeton Plasma Physics Laboratory (PPPL) in collaboration with Oak Ridge National Laboratory (ORNL), Columbia University, and the University of Washington, obtained first plasma on February 12, National Spherical Torus Experiment 1999. NSTX will be used to study physics principles of spherically shaped plasmas-hot ionized gases in which nuclear fusion will occur under the right conditions of temperature, density and confinement in a magnetic field.

SC6-1: Develop the basis for a reliable capability to predict the behavior of magnetically confined plasma, and use advances in the Tokamak concept to enable the start of the burning plasma physics phase of the U.S. fusion sciences program.

About 280 scientists from the U.S. and international fusion community met at Snowmass on July 8–19, 2002, to assess the next steps in fusion energy science. This assessment included identification of physics and technology issues for the burning plasma physics phase of the program, the design of three different burning plasma experiments (ITER, FIRS, and IGNITOR) and their expected contributions to the burning plasma studies, and the status of ongoing research to predict the behavior of plasmas in these experiments. This two-week long study by the community, based on extensive analysis of experimental results and predictions by theoretical and modeling studies during the past year, concluded that the performance of these experiments can be predicted, and that there are no engineering feasibility issues to prevent the successful design and fabrication of any of the three options.

Key Performance Measure	Result	FY 2002 Assessment
Successfully demonstrate innovative techniques for initiating and maintaining current in a spherical torus.	The National Spherical Torus Experiment (NSTX) has initiated plasma using Coaxial Helicity Injection and maintained high ratios of plasma pressure to applied magnetic pressure for increased durations by raising current drive while reducing induction. A number of these plasmas were operating in the High-Confinement-Mode (H-mode) lasting essentially the flattop duration of the plasma current.	Met Goal
Use recently upgraded plasma microwave heating system and new sensors on DIII-D to study feedback stabilization of disruptive plasma oscillations.	These studies were successfully carried out in DIII-D in FY 2002, using the recently acquired electron cyclotron heating (ECH) power. Up to 4.0 MW of ECH power was deposited in selected regions of the plasma, using steerable ECH antennae, to drive additional plasma current. These currents alter the conditions for detrimental plasma oscillations and stabilize them to avoid disruptions. The stabilization of different modes of oscillations has been demonstrated, raising the performance of the plasma and extending its pulse length.	Met Goal

SC6-2: Develop the cutting edge technologies that enable Fusion Energy Sciences (FES) research facilities to achieve their scientific goals and investigate innovations needed to create attractive visions of designs and technologies for fusion energy systems.

Several enabling technology advancements were made in Fiscal Year 2002, including successful tests of gas jet injection to mitigate damage from sudden loss of plasma confinement in magnetic fusion experiments and surface heat removal components with record-level power handling by water-cooled tungsten surfaces joined to copper heat sinks. Also, new experiment systems began operating to study innovative approaches, based on liquid surface technology, to surface heat flux handling that is well beyond today's capabilities with solid surfaces.

Key Performance Measure	Result	FY 2002 Assessment
Complete measurements and analysis of thermal creep of Vanadium Alloy (V-4Cr-4Ti) in vacuum and lithium environments; determine controlling creep mechanisms and access operating temperature limits.	Measurements in vacuum completed in early Fiscal Year 2002 and measurements in lithium were completed in FY 2002. Data analysis provided a basis for formulating models of mechanisms responsible for deformation by thermal creep at high temperatures. Advancement was made in fundamental understanding of impacts of impurities, especially oxygen, on deformation rates.	Met Goal
Complete design and fabrication of the High-Power Prototype advanced ion-cyclotron radio frequency antenna that will be used at the Joint European Torus (JET).	All design work has been completed, and the fabrication and assembly of the components that ORNL is responsible for was completed as scheduled by September 2002. However, the delivery of the capacitors that are to be provided by JET could not meet the same schedule, and is expected to be delayed to the end of first quarter FY 2003.	Mixed Results*

***Plan of Action:** Since the delayed capacitors provide structural support for the inner conductor of the transmission line of the antenna, the whole assembly will not be completed as scheduled. Shipment of the capacitors was expected in November 2002, with final assembly scheduled for the second quarter of FY 2003.

ORNL is operated by Martin Marietta Energy Systems, Inc. Its major programs are nuclear energy development, basic energy sciences, biomedical and environmental research, and magnetic fusion energy. The thermal gravimetric analyzer allows the corrosion of metals and ceramics to be measured at temperature up to 1,700 degrees centigrade.

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Energy Resources

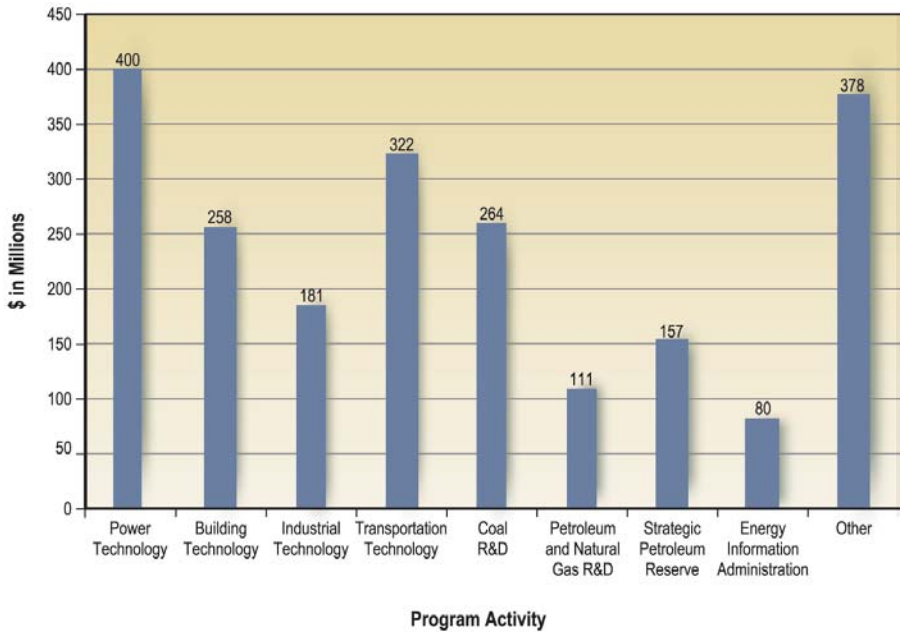
Energy is the vital force powering business, manufacturing, and movement of goods and services throughout the country. The United States spends over one-half trillion dollars annually for energy, and our economic well-being depends on reliable, affordable supplies of clean energy.

The focus of three of the Department's program offices is on energy technology research and development: the Office of Fossil Energy; the Office of Nuclear Energy, Science and Technology; and the Office of Energy Efficiency and Renewable Energy. In addition, the Energy Information Administration develops and publishes energy statistics and forecasts, and the Department also delivers Federal hydroelectric power to consumers though the Power Marketing Administrations.

In 2002, the goal of our Energy Resources program was to increase the Nation's energy security, support the smooth functioning of energy markets, and reduce adverse environmental impacts associated with energy production, distribution, and use by developing and promoting advanced energy technologies, policies, and practices that efficiently increase domestic energy supply, diversity, productivity, and reliability.

As a result of the events of September 11, 2001, securing the Nation's energy supplies has become even more imperative. In

Energy Resources Activities FY 2002 Net Costs $2,151 ($M)



the past year, we undertook several tasks to assess the vulnerability of our energy delivery systems and secure Federal nuclear facilities. On November 13, 2001, President Bush directed the Secretary of Energy to increase the U.S. Strategic Petroleum Reserve to its 700 million barrel capacity, using principally royalty oil from Federal offshore leases. The President's directive enhanced energy security by adding added 108 million barrels of crude oil to the Nation's emergency oil stockpile, strengthening the Nation's capability to respond to potential oil supply disruptions.

The Department's key FY 2002 performance goals and activities that support the National Energy Policy are discussed below.

MODERNIZE CONSERVATION EFFORTS BY USING NEW TECHNOLOGIES TO INCREASE EFFICIENCY

The productive and optimal use of available energy resources is a principle factor in achieving energy balance. The Department continuously strives to develop and apply new technologies to increase the efficiency and effectiveness of consumed energy.

Federal Energy Management Program (FEMP)

During FY 2002, Vice President Dick Cheney and Secretary of Energy Spencer Abraham honored Federal agency energy management teams and more than 40 Federal employee participants for their dedication, leadership, and efforts towards promoting and improving Federal energy management. These teams are responsible for projects that will result in millions of dollars in energy cost savings. In FY 2002, 6,270 energy personnel were trained in best practices in conservation, 60 energy assessments were completed, and an initial list of 20 products that use minimal standby power was published. Continued FEMP efforts have reduced energy use per square foot from nearly 140,000 British Thermal Unit (Btu) in 1985 to just over 105,000 Btu in FY 2000.

Energy Star®

Energy Star® is a voluntary partnership of the U.S. Department of Energy, the U.S. Environmental Protection Agency, manufacturers, retailers, utilities, and state organizations, to promote the development and sale of high-quality energy efficient products. As a result of attracting high leverage partners, such as Home Depot, the total number of stores marketing appliances now stands at 14,975. DOE estimates that during 2001, Energy Star® labeled products and buildings saved Americans more than six billion in energy costs.

Weatherization Assistance Program

Also during FY 2002, the U.S. Department of Energy's Weatherization Assistance Program celebrated its 25th anniversary by commemorating the weatherization of its five millionth home. Weatherization reduces the annual utility bills of low-income families, saves energy, and enhances national energy security by reducing U.S. energy dependence. In FY 2002, the program weatherized 105,000 homes.

Modernize our Energy Infrastructure

Distributed Energy Resources (DER) programs can bring about the modernization of our electricity infrastructure by locally generating clean, reliable power. At the beginning of FY 2002, DOE undertook research, development, and testing of distributed energy resources in the data processing and telecommunications industries that will eventually improve power quality and reliability, while providing for a reliable energy infrastructure.

Another project related to the electricity infrastructure is Path 15. Path 15, connecting central California with the northern part of the state, has been targeted for expansion for more than a decade in order to meet fluctuating consumer demands and carry the necessary electricity load, especially during the winter. Path 15 was identified as a contributing factor in the 2000–2001 rolling blackouts in

northern California. On April 30, 2001, Path 15 project participants, Trans-Elect Inc., Pacific Gas & Electric Co., and DOE's Western Area Power Administration (WAPA), signed a Letter of Agreement that provides $1.5 million in initial funding for the project. Building a third transmission line and other upgrades will allow for about 1,500 more megawatts (roughly enough to power 1.5 million households) of electricity to be transmitted across the state. The project will cost about $300 million. Construction is planned to begin in Spring 2003, with the new 500-kV transmission line coming on line as early as Summer 2004.

INCREASE OUR DOMESTIC ENERGY SUPPLIES

In order to increase the Nation's energy resources, the Department conducts cutting-edge research on a broad range of renewable and non-renewable energy sources.

Wind

To diversify energy resources and strengthen America's energy security, a critical step was taken to make Bonneville Power Authority one of the largest suppliers of wind power in the country. In November 2001, BPA selected seven wind projects, totaling 830 megawatts, for negotiation of pre-development agreements.

Geothermal

A new Enhanced Geothermal System initiated in FY 2002 is expected to add about 15 megawatts of electrical capacity — enough to power 11,250 homes — to the 270 megawatts now being generated in Ridgecrest, California. This project will pump water under high pressure into a portion of the Coso field to fracture subsurface rocks and create channels for hot water to move from the geothermal reservoir to existing geothermal wells. The process, called "hydrofracing," is commonly used in oil and gas production.

Solar

On September 26, 2002, Energy Secretary Spencer Abraham officially opened the first-ever Solar Decathlon on the National Mall in Washington, D.C. The Solar Decathlon brought together college students from across the county in a competition to demonstrate practical ways of producing and using energy efficiently in the home. The culmination of the effort was a "Solar Village," composed of 14 solar-powered, highly energy efficient homes.

This solar technology, capable of producing 25 kW of electricity, uses mirrors to focus sunlight onto a thermal receiver. The heat is used to run a Stirling heat engine, which drives an electric generator.

Biomass

In FY 2002, the Department selected five energy service companies to use performance-based contracts to reduce energy use, manage utility costs, and promote renewable energy at Federal facilities by using biomass and alternative methane energy sources. Biomass includes dedicated energy crops and trees, agricultural crop residues, aquatic plants, wood and wood residues, animal wastes, and other organic waste materials. Alternative methane is generated in landfills, wastewater treatment plants, and coalbeds. The goal of this program is to make bioenergy cost competitive with traditional energy sources.

Domestic Oil and Gas Production

In FY 2002, the Department undertook a project to demonstrate safe economic slimhole drilling technology in Arctic conditions that would significantly reduce cost and environmental impacts. The slimhole technology reduced the cost of a typical well by 50 percent (from $2 million to $1 million), and reduced the size of the footprint to one-third that of a typical North Slope drilling system.

Nuclear Energy

Nuclear Energy is a major component of our current and future energy supply. Currently, nuclear facilities generate 20 percent of the Nation's electricity and more than 40 percent in ten states in the northeast, south, and midwest. The National Energy Policy Group has recommended the expansion of nuclear energy in the United States. The Department's Nuclear Power 2010 program supports this recommendation by focusing on removing the technical, institutional, and regulatory barriers hindering the deployment of new nuclear power plants in the United States by the year 2010. The Department plans to move forward with various research and development, licensing, demonstration, and legislative efforts to expand the production of nuclear energy. Further expansion of nuclear energy will be stimulated by the construction of a permanent waste disposal facility.

Current ethanol production is primarily from the starch in kernels of field corn. National Renewable Energy Laboratory (NREL) researchers in the DOE Biofuels Program are developing technology to also produce ethanol from the fibrous material (cellulose and hemicellulose) in the corn stalks and husks or other agricultural or forestry residues.

ACCELERATE THE PROTECTION AND IMPROVEMENT OF OUR ENVIRONMENT

Air emissions, such nitrous oxides, sulfur oxides, microscopic particulate matter, carbon monoxide, and carbon dioxide, are the unintended outcome of energy production and consumption. Limiting these emissions is imperative for continued energy consumption and a key to the further development our own abundant coal resources.

Natural Gas

During FY 2002, the world's first fuel cell/gas turbine hybrid power plant began generating electricity. The system combines a Siemens Westinghouse solid oxide fuel cell with an Ingersoll Rand microturbine. In the California unit, the two technologies combine to produce approximately 190 kilowatts of electricity, enough to power approximately 200 homes. Early test data show electrical efficiencies of approximately 53 percent, believed to

be a world record for the operation of any fuel cell system on natural gas. Because it operates on an electrochemical process, rather than combustion, this system emits virtually none of the air pollutants commonly released by conventional power plants.

Coal

Coal-fired power plants are the workhorses of the Nation's power industry. More than 600 coal-burning generators account for more than half the electricity Americans consume today. More effective and lower cost emission controls can keep generators running while improving the quality of the nation's air and water. Secretary Abraham announced more than $110 million in new cost-shared projects in FY 2002 to apply leading edge clean coal technologies to improve the reliability and environmental performance of the Nation's coal-burning power plants. Most projects will focus on lower cost technologies for reducing pollutants from coal-burning power plants.

In FY 2002, work was completed on the world's first fuel cell to be linked to a clean coal technology power plant. The Direct FuelCell® generates electricity using an electrochemical reaction between fuel and oxygen from the air to produce electric power.

Alternatively Fueled Vehicles

In FY 2002, awards totaling more than $4.6 million were made to 24 states and the District of Columbia for building local markets for alternative fuels and vehicles in the 55 communities that participate in the Clean Cities program. The winners of the competitive grants will purchase alternative fuel vehicles, develop refueling stations and infrastructure, and deploy alternative fuel school buses.

The Secretary of Energy announced the FreedomCAR Research Partnership in January 2002. this provides the research and technical foundation necessary to achieve the fundamental and dramatic FreedomCAR goal – the development of emission- and petroleum-free cars and light trucks, targeted at impacting a variety of models. FredomCAR focuses on the high-risk research needed to develop the necessary technologies, such as applying fuel cells and using hydrogen from domestic renewable resources, to provide a full range of affordable cars and light trucks that are free of foreign oil and harmful emissions, without sacrificing freedom of mobility and freedom of vehicle choice.

In order to cut down on the use of petroleum-based fuels, FERMILAB is developing a fleet of vehicles that includes electric vehicles and alternative fuel vehicles. Shown is an electric Ford Ranger "zero emission vehicle."

More complete details on these programs are available in the Detailed Performance Results Section for the Energy Resource Program Area.

Energy Resources Goals Related to Increasing the Nation's Energy Security

KEY PERFORMANCE GOAL: Strategic Petroleum Reserve

Maintain the Strategic Petroleum Reserve in a state of readiness to supply oil at sustained rate of 4.4 million barrels per day for 90 days within 15 days notice by the President.

ER6-1: Maintain an effective Strategic Petroleum Reserve (SPR) to deter and respond to oil supply disruptions and cooperate with the importing member nations of the International Energy Agency. Ensure achievement of a calculated site availability of 95 percent or greater with drawdown capability of 4.4 million barrels per day for a sustained 90-day period, within 15 days notice by the President. Maintain the Northeast Home Heating Oil Reserve to respond to and mitigate the regional effects of a severe short-term energy supply disruption in the Northeast. Ensure the capability to complete drawdown within 12 days of a Presidential notice.

Key Performance Measure	Result	FY 2002 Assessment
Commence the transfer of Federal Royalty Oil under Phase III to the SPR in April 2002. By the end of FY 2002, add 9.2 million barrels of royalty oil to the SPR inventory.	Transfer of Federal Royalty Oil to the SPR under Phase III commenced in April 2002. In FY 2002, approximately 10.2 million barrels of royalty oil from Phase III were added to the SPR inventory, exceeding the projected target for this effort.	Met Goal
Continue the delivery of exchanged Federal Royalty Oil to the SPR that was transferred to DOE in FY 1999-2001, per the FY 1999 Agreement with the Department of Interior. Approximately 11 million barrels will be added to SPR inventory in FY 2002.	Delivery to the SPR of exchanged Federal Royalty Oil was continued, per the FY 1999 Agreement with the Department of the Interior. In FY 2002, this effort added approximately 9.4 million barrels to SPR inventory, and contributed to the total delivery to inventory of 42.5 million barrels during the fiscal year, from all exchange and Federal Royalty Oil agreements. Due to Venezuelan disruptions, the White House has approved renegotiation of the delivery dates. DOE has taken title to the oil, however, actual transfer will be completed as expeditiously as possible under the directed oil delivery deferral program.	Met Goal

KEY PERFORMANCE GOAL: Nuclear Energy

Key issues addressed this year by the Office of Nuclear Energy, Science and Technology include the removal of technical and institutional barriers to new plant investments; lowering the proliferation potential and radiotoxicity of spent fuel; developing next generation reactor and fuel cycle technologies; leading both national and international R&D; maintaining the R&D infrastructure and supporting the education and training of future nuclear engineers and scientists.

ER7-1: Effectively address the key issues of economics, proliferation, and waste management that affect the future use of nuclear energy by conducting long-term, investigator-initiated, peer-reviewed research and development

Key Performance Measure	Result	FY 2002 Assessment
Award at least six International NERI bilateral cost-shared research projects with three countries.	Eight I-NERI bilateral cost-shared research projects were awarded with three countries as follows: one with France; six with Korea, and one with the Nuclear Energy Agency (NEA), which represents many countries. In addition, funding was provided for the three I-NERI cost-shared projects initiated with France in FY 2001.	Met Goal
Complete funding for the 10 NERI projects initiated in FY 2000; provide funding for the second year of the 13 NERI projects initiated in FY 2001; and, award at least 16 new NERI projects.	Funding for the 10 NERI projects initiated in FY 2000 and for the 13 NERI projects initiated in FY 2001 was provided by September 30, 2002. Also in FY 2002, 24 new NERI projects were awarded that are focused on advanced nuclear energy systems including production of hydrogen using nuclear power; advanced nuclear fuels/cycles; materials sciences; and fundamental chemistry.	Met Goal
Complete the first 3-year phase of NERI research and development.	The first 3-year phase of NERI research and development (R&D) was completed as of September 30, 2002. NERI R&D addresses key scientific and technical issues related to expanded use of nuclear energy in a global economy and helping to preserve the Nation's nuclear science and technology infrastructure.	Met Goal

ER7-3: Successfully address the regulatory, technical, and institutional issues to enable one or more orders for new, commercial nuclear power plants in the United States by 2005 for deployment by 2010.

Key Performance Measure	Result	FY 2002 Assessment
Develop and sign an agreement with U.S. industry and our international partners to begin a gas reactor fuel-testing program that will enable licensing of gas-cooled reactors in the United States.	Existing agreements established between NE, General Atomics, and the European Commission's High Temperature Reactor Technology Network are being used by the Department to sponsor a multi-year gas reactor fuel irradiation test program at the High Flux Reactor in Petten, the Netherlands. The results from the test program will support the licensing of advanced gas-cooled reactors in the United States which is identified as a candidate for deployment in the Nuclear Energy Research Advisory Committee Report *A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010*. INEEL and ORNL in conjunction with industry, NRC and DOE developed and issued a program plan for the development and qualification of advanced gas reactor fuels in the United States in September 2002.	Met Goal
Complete at least two cooperative agreements with U.S. power generating companies to jointly proceed, with at least two NRC Early Site Permit applications for specific DOE and/or commercial sites.	Early Site Permit (ESP) Scoping Study award selections were announced February 2002. Two ESP Scoping Study cooperative agreements were finalized and issued on April 15, 2002 with Dominion Energy Inc. and on May 3, 2002 for Exelon Company LLC. Final scoping study project reports were issued in September 2002. An ESP Demonstration solicitation was issued and proposals received on April 15, 2002. Award selections were made June 3, 2002. Three cooperative agreements with Dominion Energy Inc., Exelon Company LLC, and Energy Nuclear Potomac Company were completed September 2002.	Met Goal
Complete and issue the government/industry roadmap to build new nuclear plants in the United States by 2010.	On October 31, 2001, a Near-Term Deployment Working Group, operating under the direction of the Department's Nuclear Energy Research Advisory Committee, completed and issued *A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010* which recommends actions to be taken by industry and the Department to support deployment of new advanced nuclear power plants in the United States by 2010.	Met Goal

ER7-4: Develop, in close cooperation with the international community and industry, one to three next-generation nuclear energy systems that represent significant improvements in all aspects of nuclear power technology.

Key Performance Measure	Result	FY 2002 Assessment
Complete the draft Generation IV Technology Roadmap for development of the next generation nuclear energy systems.	The draft Generation IV Technology Roadmap for development of next generation nuclear energy systems was completed. On September 30, 2002, the Roadmap was endorsed by the Nuclear Energy Research Advisory Committee as an initial foundation for the U.S. program plan.	Met Goal

ER7-7: Develop and demonstrate an advanced, proliferation-resistant technology to reduce the quantity and toxicity of U.S. commercial spent nuclear fuel (thus enhancing the operation of a future geologic repository) while simultaneously enabling the United States to vastly increase the efficient use of its nuclear fuel resources.

Key Performance Measure	Result	FY 2002 Assessment
Complete a report to Congress comparing chemical processing, and pyroprocessing, accelerator-driven, and fast reactor alternatives for transmutation, proliferation resistance, and life cycle cost estimates.	The Report to Congress on Advanced Fuel Cycle Initiative: *The Forward Path for Advanced Spent Fuel Treatment and Transmutation Research* was completed and is awaiting Office of Management and Budget concurrence.	Mixed Results*
Successfully manufacture advanced transmutation non-fertile fuels and testing containers for irradiation testing in the Advanced Test Reactor.	Several advanced transmutation non-fertile fuel specimens have been fabricated and testing containers have been constructed. Irradiation testing is a key activity in the development of proliferation-resistant fuels for advanced fast reactors.	Met Goal
Demonstrate the separation of highly radioactive isotopes from civilian spent nuclear fuel from uranium with the uranium cleaned up to 99.999 percent pure (Class C waste), using the newly developed UREX process.	The hot UREX demonstration was conducted at the Savannah River Technology Center. The demonstration separated uranium from the highly radioactive isotopes in the spent nuclear fuel. Initial analyses indicate 99.999 percent purity was achieved.	Met Goal
Treat a minimum of 0.5 MTHM of EBR-II spent nuclear fuel.	A total of 0.6 metric tons of heavy metal (MTHM) of EBR-II spent nuclear fuel were treated which exceeded the 0.5 MTHM target. Pyroprocessing of EBR-II spent nuclear fuel is a critical component of understanding how to reduce the toxicity of spent nuclear fuel for fast reactors.	Met Goal
Following completion of primary sodium drain, complete deactivation of EBR-II and all directly related surplus facilities by March 2002.	The EBR-II in Idaho was deactivated and officially closed on March 25, 2002, thus completing a major Departmental effort that began in 1994 with a Congressional decision to terminate the Integral Fast Reactor Program and shut down EBR-II. Closure activities included defueling the reactor, draining and processing the sodium coolant, placing the sodium-bonded spent nuclear fuel in storage until it can be treated, and placing the reactor and non-reactor systems in an industrially and radiologically safe condition.	Met Goal

***Plan of Action:** Office of Management and Budget concurrence is expected shortly and the report will be sent to Congress upon receipt.

ER7-8: Protect our Nation's nuclear R&D infrastructure by managing the Department's vital resources and capabilities efficiently and effectively, such that, by December 2004, major research/critical facilities will continue to be operational and available for fulfillment of long-term missions as funded by industry and other Federal agencies while unneeded facilities are deactivated in a safe and cost-effective manner.

Key Performance Measure	Result	FY 2002 Assessment
Bring the full-scale scrap recovery line to full operation and begin processing Pu-238 scrap for reuse in ongoing and future missions requiring use of radioisotope power systems.	The full-scale scrap recovery line was on schedule to be brought to full operation and begin processing Pu-238 by the end of the fiscal year. As of July 2002, 9 of 11 (82 percent) of the milestones were met. The remaining two milestones are on hold pending resolution of DNFSB concerns. In April 2002, the Defense Nuclear Facilities Safety Board (DNFSB) raised concerns about the authorization basis that the Department was unable to resolve prior to the end of the fiscal year. Resolution of their concerns will require modifications to some equipment and changes in the safety characterization of some equipment.	Mixed Results*
Complete 80 percent of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived radioisotopes essential for U.S. medical research.	Completed Pre-2002 outage work, conventional facility construction, and Transition Region Beamline installation. Overall project, including total estimated cost and other project cost activities, reached 86.7 percent complete at the end of September.	Met Goal
Meet the milestones for legacy waste cleanup at Test Reactor Area (TRA) in the Voluntary Consent Order between the State of Idaho and DOE, and efficiently manage resources to limit growth in the backlog of maintenance to no more than 10 percent.	The Voluntary Consent Order milestones for FY 2002 for legacy waste cleanup at TRA have been completed. The growth in the maintenance backlog for TRA was six percent for FY 2002 which meets the goal of limiting the growth to no more than 10 percent.	Met Goal
Negotiate implementation of revised Hanford Federal Facility Agreement and Consent Order milestones for FFTF deactivation.	Signatories to the Hanford Federal Facility Agreement have accepted implementation of revised milestones that would result in completion of FFTF deactivation in February 2011.	Met Goal

***Plan Of Action:** NNSA has established a response to each of the DNFSB concerns. The responses involve changes to the equipment or safety basis. Once consensus is reached with the DNFSB on the responses, the Department will move forward to complete the required actions to allow the scrap recovery line to be brought to full operation by the end of the second quarter of FY 2003.

KEY PERFORMANCE GOAL: Federal Hydroelectric Power

ER9-1: 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 injury frequency rate at or below our safety performance standard.

Key Performance Measure	Result	FY 2002 Assessment
Western Area Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.	Western's total recordable accident rate for FY 02 is 1, far exceeding its goal of 3.3. The latest Bureau of Labor Statistics Rate is 4.8.	Met Goal
Southwestern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.	Southwestern Power Administration (Southwestern) has an average Control Performance Standards (CPS) 1 rating for FY 2002 of 193.29 percent. Southwestern has an average CPS 2 rating for FY 2002 of 99.68 percent.	Met Goal
Western Area Power Administration will meet planned repayment of principal on power investment.	Incomplete results (data not available). Final results will be based on audited financial statements, estimated to be available in December 2002. Because of severe drought conditions across a large portion of Western's service territory, resulting in reduced hydrogeneration, it is doubtful this target will be met.	Not Met*
Western Area Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.	The CPS1 pass rating must average 100 percent over a rolling 12 month period. The CPS2 pass rating is 90 percent in each month. Western has an average CPS1 rating for FY 2002 of 185.66 percent. Western's average CPS2 for the same period is 98.51 percent.	Met Goal
Southeastern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.	At the end of FY 2002, Southeastern has a recordable accident frequency rate of 0.0 percent.	Met Goal

***Plan of Action:** Rate adjustments for several of WAPA power systems will become effective in Fall 2002. Rate studies are continuing to be evaluated for the remaining systems. This performance target focuses on short-term repayment, with volatile results due to the strong influence of drought and the price of firming energy purchased to meet contractual commitments. WAPA is planning to adopt measures in its FY 2003 annual performance plan that are less short-term in nature, which reflect its record of repayment over time and are more compatible with the long-term focus of WAPA rate making methodology.

ER9-1: 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 injury frequency rate at or below our safety performance standard. (Continued)

Key Performance Measure	Result	FY 2002 Assessment
Southeastern Power Administration will meet planned repayment of principal on power investment.	Net revenues for FY 2002 are below 80 percent of planned repayment of principal of the Federal investment. This is the result of several years of severe drought in the southeastern United States. Purchase Power and Wheeling expenses are high and revenue is considerably lower.	Not Met*
Southeastern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.	The CPS1 pass rating must average 100 percent over a rolling 12-month period. Our average CPS1 rating for nine months of the fiscal year through June 30, 2002, is 221.17 percent. The CPS2 pass rating is 90 percent in each month, and Southeastern has an average CPS2 rating for nine months of the fiscal year through June 30, 2002, of 99.09 percent.	Met Goal
Southwestern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.	At the end of FY 2002, Southwestern has a recordable accident frequency rate of 5.5 or 67 percent above the 3.3 recordable accident frequency rate.	Not Met**

***Plan of Action:** Southeastern has proposed rate increases to increase revenue, changed rate design to pass through Purchase Power and Wheeling charges, and increased cost recovery from fixed charges. Rate studies are continuing to be evaluated to consider one of the worst drought periods on record.

****Plan of Action:** The majority of incidences involve back injuries due to falls and lifting heavy objects rather than electrical contact. Even though the incidences have not been life threatening, they have caused lost work days. Southwestern is concerned about the obvious preventable incidences and is implementing the following plan of action: Place more emphasis on job briefings and job hazard analysis; Conduct ergonomic training to address proper lifting and other correct work postures; Involve employees in safety meetings by making peer presentations on how to work more safely and think safety before and during performance of a given task; Sessions will focus on slips, trips and falls, ergonomics, and attitude toward working safely; Conduct formal safety presentations directed towards improving safety performance; Assign collateral safety responsibility to the Foreman and Team Leaders who will also attend Safety and Health Team meetings by teleconference every other month; Perform a comprehensive review of standard operating work procedures to properly address slips, trips and falls, job hazard analysis and ergonomics; Review the safety awards program for more effectiveness; Review employee performance elements to include a safety element; and Involve the local union International Brotherhood of Electrical Workers in the safety program by presenting on-site safety meetings on safe working conditions and practices.

ER9-1: 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 injury frequency rate at or below our safety performance standard. (Continued)

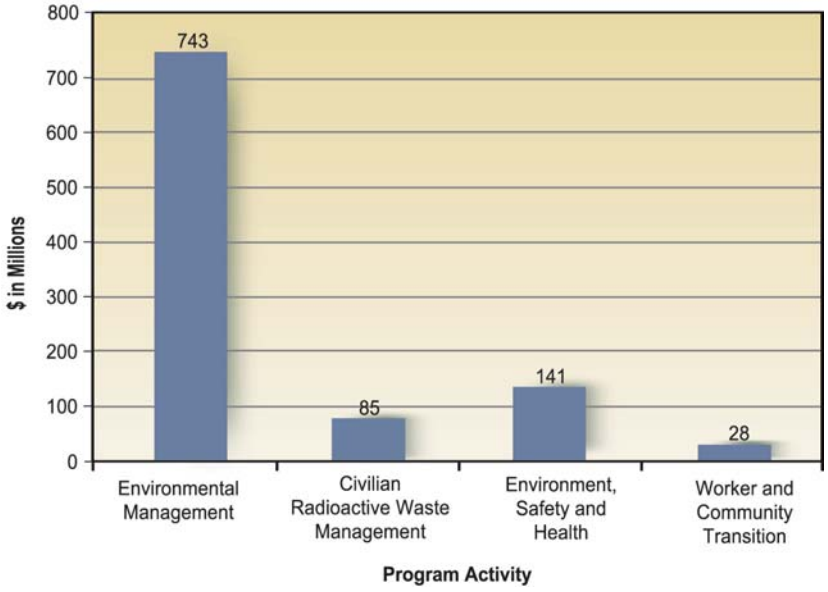
Key Performance Measure	Result	FY 2002 Assessment
Southwestern Power Administration will meet planned repayment of principal on power investment.	FY 2002 revenues available for repayment are presently estimated at 105 percent of planned repayment of principal on the Federal power investment. However, audited financial statements for the consolidated Federal power system, which includes both the U.S. Army Corps of Engineers generating projects and Southwestern's transmission system, will not be available by October 31, 2002.	Met Goal
Bonneville Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.	At the end of the fourth quarter of FY 2002, Bonneville had a recordable accident frequency rate of 1.7 per 200,000 hours worked, which is below both the 3.3 frequency rate and the Bureau of Labor's most recent rate of 4.8.	Met Goal
Bonneville Power Administration will meet planned repayment of principal on power investment.	Planned amortization of $46.5 million for appropriations and $192.5 million for BPA bonds was paid in September 2002. Advance amortization of $266 million was also paid in September 2002. This consisted of $150.5 million for appropriations and $115.5 million for BPA bonds.	Met Goal
Bonneville Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.	The CPS1 "pass" rating must be at least 100 percent for each month in the reporting period and the CPS2 "pass" rating must be at least 90 percent for each month in the reporting period to achieve the "green" status. Bonneville Power Administration's CPS1 measure exceeded 100 percent for each month in the four quarters of FY 2002, with an average of 197.5 percent over that period. Bonneville's CPS2 measure exceeded 90 percent for each month in the four quarters of FY 2002, with an average of 96.8 percent over that period.	Met Goal

Environmental Quality

The Department of Energy is committed to cleaning up sites across the country that have supported the Nation's production and testing of nuclear weapons. The Office of Environmental Management (EM) is responsible for addressing the environmental legacy of nuclear weapons research, production, and testing of DOE-funded nuclear energy and basic science research in the United States. During the Cold War, the nuclear weapons complex generated large amounts of waste, presenting EM with some of the most technically challenging and complex work of any environmental program in the world. By the end of FY 2002, EM had completed cleanup of 75 of the 114 contaminated sites that it is responsible for.

In addition to the environmental legacy of nuclear weapons production, the United States has growing inventories of commercial spent nuclear fuel currently stored at reactor sites in 33 states, and increasing inventories of spent fuel from nuclear-powered naval vessels. The Office of Civilian Radioactive Waste Management (RW) implements Federal policy for permanent disposal of this spent nuclear fuel and of high-level radioactive waste.

Environmental Quality Activities FY 2002 Net Costs $997 Million* (combined EM, RW, EH, and WT)



*Costs for the Environmental Quality Business Line have been reduced to reflect a $5,909 million reduction to the environmental cleanup liability.

The Department is committed to protecting the health and safety of its workers, the public, and the environment in accomplishing its mission. The Office of Environment, Safety and Health (EH) is the Department's independent advocate in this highly visible and critical role. The Department also recognizes the need to address impacts on workers and communities as a result of changing missions. The Office of Worker and Community Transition (WT) provides support in the form of retraining, placement assistance and grants to workers and communities that are impacted by downsizing.

View of two "six-packs" within transuranic package transporter's (Trupact) storage compartment. The trupact was designed to safely ship defense nuclear waste materials to storage sites and repositories.

The goal of our Environmental Quality Program Area is to aggressively clean up the environmental legacy of nuclear weapons and civilian nuclear research and development programs at 114 of the Department's sites; permanently dispose of the Nation's radioactive wastes; minimize the social and economic impacts to individual workers and their communities resulting from Departmental activities; and ensure the health and safety of DOE workers, the public, while protecting the environment.

"After more than 20 years of debate, the Senate has rightfully chosen to allow the process of developing a nuclear waste repository at Yucca Mountain to proceed to the next step, recognizing that the independent experts at the Nuclear Regulatory Commission (NRC) deserve the right to review the 24 years of scientific study of Yucca Mountain and to consider the site for a license."

– Secretary Spencer Abraham

Congressional Approval of Yucca Mountain

On July 23, 2002, President Bush signed House Joint Resolution 87, which will allow DOE, after decades of scientific study, to take the next step in establishing a safe repository in which to store the nation's nuclear waste. The successful completion of the Yucca Mountain project will ensure that the U.S. has a safe and secure underground facility that will store nuclear waste in a manner that is protective of the environment and American citizens.

Significant Issue: Nuclear Waste Disposal

The Nuclear Waste Policy Act of 1982 directed the Department to research sites and design a deep geologic repository for the disposal of our Nation's spent nuclear fuel and high-level radioactive waste. In the past, the Department reported that its schedule for acceptance of spent nuclear fuel and defense-related high-level radioactive waste had experienced delays resulting from funding shortfalls, past litigation, and scientific studies of a scope not envisioned when the Nuclear Waste Policy Act was initially passed. These delays were encountered at the Yucca Mountain site, where the Department was performing comprehensive scientific tests to determine the suitability of the site for construction of a repository for the disposal of spent nuclear fuel and high-level radioactive waste. However, the characterization of the Yucca

Yucca Mountain, on the southwest boundary of the Nevada Test Site, was evaluated for the Nation's first repository for commercial high-level radioactive waste. Geological, hydrological and geophysical data was obtained from exploratory holes drilled around the mountain. Water table at Yucca Mountain is 1,700 feet deep, permits construction of a repository some 700 ft. above standing water in an unsaturated zone. It is one of the most arid and most sparsely populated regions in the U.S.

"America's national, energy and homeland security, as well as environmental protection is well-served by siting a single nuclear waste repository at Yucca Mountain. Congress has recognized that the Government has safely transported nuclear waste for more than 30 years and, in doing so, has rejected the transportation scare tactics employed by those opposed to Yucca Mountain."

– Secretary Spencer Abraham

Picture of the first NRC certified RH-72B cask at the Waste Isolation Pilot Plant (WIPP) at Carlsbad, NM. This type of cask will be used to transport remote-handled transuranic waste from DOE sites around the country to WIPP for disposal.

Mountain site has been completed, and in July 2002 the President signed into law the Congressional Joint Resolution designating Yucca Mountain as the site for the Nation's first repository. At that point, implementation of the program entered a new phase.

The focus of current Departmental activities is on implementing the licensing and construction phases of the program and on developing a national capability for transporting waste to the repository. However, prior funding shortfalls now requiring the Department to reschedule program milestones and develop a revised cost and schedule baseline. In addition, completion of the Department's current activities will require substantial increases in funding if they are to lead to waste acceptance at Yucca Mountain in 2010, as scheduled. The success of the program is dependent on the establishment of a mechanism to assure the necessary funding is available.

In accordance with OMB direction, the Department is developing a Capital Asset Plan which will identify potential funding mechanisms for the program and a proposed funding strategy. A draft plan was submitted in September 2002. In the FY 2004 Passback, OMB directed the Department to revise the draft Capital Asset Plan and submit it with the Department's FY 2005 budget request. The revised program cost and schedule baseline will be completed early in FY 2003. With a new baseline and a mechanism to ensure the necessary funding is available, the processes needed to assure the successful completion of the project will be in place.

The results achieved for our goals and key FY 2002 performance objectives follow.

EQ1-1: Complete geographic site cleanup at 92 of the 114 cleanup sites by FY 2006. Continue cleanup at the remaining sites, including the five largest sites, scheduled for completion in the post-2006 timeframe.

Key Performance Measure	Result	FY 2002 Assessment
Deactivate 30 facilities.	At the end of FY 2002, 36 facilities were deactivated.	Met Goal
Complete 42 facility decommissioning projects.	At the end of FY 2002, 136 facility decommissionings were completed.	Met Goal
Complete 113 release sites.	At the end of FY 2002, 129 release sites had been completed.	Met Goal
Update EM Infrastructure Restoration Plan to support 10 year facilities and infrastructure planning.	Following completion of the Top-to-Bottom Review in February 2002, EM is focusing its resources on accelerating risk reduction and site closure. To do so requires a focus on its core mission – cleanup and closure – while addressing the utility of those business practices that don't support the EM mission. As a result of the Review, EM sites have developed, and will continue to refine, Performance Management Plans (PMPs) that define cleanup end states and strategies to reach those end states. The PMPs address facilities and infrastructure planning, not only for the next 10 years, but over the project's life-cycle as well.	Met Goal

Work is progressing at Field's Brook Superfund Site Cleanup, immediately adjacent to the Ashtabula Environmental Management Project (AEMP).

Key Performance Measure	Result	FY 2002 Assessment
Conduct a Top-to-Bottom Review of the Environmental Management program to ensure a proper and clear focus on the mission programmatic goals and objectives.	A Top-to-Bottom Review (Review) of the Environmental Management (EM) program was completed in February 2002. As a result of the Review, EM has developed an aggressive plan of action to change how EM approaches its cleanup mission. The EM program is now focusing on accelerating risk reduction and cleanup. EM is currently evaluating, on a site-by-site basis, its performance metrics and milestones to align with the program's new accelerated risk reduction and cleanup approach. EM intends to develop new performance measures that will more clearly capture the overall progress toward completion of the end-point objective of site cleanup. By developing performance measures that will objectively and accurately measure overall program performance, EM will be in a position to meaningfully monitor and report overall progress towards acceleration of risk reduction and cleanup.	Met Goal
Complete remediation at one additional geographic site, the Weldon Spring Site in Missouri.	The Environmental Management program completed one geographic site in FY 2002, the Weldon Spring Site in Missouri.	Met Goal

Significant Issue: Environmental Cleanup

The Department recognizes the significant challenges it faces in dealing with environmental compliance concerns at the Department's facilities. These problems resulted from activities conducted in a different atmosphere and under less stringent standards than today, and the Department is committed to maintaining compliance with current Federal and state regulations. Due to the complexity and size of the challenges, constant management attention must be given to evaluating and correcting the impacts of past operational practices and characterizing and minimizing possible impacts of present and future activities.

The Department has been implementing a site closure initiative to improve program management, accelerate and complete cleanup, and close as many sites or portions of sites as possible by 2006. In addition, in FY 2002, the Department completed a Top-to-Bottom review of its Environmental Management program and identified opportunities for achieving a better and faster cleanup with the funds invested and for com-

Safety officials monitor the installation of the high density polyethylene (HDPE) liner on the disposal cell as part of the good safety practices at the Weldon Spring Site.

plying with regulatory agreements. As a result of this review, the Department developed an aggressive plan of action to change its cleanup mission approach and future milestones. The new approach is now focused on reducing risk to public health, workers and the environment on an accelerated basis and at reduced life-cycle costs. Based on this approach, the Department has defined risk reduction cleanup strategies on a site-by-site basis that have been developed into Letters of Intent and Performance Management Plans. The Performance Management Plans and integrated resource-loaded project baselines will be implemented by the end of FY 2003. These plans rely on other ongoing efforts within the Department for the permanent storage of the waste to be removed from the cleanup sites. Based on the completion of the Performance Management Plans and related activities, the Department believes its new cleanup strategy will be in place by the end of FY 2003.

EQ1-2: Safely and expeditiously dispose of waste generated during past and current DOE activities. Continue shipment of Transuranic (TRU) waste for disposal at the Waste Isolation Pilot Plant (WIPP).

Key Performance Measure	Result	FY 2002 Assessment
Dispose of approximately 76,655 cubic meters of LLW.	At the end of FY 2002, 97,374 cubic meters of LLW were disposed.	Met Goal
Produce 205 canisters of HLW.	At the end of FY 2002, 173 canisters of HLW were produced.	Mixed Results*
Dispose of approximately 8,446 cubic meters of MLLW.	At the end of FY 2002, 8,435 cubic meters of MLLW were disposed of.	Mixed Results**
Ship 4,709 cubic meters of TRU waste to WIPP for disposal.	At the end of FY 2002, 5,122 cubic meters of TRU waste were shipped to WIPP for disposal.	Met Goal

***Plan of Action:** Only 84 percent of the FY 2002 target was met due to the Defense Waste Processing Facility (DWPF) at the Savannah River Site not meeting its target. The processing facility did not achieve the expected canister production rate in FY 2002 because of melter degradation. This degradation was due to one of the four dome heaters failing, and continued melter pour spout problems. The melter far exceeded its design life of 2 1/2 years by operating for over eight years. Though there are no specific plans to make up the FY 2002 shortfall in FY 2003, it is envisioned that the SRS Performance Management Plan will address any near-term canister production shortfalls.

****Plan of Action:** Given the fact that 99.9 percent of the target was met, no plan of action was deemed necessary. It is expected that the FY 2003 target will be met.

EQ2-1 Obtain a Yucca Mountain repository construction authorization from the Nuclear Regulatory Commission in 2008.

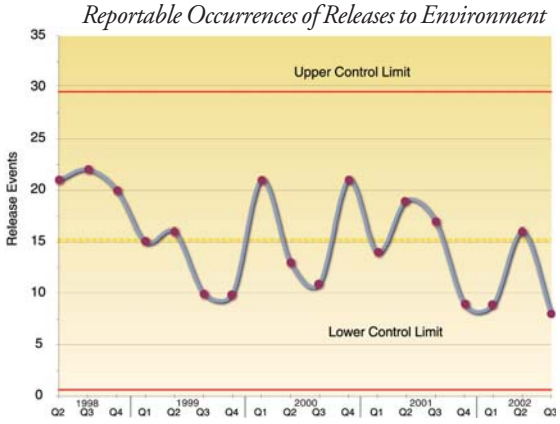
Key Performance Measure	Result	FY 2002 Assessment
Submit a Site Recommendation Report to the President.	On February 14, 2002 the Secretary of Energy formally recommended to the President that the Yucca Mountain site in Nevada be developed as the Nation's first geologic repository for spent nuclear fuel and high-level radioactive waste. On February 15, 2002, the President recommended the site to Congress. Both houses of Congress voted to override the Governor of Nevada's veto of the President's recommendation. On July 23, 2002, the President signed House Joint Resolution 87 into law and the site designation took effect.	Met Goal
Submit a Final Environmental Impact Statement to the President as required by the Nuclear Waste Policy Act. (FMFIA)	The Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, was transmitted to the President by the Secretary of Energy on February 14, 2002, as part of the documentation supporting the Yucca Mountain Site Recommendation.	Met Goal

Significant Issue: Safety and Health

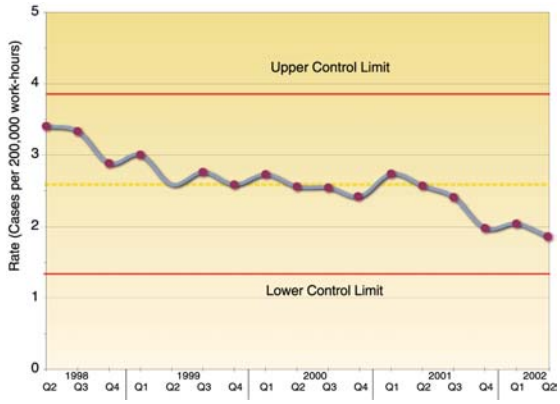
The Department is addressing safety issues at many of its facilities as we work to simultaneously address the consequences of past activities, manage current operations, and prevent future problems. The safety and health of the Department's workers and the public is one of our top priorities and we are implementing a variety of initiatives in this area.

In FY 2000, the Department completed the Nuclear Safety Standards Upgrade Project to assure that our policies and procedures related to our nuclear activities are up-to-date. Previous vulnerabilities in our storage of spent nuclear fuel have been corrected, and a registry has been established as a surveillance program in monitoring worker exposure to beryllium. Worker safety issues have been resolved at the Paducah site, and safety issues no longer impact the operation of the Oak Ridge enriched uranium reduction process. The Department has also nearly completed the implementation of Integrated Safety Management, a major component of the Department's long-term safety and health strategy, at all sites and will make an assessment assess the implementation after conducting an independent verification during FY 2003. In FY 2002, nine on-site safety management evaluations were conducted to monitor the effectiveness of our safety practices. Final correction of this significant issue is expected with full Integrated Safety Management implementation and the completion of planned safety basis updates at our sites with nuclear materials.

Reportable Occurrences of Releases to Environment



Injuries and Illnesses Total Reportable Case Rate

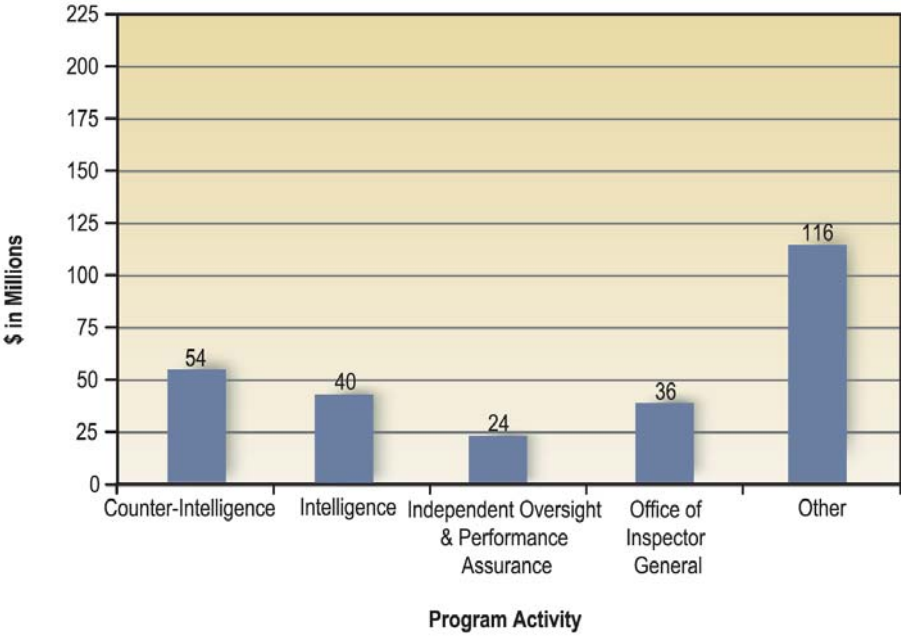


Corporate Management

The Department manages an extensive array of energy programs over a nationwide complex including Headquarters organizations, operations offices, field offices, national laboratories, power marketing administrations, special purpose offices, and sites dedicated to environmental cleanup. A corporate management framework integrates the Department's diverse portfolio of program missions, its facilities, and its contractor resources that are spread over a large geographic area. This framework is supported by a strong corporate culture that complements program managers' pursuit of program mission goals. The offices funded under the Corporate Management Program Area are responsible for:

- Providing oversight and internal review of policy issues and budgets;
- Acting as honest brokers in decision-making; and
- Providing leadership on broad Departmental management issues.

Corporate Management Activities Net Costs in FY 2002 – $ 270 Million



The goal of our Corporate Management Program Area is to demonstrate excellence in the management of the Department's human, financial, physical and information assets. The Corporate Management goal and the corresponding strategic objectives implement the Secretary's initiatives to improve management and accountability while ensuring the safety, security, and health of the Department's workforce and members of the public.

CM1-1: Implement the DOE 5-Year Workforce Restructuring Plan.

The Department has successfully completed the Program Strategic Performance Goal of implementing the DOE Five-Year Workforce Restructuring Plan. However, one milestone—20 percent reduction in Headquarters hiring process time—not included in the Five-Year Plan, will not be met until the second quarter of FY 2003. In addition, DOE has completed all of the FY 2002 milestones included in the FMFIA corrective action plan for the significant issue of human capital management.

Key Performance Measure	Result	FY 2002 Assessment
Complete the milestones listed in the FMFIA corrective action plan for the significant issue of human capital management.	The Department has successfully completed all of the FY 2002 milestones in the FMFIA corrective action plan for human capital management.	Met Goal
Improve Departmental Human Capital Management by initiating comprehensive human resources strategies which will: • Streamline the DOE hiring process through process reengineering, automated recruitment, and other means that reduce the time it takes to fill jobs at DOE Headquarters by at least 20 percent; • Increase employee access to mission-related training by at least 30 percent through "on-line" and other technology assisted learning capabilities; • Achieve cost savings and reduce traditional manually-generated personnel and training paper records by at least 20 percent utilizing CHRIS; • Address skills gaps and aging workforce challenges by hiring at least 15 percent of new administrative, technical and professional employees at entry levels; and • Reduce managerial layering and shift staffing resources to front line, mission critical positions consistent with Administration guidelines.	The Department has successfully completed all of the major goals established for improving human capital management in the FY 2002 DOE Annual Performance Plan. However, the target on reducing job fill time for the DOE Headquarters (HQ) hiring process will not be met until the second quarter of FY 2003 due to staff losses and HQ Operations staff training initiatives for the new hiring process.	Met Goal

Significant Issue: Human Capital Management

The Department of Energy is highly dependent on its Federal workforce for the accomplishment of its mission. Since 1995, the Department has experienced a 27 percent reduction in workforce. The decline in staffing has left the Department with a significant challenge: reinvesting in its human capital to ensure that the skills necessary to successfully carry out its missions are available.

Human capital management is an area of government-wide focus as increasing emphasis is being placed on performance and accountability. As a result, the Department has developed a comprehensive human capital management strategy to serve as a baseline of workforce demographics for future change. After holding a Human Capital Summit, the Department implemented several initiatives such as: implementing a new Senior Executive Service performance management system; expanding use of automated human resource systems; implementing new intern and leadership programs; and guiding DOE offices in developing Business Visions. The Department's FY 2003 budget submission to the Office of Management and Budget included a Five-Year Workforce Restructuring Plan that serves as a blueprint for future improvements in Human Capital Management.

In FY 2003, the Department plans to improve DOE policies and practices; develop plans to address skill gaps in critical occupational areas; develop crosscutting succession planning processes for mission critical areas; and implement a new Performance Management System for GS-15 managers and below. In addition, the Office of the Inspector General will take steps to further address the long-standing problem that resources are inadequate to review the activities of the Department's major contractors. These efforts fully support the President's Management Agenda's focus on improved human capital management.

CM1-2: By the end of FY 2003, complete competitive sourcing studies on 15 percent of the Department's inventory of positions that are not inherently governmental. Conduct additional studies in FY 2004 and beyond based on requirements established by the Office of Management and Budget.

Key Performance Measure	Result	FY 2002 Assessment
Plan public, private, or direct conversion competitions for 15 percent of the Department's inventory of commercial positions.	In March 2002, the Department of Energy announced the start of several Competitive Sourcing studies involving approximately 1,000 Full Time Equivalents (FTEs), which encompasses 15 percent of DOE's inventory of commercial positions. These public-private competitions, with the approval of DOE's Competitive Sourcing Executive Steering Group, will take 12 to 48 months to complete, depending on the type of OMB Circular A-76 study undertaken. OMB, which originally established the 2003 study completion goal, recognizes that most of the Competitive Sourcing studies begun in FY 2002 will be completed after FY 2003. Consequently, OMB, which approved DOE's revised 2002–2004 approach in the Department's updated Competitive Sourcing Plan, and has given DOE a "green" for current implementation progress on this Presidential Management Agenda item.	Met Goal

CM1-3: Manage the Department's financial resources and other assets; obtain an unqualified opinion by independent auditors on the Department's annual financial statements; and integrate financial, budget, and program information.

Key Performance Measure	Result	FY 2002 Assessment
Review and revise the Department's policy on program and project management for the acquisition of capital assets, and the Project Management Manual and Practices.	The Program and Project Management Manual edits were completed and entered into the Department's formal review process for comment. Field and program reviews are on going. The process is expected to be completed in December 2002, and publication is planned for February 2003.	Met Goal
Complete all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and the validation of the performance baselines.	100 percent of target has been met. A total of 28 EIRs have been performed; 15 to 25 EIRs were projected to be performed in FY 2002.	Met Goal
Obtain an unqualified audit opinion on the Department's FY 2001 financial statements, with no material internal control weaknesses reported by auditors, by February 27, 2002.	Obtained an unqualified opinion on the Department's FY 2001 financial statements, with no material internal control weaknesses reported by auditors, on January 31, 2002.	Met Goal

Significant Issue: Project Management

The Department's ability to build new facilities or upgrade existing systems has been adversely affected by cost overruns, schedule slippages, and other project management problems. These issues have led to concerns about the Department's construction project management structure and practices.

To identify the root causes of project management deficiencies, Department-wide policies and procedures were assessed by an expert panel formed under the National Research Council of the National Academy of Sciences. The Department is now implementing the National Research Council's recommendations. Project management reforms implemented to date include: issuing Department-wide policy and operating procedures for project management; instituting External Independent Reviews to focus on and validate project costs, schedule and scope; and implementing a Project Assessment and Reporting System to collect project data.

In FY 2003, the Department plans to continue strengthening its project management by conducting a benchmark study of DOE projects to determine the factors for their success; implementing a Department-wide Value Engineering program; and establishing a risk-based assessment process to review and approve projects in their conceptual design phase. Final improvements are anticipated in FY 2004 with the implementation of a Departmental Project Manager Career Development Program.

CM1-4: Make resource decisions based on performance, and fully integrate the Department's budget and performance by FY 2004.

Key Performance Measure	Result	FY 2002 Assessment
Establish a 5-year process, with integrated performance data, for the preparation of the FY 2004 budget.	Issued 5-year planning guidance in early March that directed programs to submit five-year budget data for the FY 2004 Corporate Review Budget. Most programs submitted five-year funding programs via the Program Information Reporting System (PIRS). The Corporate Budget Review process examined five years, and programs funding targets and full time equivalents were adjusted using programming process within DOE. As part of the CRB budget process, programs also turned in proposed performance measures for the FY 2004 programs. PA&E analysts thoroughly reviewed and worked with the program offices to improve measures as required. The FY 2004 OMB budget submission will contain improved performance measures. We also established Plan of Action and Milestone for budget and performance integration on June 19, 2002, for presentation to OMB. OMB graded us "yellow" for our plan on July 2, 2002. PA&E established Applied Research and Development investment criteria, and issued new Department-wide guidance to standardize Performance Measure Development. The Program Budget Decision (PBD) documents, which cover five years, were prepared and published.	Met Goal
Complete the milestones in the FMFIA corrective action plan for the significant issue of Performance Management.	The Office of Program Analysis and Evaluation (PA&E) is on-track in meeting the FMFIA milestones. New performance tracking software has been purchased and a pilot effort is underway with the intention of fully implementing the system in FY 2003. PA&E has completed extensive work with all programs in the Department to ensure that performance goals and measures were integrated in the Department's FY 2003 budget. The FY 2003 Annual Performance Plan was published in May 2002. Written responses to KPMG audit questions were provided in May 2002. DOE has received no written response front the audit firm. The DOE Budget Formulation Handbook, which was issued with the FY 2004 budget call in August 2002, contains the new Departmental policy on performance measures. It provides clear terminology and criteria for use in the development of performance measures. PA&E has initiated a formal training program for the program offices to facilitate the development and reporting of performance goals and measures in conjunction with the FY 2004 budget process. Establishing output and outcome-oriented performance goals that are measurable and aligned with the Administration's priorities, performance indicators that measure progress on these goals, and annual targets that support these indicators will be the subjects of greatest emphasis during the FY 2004 budget development cycle.	Met Goal

Significant Issue: Facilities & Infrastructure Management

The Department risks being unable to meet some of its mission objectives if the condition and functionality of its facilities are not adequately addressed. Aging facilities are operating beyond design life and have deteriorated due to insufficient maintenance and recapitalization. The condition of the Department's facilities is impacting the defense production mission and the long-term cleanup mission. In response, the Department has taken action to evaluate the condition of the infrastructure, define needs to meet mission requirements and develop comprehensive plans for each site. The Department also issued a policy to ensure proper stewardship of the Department's real property. Departmental guidance establishing a planning, programming, budgeting and execution process that links real property assets to mission requirements and performance will be issued in FY 2003. This issue is also discussed in the Science and National Nuclear Security program areas.

Significant Issue: Program Oversight of Contractors

The majority of the Department's programs are accomplished through contracts, particularly those that provide management and operating capabilities for running the Department's facilities. The Department has previously been criticized for not effectively managing these contracts due to the absence of competition, the lack of contractual features to ensure contractor performance accountability, and weak controls over such areas as records management, overtime, and litigation. Although, the Department has established the appropriate policies and procedures to address these problems, programmatic implementation of these policies and procedures is too inconsistent across the Department to provide sufficient oversight of contractors. Specific contractor oversight problems have been identified by the Inspector General at the Department's environmental cleanup sites and laboratories. Audits showed that laboratories were not properly administering procurements and conducting inappropriate activities not covered by contracts, and that environmental cleanup sites did not consider cost-sharing arrangements when establishing contracts to ensure that the most effective cleanup activities are conducted by the Department.

Significant Issue: Performance Management

The Department's performance management processes need improvement to ensure that programmatic activities are results driven and focused on achieving outcome-oriented goals. The Inspector General, the General Accounting Office, and the Office of Management and Budget have identified the need to improve Departmental performance management activities. Noted deficiencies included performance goals, targets, and measures that are not results driven, not quantifiable or outcome oriented, and not adequately integrated with budgets and decision making. Congress has also indicated the need for improved performance measures in Departmental budget requests. The President's Management Agenda initiative further addressed the need for Federal agencies to establish more meaningful performance metrics and better integrate performance results into budget decisions.

To address these issues, the Department established the Office of Program Analysis and Evaluation in November 2001. This organization has taken a leadership role in communicating the critical need to improve the quality of performance measures in support of the President's Management Agenda. Most notably, in FY 2002 this office has issued a new Departmental performance measurement policy to provide consistent application of sound performance measurement principles, established a formal training program to facilitate the development and reporting of clear and quantifiable performance goals and measures in conjunction with the budget process, implemented new performance tracking software to improve reporting and analysis capabilities and facilitate more useful information for decision making, and integrated performance plans

with FY 2003 and FY 2004 budgets and utilized performance information to support budget decision-making.

In FY 2003 the Department will issue an Annual Performance Plan that will demonstrate progress in developing goals and targets that are more results-driven and outcome-oriented. In addition, the Department will perform internal assessments and solicit external feedback to identify additional ways to improve performance management practices. The completion of these actions will establish a solid foundation for resolving this issue.

CM1-5: Improve the efficiency and effectiveness of DOE's contract management to become a model for government.

Key Performance Measure	Result	FY 2002 Assessment
Complete milestones listed in the FMFIA corrective action plan for the significant issue of contract management.	All FMFIA milestones have been completed. Accomplishments include: 1) review of six major contracts; 2) review of contract administration and performance-based incentive implementation at three sites, with assessment report completed; 3) issuance of guidance on the formation and application of contract administration plans; 4) rewrite and approval of the DOE Acquisition Guide Chapter on Past Performance information; and 5) preparation of a benchmarking report that assessed seven other agency contracts against predetermined criteria on practices and approaches to contracting for facility management and federally funded research and development contracts; and development of a model solicitation for use in major site and facility contract competitions.	Met Goal
Increase the use of performance-based contracts so that: 1) 60 percent of total eligible service contracting dollars (over $100K) will be obligated as performance-based service contracts; and 2) 66 percent of total eligible new service contracts (over $100K) will be performance-based service contracts.	Eighty-five percent of total eligible service contracting dollars (over $100K) have been obligated as performance based service contracts, and 74 percent of total eligible new service contracts (over $100K) are performance-based service contracts.	Met Goal

CM2-1: Advocate and implement an E-Government citizen service delivery office in FY 2003.

Based on the President's Management Agenda and OMB's 24 E-Government initiatives, the Department established Project IDEA, Innovative Department of Energy E-Government Applications, to develop the Departments's E-Gov strategy. The IDEA Task Force developed a business case and included the entire Department in the process. Through an executive interview process, the IDEA Task Force has identified 19 key e-gov projects to be implemented department-wide.

Key Performance Measure	Result	FY 2002 Assessment
Develop E-Government roadmap by September 30, 2002, to reduce information collection burden.	The Department's E-Government Strategic Action Plan addressing the roadmap for delivering services has been released. On October 16, 2002, the Secretary delivered the plan to the Director of the Office of Management and Budget during a ceremony, which included a demonstration of digital signatures to be used by the Department.	Met Goal
Develop E-Government framework by June 30, 2002.	The Department's E-Government framework was discussed and delivered to OMB in June 2002 by the Chief Information Officer.	Met Goal

Significant Issue: Information Technology Management

The Department has experienced problems in fully implementing the Clinger-Cohen Act of 1996 and in government-wide information technology management requirements. In summary, these require establishment of Federal Agency Chief Information Officers with broad responsibilities for maximizing agency mission accomplishment through improved and cost-effective use of information technology. Significant barriers to implementing these responsibilities include the Department's decentralized approach to information technology management, the limited control and influence by the Chief Information Officer (CIO) in the program budgeting process, and the lack of an information technology baseline to guide the acquisition and management of information technology resources in the Department.

The Department has made significant progress in addressing these problems. A major accomplishment was achieved with a change to the management structure that made the Office of the CIO a direct report and primary official for Department-wide information management issues. An enterprise-wide license for Microsoft software was successfully established and will save millions of dollars that would have been spent on multiple small contracts for site- or program-specific licenses. Additional Enterprise License Agreements will be utilized in the future and will be incorporated into funding discussions and budget planning.

The Department introduced an Information Technology Investment Portfolio System to provide automated support for the information technology capital planning process and related portfolio. In March 2002, the Secretary of Energy launched an E-Government applications task force to identify high priority E-Government investments. The task force completed the *E-Government Strategic Action Plan* in support of the President's Management Agenda goal of expanding electronic government. This plan was digitally signed by the Secretary and presented to the Director of OMB with a government-wide license to utilize the digital signature technology. In addition, the Department developed the *Information Resources Management (IRM) Strategic Plan*, which includes specific goals and performance measures targeted at the reform of information technology management processes associated with the Clinger-Cohen Act and the *Enterprise Architecture* in order to guide information technology investment decision-making and provide an information technology baseline. The Extended Common Integrated Technology Environment initiative was launched to consolidate all aspects of common information technology systems, in order to improve services, increase purchasing power, and reduce overall information technology expenditures.

Future planned actions include issuing an internal policy that will establish requirements for information technology management throughout the Department; completing an acquisition framework; fully implementing the information technology capital planning process; and fully documenting the *Enterprise Architecture*. These actions will support the Department for the successful implementation of information technology management requirements.

CM3-1: Promote the effective management of Information Technology resources in the Department.

The Office of the Chief Information Officer (OCIO) ensures that information technology (IT) resources are planned, and managed in a manner that implements the policies and procedures of legislation, including the Clinger Cohen Act, Paperwork Reduction Act, and the priorities established by the Department. In collaboration with the Department's information stakeholders, the OCIO works to improve the access to information thus enhancing its ability to meet mission and business requirements.

Key Performance Measure	Result	FY 2002 Assessment
Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Information Technology.	1. Memorandum drafted and will be presented to the Deputy Secretary first quarter of FY 2003. Additionally, the DOE FY 2004 IT Capital Planning process includes an E-Government strategy review and an enterprise architecture review that identifies potentially duplicative proposed IT investments for resolution through the DOE budget process. 2. This target has been met. The OCIO has drafted a DOE Order that will establish explicit requirements for IT management including roles and responsibilities. The draft Order will be submitted for processing in the DOE Directives System in early FY 2003. 3. IT acquisition requirements have been integrated into the DOE FY 2004 IT Capital Planning process and all major IT acquisitions have been reviewed for compliance as part of the FY 2004 budget formulation process. 4. The DOE IT Enterprise Architecture version 1.01 published in June 2002 contains an IT baseline inventory of applications and major systems in use or under development. This baseline will be updated annually as part of the DOE IT Capital Planning process. 5. Each major IT investment in the FY 2004 DOE IT Portfolio contains specific performance measures and performance improvement goals. These measures were reviewed by the OCIO as part of the DOE FY 2004 IT Capital Planning process. The status of additional FMFIA milestones are addressed in CM2-1.	Met Goal
Complete Corporate Systems Information Architecture (CSIA) implementation, Strategic Information Management (SIM) process, and complete first CSIA application SIM.	The SIM process analyses was completed. A management decision was made to incorporate SIM activities into the Enterprise Architecture project. Development of former CSIA investment projects will now be implemented as part of the DOE Enterprise Architecture program.	Met Goal

CM3-2: Ensure that DOE's information assets are secure through effective policies, implementation, and oversight.

The Office of the Chief Information Officer will be submitting several implementation manuals through the Departments' directives process. Additional time is required in order to coordinate and implement cyber security directives between line management and Headquarters elements.

Key Performance Measure	Result	FY 2002 Assessment
Develop and implement a comprehensive cyber security program that implements risk-based policies and guidance for the protection of cyber assets.	This target has been partially met. The Office of Chief Information Office (OCIO) developed and updated the Cyber Security Performance Improvement Plan and the Cyber Security Scoreboard. Launching of the Cyber Security Performance Measurement Program and updating of the Cyber Security Threat Statement are in progress.	Mixed Results*

***Plan of Action:** The cyber security performance measurement program is currently undergoing management review and approval. The program will be published in the first quarter of FY 2003. An updated threat statement will be completed in the first quarter of FY 2003.

CM4-1: 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, the public, industry, foreign governments, and domestic and international organizations; and enhance the export and deployment of energy technologies internationally.

The Office of Policy and International Affairs (CPI) continues to provide analysis of energy policy and ensures consistency across DOE and within the Administration.

Key Performance Measure	Result	FY 2002 Assessment
Leverage domestic science and technology resources through new and renewed international collaborations in high priority science and technology areas through work with international partners, as called for by the *National Energy Policy* (NEP).	Continued to leverage domestic science and technology resources through new and renewed international collaborations in science and technology through our work with our international partners. For example, organized a high-level energy policy dialogue, under the auspices of the Economic Dialogue endorsed by President Bush and Prime Minister Vajpayee in November 2001. The discussions will focus on common energy security challenges and parallel ongoing S&T cooperation. [Signed new bilateral S&T agreements with China, Turkey, United Kingdom, and Canada.]	Met Goal
Guide periodic reviews of DOE energy R&D and science priorities to enhance their support of national objectives, including the completion of the National Climate Change Technology Initiative report and the initiation of implementation efforts.	Guided review of DOE technology transfer priorities to enhance their support of national objectives. Developed the DOE Order that sets roles and responsibilities governing more than 9,000 technology transfer and partnership initiatives annually and helped lead the Technology Transfer Working Group (TTWG), which consists of representatives from 25 DOE headquarters and field offices, as well as representatives from the National laboratories.	Met Goal
Develop and analyze legislative and regulatory proposals to enhance competition and reliability within electricity, natural gas and oil markets, including completion of the National Transmission Grid study and initiation of efforts to implement its recommendations, and analysis of various legislative and regulatory proposals to restructure U.S. electricity markets.	Developed and analyzed legislative and regulatory proposals, such as those included in the House and Senate passed versions of H.R. 4 (in Conference as of 8/02), to enhance competition and reliability within electricity markets. Completed the National Transmission Grid study, which was issued in May 2002. The Study received wide distribution and resulted in numerous initiatives to develop regulatory and market initiatives that will stimulate new investments in transmission. PI developed and assessed numerous regulatory and legislative options for increasing the competitiveness of the electric sector, while maintaining system reliability. Initiated efforts to implement the recommendations of the Grid Study.	Met Goal

CM4-1: 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, the public, industry, foreign governments, and domestic and international organizations; and enhance the export and deployment of energy technologies internationally. (Continued)

Key Performance Measure	Result	FY 2002 Assessment
Coordinate and support initial milestones of the interagency effort to implement the National Climate Change Initiative, the President's recent proposal to enhance voluntary reporting of greenhouse gas emission reduction efforts and other climate policy initiatives.	Coordinated and supported initial milestones of the interagency effort to implement the National Climate Change Initiative, the President's proposal to enhance voluntary reporting of greenhouse gas emission reduction efforts and other climate policy initiatives. Organized and managed an interagency and interlaboratory review of long term technologies capable of substantially reducing global emissions of greenhouse gases, and the completion, by February 2002, of a final draft report for the President. Led agency efforts to plan and create an office to implement the Climate Change Technology Program. Efforts to implement the President's directive to improve DOE's greenhouse gas emission registry included leadership of an interagency review group, meetings with businesses and other stakeholders, solicitation of public comments and the scheduling of four regional workshops for late 2002. An interim report to the President was sent in July, 2002. Played a critical role in an interagency effort that led to the formulation of the U.S. clean energy initiative, one of four signature actions of the President in support of the World Summit on Sustainable Development (WSSD), held in South Africa during August 2002. Also structured the Energy Efficiency for Sustainable Development Partnership, which was an important part of that initiative, and supported the development and distribution at the WSSD of Energy and Water for Sustainable Living.	Met Goal
Coordinate and oversee the implementation of the National Energy Policy (NEP), including providing analysis and policy guidance, where needed.	Coordinated and oversaw the implementation of the NEP, elements of the President's Climate Policy Initiative and other Administration policies. Led or directly supported the implementation of 55 NEP recommendations, two Presidential climate initiatives and other Administration policies.	Met Goal
Organize technology training and other capacity building efforts to accelerate the worldwide adoption of technologies and practices that limit, reduce, avoid, or sequester greenhouse gas emissions.	Organized technology training and other capacity building efforts to accelerate the worldwide adoption of technologies and practices that limit, reduce, avoid, or sequester greenhouse gas emissions. Specifically, developed methodology for assessing technology needs of developing and transition countries and planning to meet these needs. Helped organize and conduct workshops in Seoul, Korea, and Beijing, Peoples Republic of China, and provided technical assistance to Bolivia, Ghana, India, and Nigeria. Conducted seminar on developing country experiences with technology needs assessments during UN meeting of technical experts in Bonn, Germany.	Met Goal

CM4-1: 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, the public, industry, foreign governments, and domestic and international organizations; and enhance the export and deployment of energy technologies internationally. (Continued)

Key Performance Measure	Result	FY 2002 Assessment
Collaborate with U.S. Agency for International Development (USAID) to direct an inter-agency working group to implement the Clean Energy Technology Exports Initiative, as recommended in the NEP.	PI continues to direct the Clean Energy Technology Exports (CETE) initiative in consultation with the Department of Commerce and USAID, as recommended in the Administration's National Energy Policy Document. The five-year strategic plan has been completed and has been sent to Congress. Work is now beginning to establish the CETE Working Group at the political level and to establish a private-sector advisory panel. Implementation has also begun on the CETE 2008 Beijing Olympics Project.	Met Goal
Provide assessments of the likely effects of supply constraints in petroleum product, electricity, or natural gas markets, and work with foreign governments, energy suppliers, Federal Emergency Management Agency (FEMA) and other Federal agencies, and state governments to enhance responses to energy market disruptions, as called for by the NEP.	Provided (through briefings, testimony and other means) assessments to senior Departmental and Congressional policymakers of the likely effects of supply constraints in petroleum product and electricity markets, and prepared information on Federal responses and enhanced response options. Worked with foreign governments, energy suppliers, NERC, EPA and other Federal agencies, and State governments to enhance preparedness for energy market disruptions, as called for by the NEP.	Met Goal
Work with foreign governments and multilateral organizations to develop and implement policy decisions that will diversify and enhance world oil production and reduce oil demand growth, as recommended in the NEP.	Continued to work successfully with foreign governments where key policy decisions have been developed and implemented. For example, organized the May 3, 2002 G8 Energy Ministerial in Detroit, Michigan, where Secretary Abraham and ministers from other developed countries discussed common energy security challenges and cooperative strategies to protect against supply disruptions, reduce oil demand growth and deploy clean energy technologies. The G8 Ministerial fulfills a specific recommendation set forth in the NEP. In addition, worked with Canada's Department of Natural Resources (NRCan) and Mexico's Secretariat of Energy (SENER) to institutionalize trilateral cooperation on energy-related matters and enhance North American energy trade and market integration under the North American Energy Working Group. Continued bilateral and multilateral activities under the Summit of Americas Hemispheric Energy Initiative, including in support of regulatory reform to promote increased private investment and regional integration and the development and use of natural gas. Also, organized the 3rd US-Africa Energy Ministerial in Morocco, which was held during June 2002, and focused on energy security challenges and strategies to protect against supply disruptions, reduce oil demand growth, promote natural gas development, and deploy clean energy technologies. Secretary Abraham attended the 8th International Energy Forum in Osaka, Japan, to enhance the dialogue among producers and consumers, a NEP recommendation.	Met Goal

CM5-1A: Develop policies and strategies to protect national security and other critical assets entrusted to the Department (DOE), deploy technological solutions to enhance security, protect Headquarters personnel and facilities; and provide other specialized security activities.

With Lead Program Secretarial Offices (LPSOs), security policy is developed and disseminated with strict metrics for clarity and validity. Forty-two new technologies are being assessed against priority requirements to give protective forces a tactical advantage. Our Security Institute doubled its training capacity to 12,000 individuals. The Institute trained 280 new DOE Basic Security Police Officers; 400 FBI agents; and 1,025 State Department foreign national police. Quality assurance document review sampling of 1.4 million pages saved 29 classified documents from inadvertent release. To protect DOE security interests, the Office of Security (SO) assumed management control of DOE visa and foreign travel programs that grant and control access to DOE sites by foreign nationals. As the Office of Record for nuclear material information, SO provides thorough assessment and reconciliation of nuclear material inventories at national and site levels.

Key Performance Measure	Result	FY 2002 Assessment
Develop and publish facility security performance metrics.	At the request of the former Deputy Secretary, security performance metrics were developed by the Security Policy Staff into a Security Metrics Primer. The Director, Office of Security requested that an abbreviated Quarterly Metrics Report be disseminated, pending the Deputy Secretary's approval of the Security Metrics Primer. The Quarterly Report was published in August 2002.	Met Goal
Improve Headquarters response capabilities for handling and resolving security situations by: - Increasing the total interior and exterior perimeter video coverage by at least 20 percent - Increasing portable explosive detection capability by 50 percent - Increasing the number of trained and armed Protective Force Officers by 15 percent - Increasing officer retention by 10 percent through implementation of an innovative "officer retention/ recognition" program - Developing and implementing a comprehensive performance testing plan that encompasses Protective Force emergency response responsibilities - Providing chemical and biological response training to 100 percent of Protective Force personnel assigned to critical posts - Conducting transitional firearms training for 100 percent of armed personnel	All actions finalized by September 2002. Increased video coverage at DOE Headquarters from 61 to 79 cameras; doubled from 2 to 4 portable explosive detection units; increased armed officers from 55 to 84; increased roving patrols (24/7) and staffed two additional posts; decreased turnover of officers by implementing an aggressive "officer retention/recognition" program (30 officers resigned 6/00-5/01; only 18 officers resigned 6/01-5/02); developed and implemented an Emergency Response Plan DOE-wide; equipped and trained 100 percent of the protective force officers in the application of chemical protective gear; upgraded and trained all officers with the new DOE Standard handgun.	Met Goal

CM5-1A: Develop policies and strategies to protect national security and other critical assets entrusted to the Department (DOE), deploy technological solutions to enhance security, protect Headquarters personnel and facilities; and provide other specialized security activities. (Continued)

Key Performance Measure	Result	FY 2002 Assessment
Complete the milestones listed in the FMFIA corrective action plan for the Significant Issue of Security.	A 10-year DOE-wide Security Strategic Plan was drafted which promulgates safeguards and security policy based on a sound understanding of the threats capabilities to respond. The DOE Design Basis Threat Interim Guidance which identifies vulnerabilities and addresses evolving threats against DOE was issued in January 2002. The FY 2002 Annual Policy Assessment Report was developed and finalized that promulgates safeguards and security technological solutions to meet priority needs. These management tools provide a decisive body of technical information to implement effective security programs for protecting this Nation's security and valuable assets.	Mixed Results*

***Plan of Action:** Publish DOE-wide Security Strategic Plan (10 years) in January 2003 and the Annual Policy Assessment Report for FY 2002 by October 2002.

CM5-2A: Increase and enhance the protection of sensitive and classified technologies, information, and expertise against attempts by foreign intelligence, industrial intelligence, and non-traditional collectors to acquire nuclear weapons information or advanced technologies from the National Laboratories and other DOE and NNSA facilities, and support the protection of DOE and NNSA personnel and assets from international terrorist activities.

Key Performance Measure	Result	FY 2002 Assessment
Develop 20 tactical analysis summaries and 4 strategic analysis assessments; annually update site-specific threat assessments; and produce the annual DOE threat assessment. These assessments identify targeting of Departmental personnel and assets.	In FY 2002, the Analysis Program completed more than 20 tactical analytical products, to include Counterintelligence Notes and disseminations of U.S. Intelligence Community terrorism information. The program also completed several strategic analytical assessments, to include country threat assessments; foreign intelligence threat summaries; and other strategic products, exceeding its goal of four. The program produced the annual DOE threat assessment. Finally, the Program conducted site-specific threat assessments at all major sites; however, not all smaller sites were assessed.	Mixed Results*

***Plan of Action:** Site-specific threat assessments at smaller sites will be conducted as rapidly as possible in the upcoming fiscal years, consistent with manning limitations. Additionally, CN will work with ME to make adjustments to this metric. Due to lack of analytical assets, annual updates of all threat assessments is an unrealistic expectation. Fortunately, experience indicates that basic threat assessments are very important, but updates are not necessarily needed annually.

Significant Issue: Security

The Department must aggressively address the challenges presented by a need for improved homeland defense, threats posed by terrorists, and the threat of weapons of mass destruction. To this end, we must develop a long-range strategic plan for the Department's security posture, conduct threat analyses to establish the framework for continually improving security protective measures, continue to implement corrective actions for cyber security, and enhance the physical security of its facilities.

The Department is taking a number of actions in this area. During FY 2002, the Department drafted a Strategic Plan for Security and issued an Interim Design Basis Threat Analysis for budget planning purposes based on post-September 11, 2001, events. In addition, a virus protection strategy has been implemented, Cyber Security Improvement Plan has been developed, and an appraisal process guide for conducting cyber security performance testing and documenting has been finalized. Also during FY 2002, the Department performed cyber security inspections and reviews, safeguards and security evaluations, and reviews of field implementation of the ongoing Integrated Safeguards and Security Management Initiative. Future planned actions include finalizing the Security Strategic Plan, addressing specific budgetary requirements related to new and evolving security threats, performing oversight reviews and threat analyses as security conditions change; incorporating significant cyber security metrics in Departmental performance plans, implementing increased security protective measures for the Department's facilities in the national capital area, and enhancing the Executive Protection Force.

Although the Department has made significant progress, improving security is an iterative and evolving process, especially with the renewed emphasis placed on this program as a result of the September 11, 2001, terrorist attacks. Accordingly, we anticipate that the final resolution of this issue will be a long-term effort.

DETAILED PERFORMANCE RESULTS

FY 2002 Performance and Accountability Report

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Contents - Detailed Performance Results Section

Introduction

The Government Performance and Results Act of 1993 (GPRA) requires Federal agencies to report performance results annually. A summary of the Department's FY 2002 most important performance results is contained in the Overview section of this report. The following pages contain detailed information on the results achieved for all revised final performance goals and targets for FY 2002, as contained in the "FY 2002 Targets (Revised Final)" column in the Department's FY 2003 Annual Performance Plan (which is available at: http://www.mbe.doe.gov/stratmgt/FY03-APP.pdf). The detailed performance results address what each program delivered for its net costs. To facilitate the linkage between performance and net costs, tables are provided showing the relationship between the strategic structure of the Department's work and financial organization (known as "Decision Units") of the performance results.

To meet the GPRA requirements to identify performance goals for each program activity, the basic building blocks of the Performance and Accountability Report and the detailed performance results are the GPRA program activities. The GPRA program activities are logical groupings of budget line items that make up the Program and Financing (P&F) accounts in the President's budget. The logical groupings are formed by aggregating, disaggregating, or both as appropriate, to link resources to a logical set of performance goals.

In this detailed performance report, we have presented the final FY 2002 performance results in exactly the same order as the revised final FY 2002 goals portrayed in the Department's FY 2003 Annual Performance Plan. The FY 2002 Program Strategic Performance Goals (PSPGs) are numbered to identify their hierarchical relationship to the strategic objective and the overall program area goal they support in the Department's Strategic Plan. For example, ER2-3 is the third goal supporting the second strategic objective under the Energy Resources program area as identified in the Department's Strategic Plan published in September 2000 (which is available at http://www.cfo.doe.gov/stratmgt/plan/DOE-SP-full2.pdf). In accordance with GPRA and the Office of Management and Budget (OMB) guidance, the report also includes related performance targets and associated assessments for three prior years (FY 2001, FY 2000, and FY 1999).

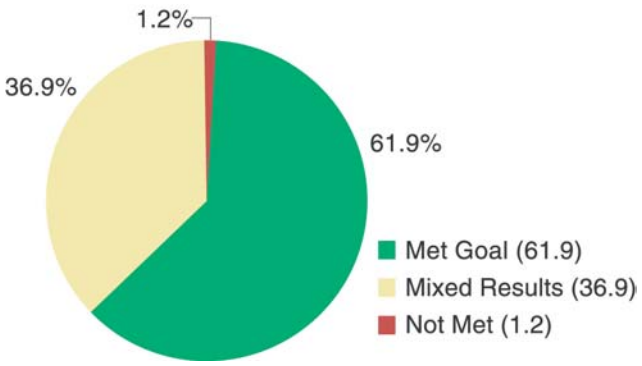
Overall Comparison of Actual Performance to Projected Performance

For each performance goal, the discussion includes an assessment of the Department's performance made by the responsible office, consistent with the Department's performance-based management approach. We have revised the terms and criteria for assessment of past performance. Our previous assessment terms (Exceeded Goal, Met Goal, Nearly Met Goal, and Below Expectations) were changed because the criteria used to determine the level of achievement using those terms was sometimes subjective and inconsistent. Our revised terms for FY 2002 reporting are:

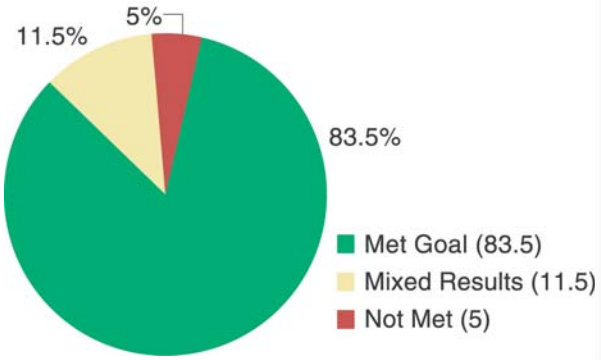
"Met Goal"	100 percent of the target as defined was met.
"Mixed Results"	Results were mixed, *i.e.*, results were achieved late, but before the end of fiscal year, or the target was only partially met (80-99 percent).
"Not Met"	Results were less than 80 percent of the target.

The overall results for the Department's PSPGs and Targets for FY 2002 are:

Program Strategic Performance Goals



Annual Targets



Validation and Verification of Performance

Validation and verification (V&V) of the Department's performance will be accomplished by periodic reviews, certifications, and audits. Because of the size and diversity of the Department's portfolio, V&V is supported by extensive automated systems, external expert analysis, and management reviews. Detailed discussions of V&V methods for each of our Program Areas and Program Offices are available in the corresponding sections of DOE's Annual Performance Plan for FY 2003.

For the overall Agency, the Office of Program Analysis and Evaluation (PA&E) in the Office of Management, Budget and Evaluation, issues GPRA guidance on reporting in the Spring when the staff begins to report on the mid-year status. DOE's end-of-year reporting process includes certifications by heads of organizational elements regarding the accuracy of reported results. The results are reviewed for quality and completeness by PA&E, as well as are reviewed and audited by the Office of the Inspector General. Multiple data sources exist within the program offices performing the work, the National Laboratories, or our contractors. The performance reporting process requires that heads of Departmental elements report the status of the revised final performance measures and ensure that the information provided is accurate and complete.

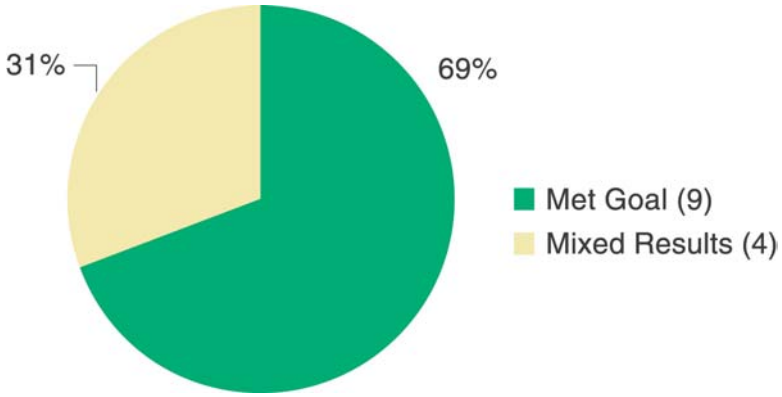
The Department has been using a computer system called SOLOMON to collect and present results and performance since FY 1995. SOLOMON is a World-Wide-Web-based system that allows remote data entry, monitoring, and oversight. Data entry is controlled through a password system that provides an auditable record of changes. Program offices and managers directly update results and performance assessments during the year and the end-of-year information is used for analysis and preparation of the Performance and Accountability Report. In FY 2002, the Department acquired new commercial software for performance tracking. The new system, "JOULE," is being implemented at the pilot level and will be ready for full implementation by the first quarter of FY 2003.

National Nuclear Security

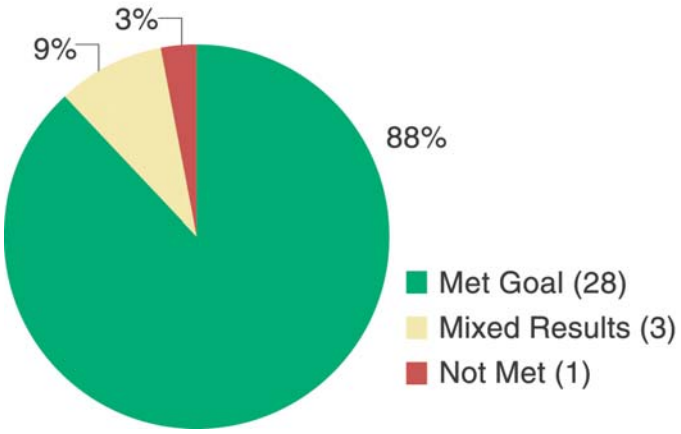
Goal: Strengthen United States security through the military application of nuclear energy, and by reducing the global threat from terrorism and weapons of mass destruction.

These following pages contain detailed information on the results achieved for the revised final National Nuclear Security programs' performance goals and targets for FY 2002 as presented in the FY 2003 Annual Performance Plan. There were 13 Program Strategic Performance Goals (PSPGs) in FY 2002 for the National Nuclear Security programs. The overall results are:

Program Strategic Performance Goals



Annual Targets



GPRA Program Activity: Weapons Activities

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($Million) FY02	FY01	FY00	FY99
Directed Stockpile Work	NA (DP)	19		1,064	1,007	743	3,626
Campaigns	NA (DP)	19		1,858	1,621	1,715	*
Readiness in Technical Base and Facilities	NA (DP)	19		1,620	1,402	1,433	*

* New responsibility segment in FY 1999

Description:

The programs funded in the Weapons Activities appropriation are managed by the NNSA. These programs conduct surveillance, maintenance, experiments, and simulations for individual weapons and weapon systems to ensure operational readiness of the nuclear weapon stockpile. At the same time, we are investing in advanced scientific and manufacturing capabilities to ensure the future capability to accurately assess weapon status, extend weapon life, and certify that the stockpile remains safe, secure, and reliable. The Weapons Activities appropriation consists of six major components: Directed Stockpile Work, Campaigns, Readiness in Technical Base and Facilities, Facilities and Infrastructure Recapitalization Program, Secure Transportation Asset, and Weapons Safeguards and Security.

- **Directed Stockpile Work** maintains confidence in the safety, security, and reliability of the nuclear weapons in the Nation's stockpile through maintenance and evaluation of the weapons and planned refurbishments.
- Activities in **Campaigns** develop the technology needed to carry out the directed stockpile work, as well as foster new ideas and concepts that will provide opportunities for cutting-edge improvements to sustain the stockpile and the program for many years.
- The **Readiness in Technical Base and Facilities** activities provides for operation and maintenance of key defense facilities. These funds maintain the physical and intellectual infrastructure for the Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratory; the Nevada Test Site; the Kansas City, Pantex and Y-12 production plants; and Savannah River tritium facilities.
- The **Facilities and Infrastructure Recapitalization Program** (FIRP) applies new and increased direct appropriations to address an integrated, complex-wide prioritized list of maintenance and infrastructure activities above current base operating levels. The program will significantly improve the long-term physical conditions and mission availability of the NNSA nuclear weapons complex.
- The **Secure Transportation Asset** component supports the Department's network of rolling stock, special agents, and other personnel and specialized infrastructure for the safe and secure movement of weapons, weapon components, and other hazardous materials within the continental United States.
- **Weapons Safeguards and Security** (S&S) provides the necessary physical, personnel, and cyber security to prevent the theft, loss, or unauthorized use of nuclear weapons, nuclear weapons components, or special nuclear materials, as well as classified and unclassified information and assets, throughout the NNSA complex.

Warhead Evaluation, Maintenance, Refurbishment, Production Program (NS1-1)

Conduct a program of warhead evaluation, maintenance, refurbishment, and production, planned in partnership with the Department of Defense.

FY 2002 Targets and Results

Target: Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. **Result:** The sixth annual letter to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile was transmitted in July 2002. (MET GOAL)

Target: Meet all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD. This includes meeting milestones in the FMFIA corrective action plan for the Significant Issue of Stockpile surveillance and testing. **Result:** Met all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD. In addition, the final remaining FMFIA Stockpile Surveillance and Testing corrective action for FY 2002, development and implementation of a comprehensive Significant Finding Investigation (SFI) database, is closed. The Sandia National Laboratory-maintained SFI database was upgraded to make it comprehensive, and became operational in June 2002. A separate database is currently under development at NNSA/AL to track corrective actions taken and plans developed in response to SFIs. This database is scheduled to be operational on March 31, 2003. (MET GOAL)

FY 2001 Targets and Assessments

(1) Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (MET GOAL)

(2) Meet all annual weapons maintenance and refurbishment schedules developed jointly by the DOE and DoD. (MET GOAL)

(3) Meet annual schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (MET GOAL)

FY 2000 Targets and Assessments

(1) Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapons stockpile. (MET GOAL)

(2) Meet all annual weapons alteration and modification schedules developed jointly by DOE and DoD. (BELOW EXPECTATIONS)

Plan of Action: Six of the 11 modifications were behind schedule. Revised schedules have been negotiated with DoD that will meet their operational needs.

(3) Adhere to approved schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (MET GOAL)

FY 1999 Targets and Assessments

(1) Report annually to the President that there is no need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (MET GOAL)

(2) Meet all annual weapons maintenance and refurbishment schedules developed jointly by the DOE and DoD. (NEARLY MET GOAL)

Plan of Action: For alterations 342 (W87) and 752 (B83), recovery schedules have been developed with the DoD and DOE is meeting the new revised schedule.

(3) Adhere to the schedules for the safe and secure dismantling of approximately 275 weapons that have been removed from the U.S. nuclear weapon stockpile. (BELOW EXPECTATION)

Plan of Action: 207 weapons were dismantled. The difference was due to technical difficulties.

Long-Term Stewardship of the Stockpile (NS1-2)

Develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile.

FY 2002 Targets and Results

Target: Perform a prototype calculation of a full weapon system with three-dimensional engineering features. **Result:** A prototype calculation of a full weapon system with three-dimensional engineering features was performed in FY 2002. (MET GOAL)

Target: Meet the FY 2002 milestones in the science campaigns to achieve scientific understanding of the nuclear package of weapon systems in order to sustain the ability to annually certify the nuclear weapon stockpile without underground nuclear testing. **Result:** Met all FY 2002 milestones in the Science Campaigns. (MET GOAL)

Target: Meet the FY 2002 milestones in the production readiness campaigns to address issues associated with high explosives, materials, and non-nuclear technologies. **Result:** Baseline changes for on-cost performance for the line item construction of the Tritium Extraction Facility are pending. All other FY 2002 milestones in the production readiness campaigns were met. (MIXED RESULTS) **Plan of Action:** The plan of action for the Tritium Extraction Facility includes development of a revised baseline for scope and schedule, with subsequent review by NNSA.

FY 2001 Targets and Assessments

(1) Meet the FY 2001 ASCI Program Plan milestones for development of modeling and simulation tools and capabilities required for design and certification of the nuclear weapons stockpile. (MET GOAL)

(2) Meet FY 2001 milestones in the science campaigns to achieve scientific understanding of the nuclear package of weapon systems in order to sustain the ability to annually certify the nuclear weapon stockpile without underground nuclear testing. (MET GOAL)

FY 2000 Targets and Assessments

(1) Demonstrate a computer code capable of performing a three-dimensional analysis of the dynamic behavior of a nuclear weapon primary, including a prediction of the total explosive yield, on an Accelerated Strategic Computing Initiative (ASCI) computer system. (MET GOAL)

(2) Conduct further subsets of the subcritical experiment begun in FY 1999 (Oboe) and one additional subcritical experiment at the Nevada Test Site to provide data on the behavior of nuclear materials during the implosion phase of a nuclear weapon. (MET GOAL)

FY 1999 Targets and Assessments

(1) Demonstrate a computer system capable of performing three trillion operations per second. (MET GOAL)

(2) Conduct two to three subcritical experiments at the Nevada Test Site to provide valuable scientific information about the behavior of nuclear materials during the implosion phase of a nuclear weapon. (MET GOAL)

Attract Best Workforce (NS4-1)

Attract and retain the best laboratory and production workforce.

FY 2002 Targets and Results

Target: Minimize the number of vacant critical skill positions and reduce the average age of the critically skilled workforce through recruitment and retention of a new generation of nuclear weapons stewards. **Result:** Critical skills vacancies declined from 8.3% of critical skill positions complex wide in March 2001 to just under eight percent in June 2002, and are forecasted to decline to six percent by the end of 2002 and to 5.7% by 2004. Average age is projected to decrease across the complex due to increased hiring of younger critical skills candidates, however, the effect of such hiring is delayed because a candidate generally requires two or more years on site to qualify for a critical skills position. Average age will decrease slightly from 47.38 at the beginning of 2002 to 47.26 at the end of 2002 and remain relatively steady through 2004, before beginning to decline again. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Facilities and Infrastructure (NS4-2)

Provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements.

FY 2002 Targets and Results

Target: Meet established facility operating plans and construction schedules to ensure the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defined state of readiness is sustained at all needed facilities. This includes addressing safety issues to allow restart of the Y-12 enriched uranium reduction process. **Result:** Met all milestones for providing state-of-the-art advanced scientific and technical infrastructure. (MET GOAL)

Target: Execute oversight of more than 50 FY 2002 Recapitalization Projects consistent with scope, cost, and schedule baselines. **Result:** As of September 30, 2002, the Facilities and Infrastructure Recapitalization Program (FIRP) executed oversight of 93 Recapitalization Projects consistent with approved scope, cost, and schedule baselines. Therefore, the performance target of "more than 50" Recapitalization projects has been met/exceeded. Of the 93 Recapitalization projects all 93 projects were within their approved scope baselines (rated "Green"); and 89 projects were within their approved schedule baselines (rated "Green"). One project was rated "Yellow" for cost status and four projects were rated "Yellow" for schedule status. A "Green" rating indicates no significant variance. A "Yellow" rating indicates a moderate variance. (MET GOAL)

Target: Create and conduct NNSA-related project management and improvement campaigns. (FMFIA) **Result:** The NNSA is in the third year of a campaign to improve its project management performance. The campaign continues to make notable progress. NNSA has fully implemented the new project management procedures and policies that were jointly developed by all of the Departmental elements. NNSA is also leading a Department wide effort to increase staff competencies through increased training and involvement with professional societies such as the Project Management Institute and the Construction Industry Institute. It is expected that the number of certified Project Management Professionals within NNSA will nearly double this year. The pace of other elements of NNSA's project management training program has, unfortunately, had to be curtailed somewhat this year due to budgetary constraints. (MET GOAL)

Target: Implement an excess prioritized project list to ensure high priority facilities are demolished based on NNSA's Ten-Year Comprehensive Site Plans (TYCSPs) that will result in disposal of over 500,000 square feet of floor space. (FMFIA) **Result:** As of September 30, 2002, a total of 485,311 square feet of excess facilities were demolished. These projects were selected from an excess prioritized project list to ensure demolition of high priority facilities. The target disposal of over 500,000 square feet of floor space was based on the completion of all FY 2002 disposition projects, some of which were not scheduled to be completed within FY 2002. Upon completion of all FY 2002 disposition projects in early FY 2003, over 500,000 square feet of excess facilities will be demolished. Note, this target was developed by the Program Manager based on completion of all FY 2002 funded disposition projects, rather than on the number completed by the end of the fiscal year. The Program Manager now understands the reporting cutoff for budget performance targets is the end of the fiscal year, and subsequent FIRP & NNSA inputs will reflect this. This target will be tracked to completion in the next fiscal year in the new Joule Performance Tracking System. (MET GOAL)

FY 2001 Targets and Assessments

(1) Ensure that the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defined state of readiness is sustained at all needed facilities. (MET GOAL)

(2) Implement the Secretary's Six Point Plan to improve project management of the National Ignition Facility (NIF) project and approve a new baseline. (MET GOAL)

(3) Complete the milestones listed in the corrective action plan for the Departmental challenge of managing physical assets. (MET GOAL)

FY 2000 Targets and Assessments

(1) Ensure that all facilities required for successful achievement of the Stockpile Stewardship Program remain operational. (BELOW EXPECTATION)

Plan of Action: Operations at LANL were severely impacted by the plutonium intake accident and the Cerro Grande fire at LANL.

(2) Ensure that the capability to resume underground nuclear testing is maintained in accordance with the Presidential Decision Directive through a combined experimental and test readiness program. (MET GOAL)

(3) Begin execution of the Defense-related project management campaign implementation plan. (MET GOAL)

(4) Continue construction of the National Ignition Facility (NIF), and rebaseline future construction plans, total costs, and schedules by June 2000. (MET GOAL)

(5) Meet the established schedules for downsizing and modernizing our production facilities. (NEARLY MET GOAL)

Plan of Action: Delays in FY 2000 will be reflected in schedules for out years.

FY 1999 Targets and Assessments

(1) Ensure that all facilities required for successful achievement of the Stockpile Stewardship Program remain operational. (BELOW EXPECTATION)

Plan of Action: Enriched Uranium Operations at the Y-12 Plant were behind schedule.

(2) Ensure that the capability to resume underground nuclear testing is maintained in accordance with the Presidential Decision Directive and Safeguard C of the Comprehensive Test Ban Treaty (CTBT). (BELOW EXPECTATION)

(3) Continue construction of the National Ignition Facility (NIF) according to the Project Execution Plan schedules. (NOT MET)

Plan of Action: A new project baseline is being developed.

(4) Meet the established schedules for downsizing and modernizing DOE's production facilities. (NEARLY MET GOAL)

Plan of Action: The Department did not quite meet its established schedules for downsizing and modernization of our production facilities during FY 1999. Downsizing and modernization of our production facilities are planned under the Stockpile Management Restructuring Initiative (SMRI). This initiative includes the tritium facilities at the Savannah River Site near Aiken, South Carolina; uranium machining, recycling and storage facilities at the Y-12 Plant; weapons assembly/disassembly and high explosive fabrication facilities at the Pantex Plant near Amarillo, Texas; and non-nuclear production facilities for electronic, electro-optical devices, plastic and machined parts at the Kansas City Plant in Kansas City, Missouri. Construction funds for the downsizing at Savannah River and Y-12 were received in FY 1998 and FY 1999. Construction funds for the Kansas City and Pantex SMRI projects were received in FY 1999; however, there was a Congressional requirement to have an Independent External Assessment report delivered to the Congressional Committees before obligating any of these funds. The reports were delivered to the Committees as required, but the obligation of funds was not authorized until May 28, 1999. This was eight months after the established schedule date for the authorization. The schedules for these two projects are being reestablished for performance measurement. The Savannah River SMRI project was seven percent and the Y-12 SMRI was nine percent behind the established schedules.

Classified Information and Assets (NS4-3)

Protect classified information and assets.

FY 2002 Targets and Results

Target: Provide technical support to the Counter-Terrorism Task Force strategic review of S&S DOE-wide, including cyber security. **Result:** A Task Force report was completed and issued. Technical support was provided to the Task Force and will continue to be provided upon request. (MET GOAL)

Target: Develop a strategic framework for responsive and effective security methodology following the September 11, 2001 events. **Result:** The Deputy Administrator for Facilities and Operations, in his Program Implementation Plan dated January 18, 2002, has made changes to the Safeguards and Security Program since September 11, 2001. The Department conducted Security Awareness refresher briefings and classified matter protection and control training; implemented the program with funds available; applied risk management techniques to allocate cyber security resources; conducted oversight reviews and assessments of Headquarters, Operations, and Site Offices; prioritized Iterative Site Analyses; and developed NNSA enterprise and site architecture and cyber security directives. (MET GOAL)

Target: Complete the milestones listed in the corrective action plans for the Significant Issue of Security and Counterintelligence. (FMFIA) **Result:** The National Nuclear Security Administration has addressed the corrective action plans from external reports (such as OIG, the General Accounting Office (GAO), and the Commission on Science and Security) by either completing the actions or, in those cases that require additional time, maintaining a tracking system where the actions are closely monitored. These milestones are addressed in other databases. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Defense Nuclear Nonproliferation

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Nonproliferation and Verification R&D	NA (NN)	19		314	233	225	239

Description:

The **Nonproliferation and Verification R&D** program enhances U.S. national security through research and engineering resulting in prototype demonstrations and resultant detection systems. Activities focus on development, design, and construction of prototypes; sensor systems needed for proliferation detection; development and production of sensor systems and analytical techniques; nuclear explosion monitoring; and responses to domestic threats from chemical and biological agents. The program continues to support commercialization of detection technologies.

- The **International Nuclear Safety and Cooperation** program works to reduce the chances of a nuclear accident and to improve emergency response capability. The program addresses safety deficiencies in nine countries, including deficiencies in operator training, procedures, safety systems, safety maintenance, analysis, and regulatory oversight. During FY 2003, NNSA will successfully complete and close down this program.
- The **Highly Enriched Uranium (HEU) Transparency Implementation** program is responsible for monitoring the implementation of the 1993 HEU Purchase Agreement between the United States and the Russian Federation.
- The **Nonproliferation and International Security** program supports the President's nonproliferation and international security policies, goals, and objectives, as well as those activities mandated by statute. The program provides technical expertise and leadership for interagency, bilateral, and multilateral fora involved in nonproliferation and international security matters.
- The **Russian Transition Initiative** includes the Initiatives for Proliferation Prevention (IPP) program and the Nuclear Cities Initiative (NCI) program. IPP engages former Soviet weapon scientists, engineers, and technicians in non-weapons-related proliferation prevention activities at institutes in Russia, Ukraine, Kazakhstan, and Belarus with technical projects having high self-sustaining commercial potential. NCI focuses on reducing the size of the weapons complex in the Russian nuclear cities through economic diversification and development.
- The **International Nuclear Materials Protection and Cooperation** program reduces the threat to U.S. national security from unsecured Russian nuclear weapons and weapons-usable material. The program also provides assessment and tracking of nuclear smuggling and nuclear threat cases and enhances international nuclear emergency early warning, preparation and response capabilities.

The **Fissile Materials Disposition** program is responsible for disposing of inventories of surplus U.S. weapons-usable plutonium and highly enriched uranium, as well as providing technical support for, and implementation of, efforts to obtain reciprocal disposition of Russian surplus weapon-grade plutonium.

Detect Weapons of Mass Destruction (NS2-1)

Enhance the capability to detect weapons of mass destruction (WMD), including nuclear, chemical, and biological systems, and terrorist threats.

FY 2002 Targets and Results

Target: Field a demonstrated, deployable prototype biological threat detection system at the Winter Olympics. **Result:** The Biological Aerosol Sentry and Information System (BASIS), the deployable prototype biological threat detection system, was successfully deployed in Salt Lake City during the Winter Olympics. All of the efforts were completed without incident. Information from the field operation center and laboratory was integrated into the public health infrastructure and served to provide compatible information for the decision making process. (MET GOAL)

Target: Demonstrate a chemical agent detection system in a subway system. **Result:** A demonstration of a chemical agent detection system was held in December 2001 in a single station of a subway system as part of an exercise involving several police and fire response agencies. A chemical agent attack was electronically simulated to test the network's ability to process and

distribute the simulated detector information, and to measure the interaction of the system with its users and their protocols. (MET GOAL)

Target: Start satellite sensor-payload assembly of operational nuclear explosion detection payloads for the next generation of Global Positioning System satellites scheduled for first launch in 2004. **Result:** Los Alamos and Sandia started assembly of the operational nuclear explosion detection sensor-payloads for the next generation of global positioning system satellites in fulfillment of the FY 2002 target. The outstanding FY 2001 target for satellite sensor design reviews was fulfilled on March 6-7, 2002, when the last review in the series—a detailed design review for the new generation electromagnetic pulse sensor—was conducted at Los Alamos. (MET GOAL)

Target: Perform experiments of prototype, unmanned-aerial-vehicle-based Light Detection and Ranging (LIDAR) systems to detect proliferation. **Result:** Over 80% complete, however the laser subsystem supplied by an industrial vendor did not meet performance specifications and requires rework. Thus, the full system is incomplete. The remainder of the system tested satisfactorily, but a full system test cannot be rescheduled until the next FY due to availability of the test range. All other subsystems performed in accordance with expectation. A ground based field test was conducted using a surrogate laser and the performance results corresponded to predicted performance. (MIXED RESULTS) **Plan of Action:** The laser subsystem is to be reworked by the vendor, and a technical assistance team from the laboratory is to work with the vendor to improve the manufacturing process and design. The reworked laser will undergo subsystem tests before being incorporated into the full system. The UAV test range has been rescheduled for late Spring 2003 (earliest availability) and a full system performance test will be conducted at that time.

FY 2001 Targets and Assessments

(1) Demonstrate systems to protect key infrastructure and special events from chemical and biological attacks. (MET GOAL)

(2) Conduct Critical Design Reviews for three new-generation nuclear explosion monitoring sensors that are proposed for future satellite deployment. (MET GOAL)

FY 2000 Targets and Assessments

(1) Develop improved technologies and systems for early detection, and identification of and response to weapons of mass destruction proliferation and illicit materials trafficking. (MET GOAL)

(2) Test first generation prototype hand-held detector for enhanced detection of chemical agents. (MET GOAL)

(3) Complete architecture development to protect a "special event" from biological attacks. (MET GOAL)

(4) Launch the Multispectral Thermal Imager (MTI) small satellite to demonstrate temperature measurement from space for the passive detection and characterization of proliferation activities. (MET GOAL)

FY 1999 Targets and Assessments

(1) Complete development and delivery of two new counter-nuclear-smuggling detection technologies, one portable/hand-held and the other for wide area tracking and interdiction. (MET GOAL)

(2) Demonstrate, through airborne field tests, two new technologies that use chemical detection methods to remotely characterize weapons of mass destruction proliferation activities. (MET GOAL)

Prevent Proliferation of Weapons of Mass Destruction (NS2-2)

Prevent and reverse proliferation of weapons of mass destruction.

FY 2002 Targets and Results

Target: Develop and implement lab-to-lab counter-terrorism technology demonstrations at Russian technical institutes. **Result:** Two demonstrations of multiple technologies with counter-terrorism applications were provided this year. The first involved 15 demonstrations at Sarov (A-16) during the February 2002 Warhead Safety and Security Agreement Technical Interchange Meeting, and the second involved 10 demonstrations at the June 2002 Counter-Terrorism Workshop held at the Institute of Automatics in Moscow. (MET GOAL)

Target: Conduct field missions to North Korea to maintain the status of spent fuel in the Nyongbyon spent fuel facility. **Result:** Results are less than 80% of target. Field missions will not return to North Korea until NNSA is able to successfully conclude negotiations with the North Koreans to upgrade the safety and security of U.S. team members. (NOT MET) **Plan of Action:** Plan to hold bilateral discussions in North Korea, but the North Koreans have not responded to NNSA's recommended date of mid-August.

Target: Expand cooperation with other states and U.S. Customs to improve export control capabilities. **Result:** Launched an export control training program in the Caucasus, holding three workshops for Georgian, Azerbaijani, and Armenian officials. Participated in U.S. government-led export control programs involving Middle Eastern and Central Asian nations, including India, Taiwan, and Turkey. Introduced nuclear technology

transfer controls under the DOE-China Peaceful Uses of Nuclear Technology agreement. Briefed U.S. Customs on DOE/NNSA capabilities suitable to support the export control enforcement mission. (MET GOAL)

Target: Engage 2,500 former WMD scientists on cooperative commercial projects. **Result:** 2,500 former weapons of mass destruction (WMD) scientists have already been engaged in cooperative commercial projects. This is the result of 30 newly approved projects and 16 second year follow-on projects. (MET GOAL)

Target: Develop verification capabilities to support implementation of the U.S.-Democratic Peoples Republic of Korea Agreed Framework. **Result:** The first technology in support of implementation of the U.S.-DPRK Agreed Framework was delivered. (MET GOAL)

FY 2001 Targets and Results

(1) Complete canning of BN-350 fast reactor spent fuel. (MET GOAL)

(2) Engage approximately 2,000 scientists, engineers, and technicians at nuclear NIS institutes, and approximately 800 scientists, engineers and technicians at NIS chemical/biological institutes, in 40 projects to provide long-term commercial employment. (MET GOAL)

FY 2000 Targets and Assessments

(1) Engage approximately 2,000 scientists, engineers, and technicians at nuclear NIS institutes, and approximately 800 scientists, engineers and technicians at NIS chemical/biological institutes, in 50 projects to provide long-term commercial employment. (MET GOAL)

FY 1999 Targets and Assessments

(1) Further the Nuclear Cities Initiative promoting cooperation with the closed cities in the Russian nuclear weapons complex to improve the prospects for defense conversion and employment of former weapons scientists. (MET GOAL)

Protect Weapons Material and Redirect Weapons Expertise (NS2-3)

Protect or eliminate weapons and weapons-usable nuclear material or infrastructure and redirect excess foreign weapons expertise to civilian enterprises.

FY 2002 Targets and Results

Target: Develop a plan for U.S. and Russian plutonium disposition that is politically, fiscally, and technically feasible, and obtain White House approval. **Result:** Following the Administration's review in February 2002, the U.S. plutonium disposition program has been restructured focusing on the irradiation of Mixed Oxide (MOX) fuel in domestic reactors and eliminating immobilization. The Russian Federation has announced its intent to focus on the use of VVER-1,000 reactors (light water) as well as the possible export of plutonium for disposition outside of Russia. The Russians are also considering using the design of the U.S. MOX plant and will finalize their plans by the end of 2002. The outstanding FY 2001 target regarding the shipment of the remaining 3MT (out of a goal of 9MT) of surplus U.S. highly enriched uranium to the USEC was partially completed with the shipment of 1.5MT in FY 2002. The remaining 1.5MT will be shipped during FY 2003. (MET GOAL)

Target: Accelerate the rapid and comprehensive upgrades on at-risk plutonium, highly enriched uranium, and Naval nuclear weapons at Russian sites and Second Line of Defense deployments. **Result:** Completed comprehensive upgrades on an additional two percent of the 600MTs of weapons-usable nuclear material, raising the total to 17%. Completed comprehensive upgrades on an additional 22% of the estimated 4,000 Navy warheads, raising the total to almost 40%. Completed comprehensive upgrades at an additional three sites, raising the total to 41 of 95 sites completed. Converted an additional 0.8MT of highly enriched uranium to low enriched uranium, increasing the total amount converted to 3.2MT of weapons-grade nuclear material by converting it to non-weapons-grade. Installed radiation detection equipment at 15 strategic transit and border sites, raising the total to 23 sites. The outstanding FY 2001 target for completing comprehensive upgrades on the remaining one percent (of the original goal of eight percent) of 850 MT was fulfilled in FY 2002. (MET GOAL)

Target: Sign an agreement with the Russian Ministry of Atomic Energy for access to closed nuclear cities. **Result:** An access agreement was signed on February 14, 2002 and submitted to Congress by the Secretary of Energy. The agreement covers NCI work in Sarov, Snezhinsk, and Zheleznogorsk. (MET GOAL)

FY 2001 Targets and Assessments

(1) Complete comprehensive upgrades on an additional eight percent of 850 metric tons (MTs) of weapons-usable nuclear material raising the total to almost 21% secured at 95 sites in Russia. (NEARLY MET GOAL)

Result: Completed comprehensive upgrades on an additional 7 percent of 850 metric tons of weapons-usable nuclear material, raising the

secured total to almost 18 percent at 95 sites in Russia.

Plan of Action: During FY 2001, DOE held protracted negotiations with MINATOM on an agreement necessary to gain access to sensitive Russian facilities for NNSA project oversight teams. The protracted negotiations, and the resulting lack of an agreement, prevented U.S. access to Russian facilities and prevented U.S. assurance that material protection, control and accounting work at Russian Institutes and facilities was completed. It also prevented U.S. access to facilities needed to complete contracts to initiate new work. The access agreement was reached and finalized in September 2001, and access to facilities began in October 2001. Presently, new contracts have been signed with Russian facilities and accelerated work schedules agreed to by DOE and MINATOM officials.

(2) Complete comprehensive upgrades at an additional eight of 95 sites, raising the total to 37 sites. (MET GOAL)

FY 2000 Targets and Assessments

(1) Issue the Record of Decision on a site or sites for three (U.S.) plutonium disposition facilities. (FMFIA) (MET GOAL)

(2) Begin to implement a bilateral agreement with Russia for plutonium disposition. (FMFIA) (MET GOAL)

(3) Continue to install Materials Protection, Control and Accounting (MPC&A) upgrades in Russia, for defense-related sites, civilian sites, Russian Navy projects, and the transportation sector. (MET GOAL)

FY 1999 Targets and Assessments

(1) Continue to improve and integrate technology practices, facilities, and training for material protection, control, and accounting for 650 metric tons of weapons-usable material at 53 locations. (MET GOAL)

Reduce Facility Accidents (NS2-4)

Reduce the risk of accidents in nuclear fuel cycle facilities worldwide.

FY 2002 Targets and Results

Target: Modify the agreement between the Russian Federation and the U.S. to cease the production of weapons-grade plutonium at Seversk and Zheleznogorsk. **Result:** The modified agreement has been cleared by the U.S. government interagency and is now awaiting formal clearance by the Government of the Russian Federation. It is now anticipated that the agreement will be signed by the Secretary of Energy and the Minister of Atomic Energy of the Russian Federation prior to the end of Calender Year 2002. (NOT MET) **Plan of Action:** Complementary and concurrent actions are underway to rapidly implement the program once the necessary agreements and arrangements are concluded and the required authorization and appropriations are passed by Congress.

Target: Develop a small nuclear safety pilot program between the U.S. Department of Energy and the Vietnamese Atomic Energy Commission. **Result:** Developed a small nuclear safety pilot program. Preliminary discussions with the Vietnamese have been held and a protocol was signed in November 2001. Initial steps have been taken to begin the process of negotiating a Peaceful Uses of Nuclear Energy agreement with the Government of Vietnam. The program office has developed a proposed program for nuclear safety cooperation with Vietnam. (MET GOAL)

FY 2001 Targets and Results

(1) Complete safety parameter display systems for Ukraine's South Ukraine nuclear plant unit 3, and Zaporizhzhya nuclear plant units 2 and 4. (MET GOAL)

(2) Complete implementation of symptom-based emergency operating instructions at the Ignalina plant in Lithuania. (MET GOAL)

FY 2000 Targets and Assessments

(1) Complete a full-scope simulator for Kola Unit 4 and Balakovo Unit 4 in Russia, and for South Ukraine Unit 3 in Ukraine. (MET GOAL)

FY 1999 Targets and Assessments

(1) Complete the development and implementation of an effective reactor plant operator training program at key plants based on the Systematic Approach to Training methodology used in the United States, and provide and incorporate plant simulators into the operator training programs. (MET GOAL)

(2) Complete plans for critical asset identification within the Department and test vulnerability assessment techniques in two components of the Energy Sector in countries of the former Soviet Union. (BELOW EXPECTATIONS) **Plan of Action:** Although this was an unfunded mandate, significant progress was made.

(3) Promote U.S. positions and practices in international forums that advocate safe reactor operations. (MET GOAL)

GPRA Program Activity: Naval Reactors

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Naval Reactors	NA (NR)	19		765	700	693	638

Description:

Naval Reactors (NR) is responsible for all Naval nuclear propulsion work, beginning with technology development and continuing through reactor operation and, ultimately, reactor plant disposal. The program ensures the safe operation of the many reactor plants in operating nuclear powered submarines and aircraft carriers (constituting 40% of the Navy's combat fleet), and fulfills the Navy's requirements for new nuclear reactor propulsion plants that meet current and future national defense requirements.

Uninterrupted Support for Fleet Demands (NS3-1)

Ensure the safety, performance reliability, and service life of operating reactors for uninterrupted support of Fleet demands, which includes 124 million miles steamed for nuclear powered ships, and maintaining a utilization factor of at least 90% for operation of test reactor plants.

FY 2002 Targets and Results

Target: Maintain utilization factors of at least 90% for operation of test reactor plants, and 124 million miles cumulative steamed for nuclear-powered ships. **Result:** Nuclear-powered ships steamed over two million miles in FY 2002, surpassing the cumulative target of 124 million miles of safe operation. In addition, NR exceeded 90% utilization for operation of test reactor plants. (MET GOAL)

FY 2001 Targets and Assessments

(1) Ensure the safety, performance, reliability, and service life of operating reactors for uninterrupted support of fleet demands, including maintaining utilization factors of at least 90% for test reactor plants, and 121 million miles steamed for nuclear-powered ships. (MET GOAL)

FY 2000 Targets and Assessments

(1) Ensure the safety, performance reliability, and service life of operating reactors. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Next Generation Reactors (NS3-2)

Develop new technologies, methods, and materials to support reactor plant design, including the next generation submarine reactor, which will be 99% complete by the end of FY 2003; and conduct detailed design on a reactor plant for the next generation aircraft carrier, CVNX.

FY 2002 Targets and Results

Target: Develop new technologies, methods, and materials to support reactor plant design, including the next generation submarine reactor, which will be 96% complete by the end of FY 2002; and conduct detailed design efforts on a reactor plant for the next generation aircraft carrier. **Result:** NR developed new reactor plant technologies, methods, and materials to support reactor plant design. For example, NR completed qualification testing for the redesigned NIMITZ-class main coolant pump lead-unit. NR evaluated physics data from (late-in-life operation of) the S8G prototype core. These data are being used to improve performance of existing cores and optimize new core designs. NR employed multiple irradiation capsule experiments to increase irradiation capacity and enable further advanced fuel testing. This testing is key to developing and qualifying materials for longer lifetimes. The next generation submarine reactor development is 96% finished. NR met all nuclear propulsion plant milestones as detailed in the VIRGINIA Integrated Master Plan. NR completed the pre-core phase of the reactor plant test program and loaded the power unit into VIRGINIA, as planned. NR completed vendor development work on all reactor plant components. Design efforts continue on the reactor plant for the next-generation aircraft carrier, which is over 40% complete and on schedule to meet the planned ship construction start. NR has developed and applied

detailed structural and thermohydraulic analytic models to the CVNX (A1B) steam generator design to finalize the structural internals of the units. NR completed the design of the core fueled region. (Reactor design work is now focused on maximizing the power capability the core can deliver through hydraulic pattern optimization.) NR completed the second phase of fuel and poison manufacturing development and initiated fuel element pre-production. NR remained on schedule for qualification testing of reactor component designs, with nearly 50% of the tests completed or in progress. Plant arrangements are progressing on schedule with concept arrangements completed for 33% of the design zones. NR met all nuclear propulsion plant milestones as detailed in the CVNX Integrated Master Plan. (MET GOAL)

FY 2001 Targets and Assessments

(1) Develop new technologies, methods and materials to support reactor plant design, including the next generation submarine reactor, which will be 93% complete by the end of FY 2001; and initiate detailed design efforts on a reactor plant for the next generation aircraft carrier. (MET GOAL)

FY 2000 Targets and Assessments

(1) Develop new reactor plants, including the next generation reactor, the design of which will be 90% complete by the end of FY 2000; and complete initial development efforts on a reactor plant for the next generation aircraft carrier. (MET GOAL)

FY 1999 Targets and Assessments

(1) Develop new reactor plants, including the next generation reactor, which will be 85% complete by the end of FY 1999; and ensure the safety, performance reliability, and service-life of operating reactors. (MET GOAL)

Environmental Performance (NS3-3)

Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure; no significant findings result from environmental inspections by State and Federal regulators; and operations have no adverse effect on human health or the quality of the environment.

FY 2002 Targets and Results

Target: Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators.
Result: Naval Reactors maintained outstanding environmental performance by ensuring that no personnel exceeded Federal limits for radiation exposure, and operations had no adverse impact on human health or the quality of the environment. (MET GOAL)

FY 2001 Targets and Assessments

(1) Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators. (MET GOAL)

FY 2000 Targets and Assessments

(1) Ensure that radiation exposures to workers or the public from Naval Reactors activities is within Federal limits, and no significant findings result from environmental inspections by State and Federal regulators. (MET GOAL)

FY 1999 Targets and Assessments

(1) Ensure that radiation exposures to workers or the public from Naval Reactors' activities is within Federal limits, and no significant findings result from environmental inspections by State and Federal regulators. (MET GOAL)

GPRA Program Activity: NNSA Program Direction

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Office of the Administrator	NA (MA)			*	*	*	*

* – In accordance with OMB statement of Federal Financial Standards number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, these costs were allocated to the programs and are not reported separately.

Description:

The Office of the Administrator provides funding for the Federal workforce responsible for oversight of the operation of the National Nuclear Security Administration (NNSA) through NNSA Program Direction; and for the Emergency Operations Federal workforce through Emergency Operation Program Direction.

- NNSA Program Direction supports Federal personnel and resources necessary to plan, manage, and oversee the NNSA mission at Headquarters; the Albuquerque, Nevada, Oak Ridge, Oakland, Chicago, and Savannah River Operations Offices; and the International Offices in Moscow, Paris, Tokyo, Kiev, and Vienna. Program Direction funding necessary to support the Secure Transportation Asset and Naval Reactors is not included in this program.
- Emergency Operations Program Direction supports Federal personnel and resources necessary to plan, manage, and oversee the Emergency Operations mission at Headquarters and provide travel funds to Chicago, Idaho, Oak Ridge, Oakland, Richland, and Savannah River.

Business Practices (NS5-1)

Deploy new business practices to create an integrated nuclear security enterprise.

FY 2002 Targets and Results

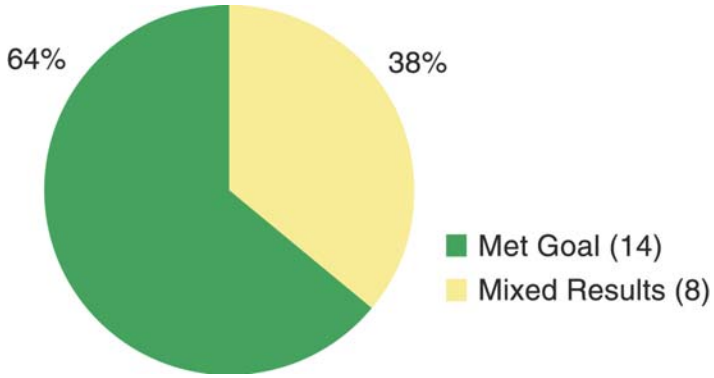
Target: Implement a single integrated NNSA-wide personnel controls system. **Result:** NNSA established an independent Office of Human Resources to provide the full range of personnel services and programs to NNSA HQ, and provide overall policy and program coordination with the NNSA field offices. The office of Human Resources services 600 people at HQ. In addition, NNSA developed and implemented a comprehensive Excepted Service Personnel system to implement the authority provided to the Administrator under the NNSA Act. This authority was implemented at the eight NNSA Field sites and covers 285 NNSA employees. NNSA will pursue additional excepted service authority with OMB during the FY 2004 budget cycle. NNSA further established an Executive Resources Board (ERB) to manage NNSA executive resources based on the delegated authority from the Secretary. Together, these efforts constitute the NNSA personnel system. (MET GOAL)

Science

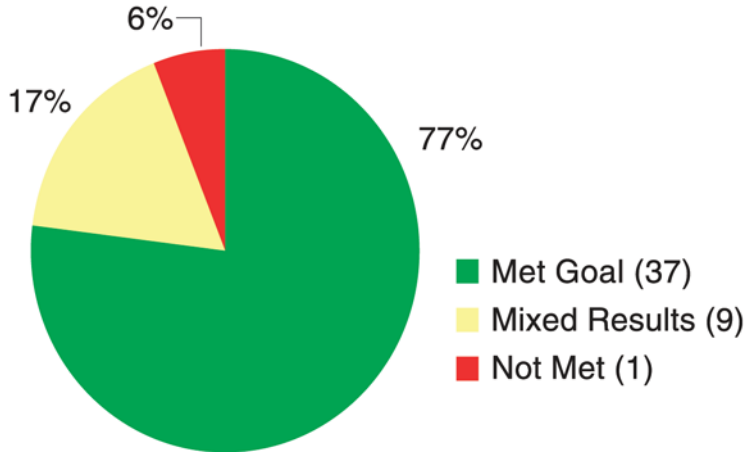
Goal: Deliver scientific knowledge and discoveries for the Department of Energy's applied missions; advance the frontiers of the physical sciences and areas of biological, physics, environmental and computational sciences; and provide world-class research facilities and essential scientific human capital to the Nation's overall science enterprise.

The following pages contain detailed information on the results achieved for the revised Science program's performance goals and targets for FY 2002 as presented in the FY 2003 Annual Performance Plan. There were 22 Program Strategic Performance Goals (PSPGs) in FY 2002 for the Science programs. The overall results are:

Program Strategic Performance Goals



Annual Targets



GPRA Program Activity: High Energy Physics

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($Million) FY02	FY01	FY00	FY99
High Energy Physics	SC	20	High Energy Physics	727	700	675	677

Description:

The mission of the High Energy Physics (HEP) program is to understand the universe at a fundamental level by investigating the elementary particles that are the basic constituents of matter and the forces between them, thereby underpinning and advancing DOE missions and objectives through the development of cutting-edge technologies and trained manpower that provide unique support to these missions. This program will provide world-class, peer-reviewed research results in HEP and related fields, including particle astrophysics and cosmology, executing a long-range strategy for HEP research and technology.

Conduct Experimental Research Program (SC1-1)

Exploit U.S. leadership at the energy frontier by conducting an experimental research program that will establish the foundations for a new understanding of the physical universe.

FY 2002 Targets and Results

Target: Deliver integrated luminosity as planned (80 pb-1) to the Collider Detector Facility (CDF) and D-Zero at the Tevatron. Begin implementation of the second phase of accelerator upgrades: install four performance improvements to existing systems, and begin design and construction of two new systems. **Result:** Delivered integrated luminosity as planned (80 pb-1) to Collider Detector Facility (CDF) and D-Zero at the Tevatron. Began implementation of the second phase of accelerator upgrades: installed four performance improvements to existing systems, and began design and construction of two new systems. (MET GOAL)

FY 2001 Targets and Assessments

(1) Responded to the priorities and recommendations contained in the long-range plan of the DOE/National Science Foundation (NSF) Nuclear Science Advisory Committee (NSAC) on the Department's Nuclear Physics program. (MET GOAL)

(2) Completed first phase of upgrades to enable the Tevatron at Fermilab to run with much higher luminosity. Began commissioning of phase-one accelerator upgrades. (MET GOAL)

(3) Completed and commissioned upgrades of CDF and D-Zero detectors at the Tevatron facility at Fermilab. (MET GOAL)

FY 2000 Targets and Assessments

(1) Operated the B-factory at the Stanford Linear Accelerator Center, the Main Injector for the Tevatron at Fermilab, the Thomas Jefferson National Accelerator Facility, and the Relativistic Heavy Ion Collider at Brookhaven National Laboratory (BNL), and delivered on FY 2000 U.S./DOE commitments to the international Large Hadron Collider project. (MET GOAL)

(2) Moved the newly upgraded D-Zero and CDF detectors at Fermilab into position in the Main Injector tunnel, and began commissioning in the third quarter of the fiscal year. (NEARLY MET GOAL)

Plan of Action: The Office of Science has developed extensive plans specific to each detector to adjust to any possible, last-minute delays, virtually assuring a successful start-up of Run II on the present schedule of March 2001. In the case of D-Zero, the plan calls for the installation of a partial Silicon Tracker system, if necessary to hold the schedule, which would be augmented during a Collider shutdown at a later date. This scenario would allow the D-Zero detector to be efficiently commissioned, although full physics capability would be delayed by up to six months. In FY 2001, successful start-up of Run II and installation of the Silicon Tracker system were successfully completed.

(3) Furthered the progress on achieving luminosity and operational efficiency for the Tevtron at Fermilab in its new mode of operation with the recently completed Main Injector. (MET GOAL)

(4) Continued collaborative efforts with NASA on space science and exploration. (MET GOAL)

FY 1999 Targets and Assessments

(1) Delivered on 1999 US/DOE commitments to the international Large Hadron Collider project. (MET GOAL)

(2) Continued collaborative efforts with National

Aeronautics and Space Administration (NASA) on space science and exploration. (MET GOAL)

Explain Absence of Antimatter in Universe (SC1-2)

Explain the observed absence of antimatter in the universe through understanding of the phenomenon of Charge Parity (CP) Violation.

FY 2002 Targets and Results

Target: Measure Charge Parity (CP) violation in B mesons with an uncertainty of +/- 0.12. Precise measurement of CP violation will help advance understanding of the preponderance of matter over antimatter in the universe. **Result:** The BaBar Collaboration submitted a paper to Physical Review Letters in July 2002 with a measurement of CP violation in the simplest decay mode with a uncertainty +/-0.07. (MET GOAL)

Target: Add one new Radio Frequency (RF) station. **Result:** Completed in FY 2002. (MET GOAL)

Target: Increase the total data recorded by BaBar at the Stanford Linear Accelerator Center (SLAC) B-factory by delivering 35 fb-1 of total luminosity. **Result:** The B-Factory delivered over 40 fb-1 of data to the BaBar detector in FY 2002. (MET GOAL)

FY 2001 Targets and Assessments

(1) Delivered sufficient luminosity (25 fb-1) to double total BaBar data set. (MET GOAL)

(2) Added one new Radio Frequency (RF) station. (MET GOAL)

(3) BaBar collaboration published first unambiguous observation of Change Parity (CP) violation in B meson decays with an uncertainty of +/- 0.15. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Manage High Energy Physics Facility Operations (SC7-1A)

SC7-1A Manage High Energy Physics (HEP) facility operations to the highest standards of performance, using merit evaluation with independent peer review. Meet U.S. commitments to the accelerator and detector components of the Large Hadron Collider (LHC) facility now under construction.

FY 2002 Targets and Results

Target: Maintain and operate HEP forefront scientific facilities such that unscheduled downtime is less than 20 percent of the total scheduled operating time. **Result:** Tevatron unscheduled downtime during FY 2002 was reported at 18%. SLAC B-factory unscheduled downtime was only 14%. (MET GOAL)

Target: Meet the completion targets for the U.S. portion of the LHC project:

• Compact Muon Solenoid (CMS) - 77%

• Argonne Tandem Linac Accelerator System (ATLAS) - 72%

• Accelerator - 85% (MET GOAL) **Result:** CMS completion percentage was 71% in FY 2002; ATLAS was 73%; and the accelerator was 80%. Some elements of the U.S. LHC effort are inextricably linked to the LHC completion schedule, which was slipped by one year by CERN; therefore completion of certain components of the U.S. program was necessarily delayed. Also, CMS recently assumed additional scope, which had the effect of lowering the percentage completed. Nevertheless, CMS is on schedule to fulfill its obligations on time and within planned cost. With regard to the accelerator, there is sufficient schedule float that it will be finished on time. (MIXED RESULTS) **Plan Of Action:** The U.S. projects are revising their schedules to match the new LHC completion schedule, and carefuly worked out the end-game strategies. Revisions to the project completion date and funding profile have been developed and the Baseline Change Proposal has been submitted. ESAAB is scheduled for November 19 and FY 2004 budget request reflects these revised plans, which will result in 97% of project completion by end of FY 2005 and remaining 3% by end of FY 2008.

FY 2001 Targets and Assessments

(1) Met on time and within budget the scheduled U.S. DOE commitments to the international Large Hadron Collider (LHC) project, as reflected in the latest international agreement and corresponding plan. (MET GOAL)

(2) The completion figures for the U.S. portion of the LHC project were:

- CMS 61%
- ATLAS 61%
- Accelerator 68% (MET GOAL)

(3) HEP scientific facilities were scheduled and operated such that unscheduled downtime averaged about 20% of scheduled operating time. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Perform R&D and Support HEP Facilities (SC7-1B)

Perform the research and development needed to support the operation and upgrade of existing HEP facilities and to provide the tools and technology to develop new forefront facilities.

FY 2002 Targets and Results

Target: Complete construction of Linac Test Area at BNL for detailed targeting & capture studies. **Result:** Construction of Linac Test Area, which has enabled research and development tests has been completed. (MET GOAL)

Target: Demonstrate operation of 11.4 GHz accelerating structure for an NLC at 75 MV/m without significant structural damage. **Result:** The 11.4 GHz accelerating structures to be used in the Next Linear Collider (NLC) operated successfully at an accelerating gradient of 75 Mv/m without significant structural damage from voltage breakdown in the body of the accelerating structure. (MET GOAL)

FY 2001 Targets and Assessments

(1) Demonstrated that 50 MV/m accelerating gradients in 11.4 GHz Next Linear Collider (NLC) accelerating structures are sustainable without significant structure damage. (MET GOAL)

(2) At BNL, successfully completed initial tests of carbon and mercury jet targets for the next generation of proton-driven accelerators. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Nuclear Physics

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Nuclear Physics	SC	20	Nuclear Physics	430	391	379	327

Description:

The mission of the Nuclear Physics (NP) program is to foster fundamental research in nuclear physics that will provide new insights and advance our knowledge on the nature of matter and energy, and to develop the scientific knowledge, technologies, and trained manpower necessary to underpin the DOE's missions for nuclear-related national security, energy, and environmental quality. The Program provides world-class, peer-reviewed research results and operates accelerator facilities in the scientific disciplines encompassed by the NP mission areas, under the mandate provided in Public Law 95-91, which established the Department of Energy.

Determine Structures of Nucleons & Measure Effects (SC2-1)

Determine the structure of nucleons in terms of bound states of quarks and gluons. Measure the effects of this structure on the properties of atomic nuclei.

FY 2002 Targets and Results

Target: Commission polarized protons at the Relativistic Heavy Ion Collider (RHIC) for research programs directed at understanding the spin structure of the proton. **Result:** Polarized proton beams were successfully commissioned at RHIC and an initial measurement was made. A polarization of 25% was achieved for beams at 100 GeV. (MET GOAL)

Target: As elements of the electron beam program, (a) complete commissioning of the BLAST detector at MIT/Bates and initiate first measurements, and (b) complete fabrication, installation and commissioning of the G0 detector, a joint National Science Foundation-DOE project, at Thomas Jefferson National Accelerator Facility (TJNAF). **Result:** (a) The commissioning of the BLAST detector is proceeding and commissioning is scheduled for October 31, 2002. (b) The G0 detector has been fabricated and installed at Thomas Jefferson National Accelerator Facility and commissioned. It is ready for beam. (MIXED RESULTS)

FY 2001 Targets and Assessments

(1) Continued construction of the Neutrinos at the Main Injector (NUMI) Project, meeting milestones as detailed in the benchmark plan. (BELOW EXPECTATION)

Plan of Action: Costs for the project have increased. Initial cost estimates did not reflect the competitive construction economy in the Chicago area, necessitating a rebid process leading to a delay of about six months. This, coupled with the increased cost for technical components of the beam line, largely associated with shielding and installation, is the cause for the increased costs and delays. For these reasons, Fermilab proposed that the project be re-baselined for the FY 2003 budget cycle to restore cost and schedule contingency. A May 2001 Review Committee concurred in the project managment decision to re-baseline the project in connection with the FY 2003 budget cycle, but the committee did not endorse the cost estimate and schedule that were presented.

(2) Completed fabrication of the Bates Large Acceptance Spectrometer (BLAST) detector at Massachusetts Institute of Technology (MIT) in accordance with the project milestones. (MET GOAL)

(3) As elements of the electron beam program, (a) completed fabrication of the BLAST detector at MIT/Bates in accordance with project milestones, and (b) conducted precise studies of nucleon structure, including studies of the proton's internal charge distribution and role of Quantum Chromodynamics (QCD) in nuclear structure by delivering high intensity (140 micro amps), highly polarized (75%) electron beams with Continuous Electron Beam Accelerator Facility (CEBAF) at Thomas Jefferson National Accelerator Facility (TJNAF). (MET GOAL)

FY 2000 Targets and Assessments

(1) Advanced knowledge from experiments at the RHIC to see possible evidence of the predicted quark-gluon plasma (a high-temperature, high-density state of nuclear matter that may have existed a millionth of a second after the "Big Bang"). (MET GOAL)

FY 1999 Targets and Assessments

(1) Completed construction and begin operation of the RHIC at the Brookhaven National Laboratory. (MET GOAL)

Determine Behavior of nuclear Matter (SC2-2)

Determine the behavior and properties of hot, dense nuclear matter as a function of temperature and density. Discover and characterize the quark-gluon plasma.

FY 2002 Targets and Results

Target: Complete Helium Storage addition and liquid nitrogen standby cooling system at RHIC, leading to better cost effectiveness ($0.5M savings) and operational efficiency (10% increase). **Result:** The Helium Storage addition was completed in FY 2002. The nitrogen standby cooling system, which is 95% completed, has been delayed six months due primarily to the vendor's delivery schedule. (MIXED RESULTS) **Plan of Action:** Although completion of the nitrogen standby cooling system is delayed, it will not impact the RHIC operating cycle, which will occur in FY 2003 as planned. Overall, the RHIC project is on track and being reviewed quarterly to ensure project is completed as scheduled.

Target: Complete first round of experiments at RHIC at full energy; achieve the full design luminosity (collision rate) of 2 x 10^{26} per cm^2 per second for heavy ions. **Result:** The Relativistic Heavy Ion Collider (RHIC) facility produced heavy ion collisions at the full energy of 200 GeV per nucleon-nucleon collision, achieving a maximum collision rate (luminosity) of 2 x $10^{26}cm^2$/second, with data recorded from collisions in all four heavy-ion detectors. The first round of physics experiments at full energy has been completed, with 37 papers either published or submitted for publication to refereed journals. (MET GOAL)

FY 2001 Targets and Assessments

(1) Produced first heavy-ion collisions at the Relativistic Heavy Ion Collider RHIC (construction completed FY 1999) at 10% of its design luminosity, as planned, with four experimental detectors. Published first results of heavy-ion collisions. (MET GOAL)

(2) Continued major accelerator improvement projects at RHIC in order to improve machine reliability and efficiency. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Determine and Use Properties of Nuclei (SC2-3)

Determine the low energy properties of nuclei, particularly at their limits of stability. Use these properties to understand energy generation and the origin of the elements in stars, and the fundamental symmetries of the "Standard Model" of elementary particle physics.

FY 2002 Targets and Results

Target: Construct a prototype high-energy, high-power gas catcher for RIA. **Result:** The assembly of the mechanical parts of the seven sections of the main body was completed and the complete full-scale gas catcher was installed successfully. (MET GOAL)

Target: Collect the first data from neutral current interactions from SNO. **Result:** Data has been collected from the SNO and the initial results have been published. (MET GOAL)

FY 2000 Targets and Assessments

(1) Produced first results on the solar neutrino flux with the Sudbury Neutrino Observatory (SNO). SNO measures properties of solar neutrinos. (MET GOAL)

(2) Tested low-energy prototype of RIA fast catcher and tested low-beta accelerator cavities. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Manage Nuclear Physics Facilities and Measure Progress (SC7-2)

Manage all Nuclear Physics (NP) facility operations and construction to the highest standards of overall performance, using merit evaluation with independent peer review.

FY 2002 Targets and Results

Target: Meet the cost and schedule milestones for construction of facilities and Major Items of Equipment (MIE) within 10% of baseline estimates. Complete the Pioneering High Energy Nuclear Interacting Experiment (PHENIX) Muon Arm Instrumentation. **Result:** Costs and sched-

ules of MIE are within 10% of baseline estimates. PHENIX MIE was completed this quarter, six months ahead of schedule. (MET GOAL)

Target: Maintain and operate NP scientific user facilities so that the unscheduled operational downtime will be less than 20%, on average, of total scheduled operating time. **Result:** All facilities operated in FY 2002 with unscheduled operational downtime at less than 20%. Through the fourth quarter, the user facilities reported the following performance:
Facility/Research Hours/Unscheduled Downtime Hours/% Downtime ATLAS / 5486/275/5%; HRIBF/ 4248/720/15%; 88" Cyclotron/4478/364/5%; TJNAF/3961/528/12%; MIT-Bates/5558/774/12%; RHIC/2109/469/18%. (MET GOAL)

FY 2001 Targets and Assessments

(1) Maintained and operated NP scientific user facilities so that the unscheduled operational downtime was 15%, on average, of total scheduled operating time. (MET GOAL)

(2) Met the cost and schedule milestones for construction of facilities and Major Items of Equipment within 10% of baseline estimates. Completed the Analysis System for Relativistic Heavy Ion Collider (RHIC) Detectors and RHIC Silicon Vertex Detector on schedule. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Biological and Environmental Research

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Biological & Environmental Research	SC	20	Biological & Environmental Research	442	425	397	397

Description:

For over 50 years, the Biological and Environmental Research (BER) program has been advancing environmental and biomedical knowledge that promotes national security through improved energy production, development, and use; international scientific leadership that underpins our Nation's technological advances; and environmental research that improves the quality of life for all Americans. BER supports these vital national missions through competitive and peer-reviewed research at National Laboratories, universities, and private institutions. In addition, BER develops and delivers the knowledge needed to support the President's *National Energy Plan*, provides the science base in support of the Energy Policy Act of 1992, and works cooperatively with DOE's national security programs to develop tools to combat terrorism.

Determine, Compare, and Analyze DNA Sequences (SC3-1)

Determine, compare, and analyze DNA sequences of microbes and other organisms that will underpin development of biotechnology solutions for clean energy, carbon sequestration, environmental cleanup, and bioterrorism detection and defeat.

FY 2002 Targets and Results

Target: Produce draft DNA sequence of more than 30 microbes that cover a range of functional relevance to DOE's life and environmental sciences and security missions, including carbon sequestration, environmental cleanup, bioremediation, and bioterrorism. **Result:** The DOE Joint Genome Institute (JGI) has draft sequenced 35 microbes. Of these 35 microbes, 11 are relevant to bioterrorism concerns. The remaining 24 organisms are relevant to the other DOE missions. (MET GOAL)

Target: By the end of FY 2002, the DOE JGI will complete the high quality DNA sequencing of human chromosomes 16 and 19 and produce six billion base pairs of DNA sequence from model organisms (*e.g.*, mouse, Fugu, and Ciona) to help understand the human sequence as part of the Human Genome Program. **Result:** JGI has completed the high quality sequencing of Human Chromosome 19, approximately 92% of Human Chromosome 16, and 97% of Human Chromosome 5. The JGI has also produced seven billion bases of sequences completing the draft sequencing of Fugu (the pufferfish) and Ciona (the sea squirt) as its contribution to the Human Genome Program. Our current assessment is that both Human Chromosomes 16 and 5 will be completed by the end of calendar year 2002. (NOT MET) **Plan of Action:** Although DOE JGI was more productive in FY 2002 than anticipated, completion of chromosome 16 was delayed two months to support an accelerated sequencing completion date for all chromosomes by end of calendar year 2002 that was imposed by the International Human Genome Program (IHGP) during FY 2002. The deadline for finishing the Human Genome was pushed forward by one year as well. Chromosomes 5 and 16 will be completed to the international standard by December.

FY 2001 Targets and Assessments

(1) By the end of FY 2001, JGI completed the sequencing and submission to public databases of 100 million finished and 250 million high quality draft base pairs of DNA, including both human and model organisms (*e.g.*, the mouse) as part of the Human Genome Program. (MET GOAL)

(2) Completed the genetic sequencing of at least three additional microbes that produce methane or hydrogen from carbonaceous sources, or that could be used to sequester carbon, as part of the Microbial Genomics and Carbon Sequestration programs. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed the sequencing of 50 million subunits of human DNA to submit to publicly accessible databases in FY 2000. (MET GOAL)

FY 1999 Targets and Assessments

(1) Completed sequencing of 30 million subunits and the draft sequence of 30 million additional subunits of human DNA for submission to publicly

accessible databases. (NEARLY MET GOAL)

Plan of Action: The Department's human genome program (HGP) contribution to the determination of the complete DNA sequence is part of a coordinated international effort. During the first months of FY 1999, the DNA sequencing goals of this international effort underwent significant discussion and change. As a result, the international community agreed to complete a high quality draft of the human genome in the spring of 2000 and to determine the complete sequence of the human genome by 2003, both goals several years ahead of the original schedule. The high quality working draft of the human genome will provide scientists and medical researchers with much of the information they need to begin unraveling the mysteries of life and for developing new drugs and medical treatments several years before the complete sequence is available.

Establish Foundation for Safe Atmosphere Levels (SC3-2)

Establish the scientific foundation for determining a safe level of greenhouse gases and aerosols in the atmosphere by resolving or reducing key uncertainties in predicting their effects on climate, and provide the foundation to predict, assess, and mitigate potential adverse effects of energy production and use on the environment.

FY 2002 Targets and Results

Target: Develop and test a fully coupled atmosphere-ocean-land-sea-ice climate model that has twice the spatial resolution of coupled models available in FY 2000 as part of the Climate Modeling and Prediction research. Support multi-disciplinary teams of scientists at multiple institutions using DOE supercomputers to perform model simulations, diagnostics and testing. **Result:** The new coupled model was released in May 2002, with an average resolution of 280 km in the atmosphere and 60 km in the ocean. The previous version had resolutions of 200 km and 200 km, respectively. An 800-year equilibrium climate simulation was executed at the National Energy Research Supercomputer Center. (MIXED RESULTS) **Plan of Action:** Testing is underway using atmospheric configurations of 140 km, 70 km, and 35 km. A fully tested version of the coupled model with 140 km atmospheric resolution is over 80% complete and will be ready by the end of December 2002.

FY 2001 Targets and Assessments

(1) Conducted five Intensive Operations Periods (IOPs) on schedule at the Atmospheric Radiation Measurement (ARM) Southern Plains site in Oklahoma. Obtained data from second station on the North Slope of Alaska, and made the third station in the Tropical Western Pacific on Christmas Island operational on schedule and within budget, in accordance with the program plan. (EXCEEDED GOAL)

FY 2000 Targets and Assessments

(1) Continued ARM accomplishments by conducting five intensive operations periods at the ARM Southern Great Plains site. Data was obtained from the second station on the North Slope of Alaska. The third station in the Tropical Western Pacific, on Christmas Island, became operational. (MET GOAL)

(2) Proceeded with the development of the next generation coupled ocean-atmosphere climate model, leading to better information for assessing climate change and variability at regional rather than global scales. This next generation model changed grid size from the current 300-500 kilometers on a side to less than 200 kilometers on a side. (MET GOAL)

(3) In cooperation with NASA, NSF, USDA/Forest Service, and the Smithsonian Institution, provided quantitative data on the annual exchange of carbon dioxide between the atmosphere and terrestrial ecosystem from 25 AmeriFlux sites representing major types of ecosystem and land uses in North and Central America. Provided data on the effect of environmental factors, such as climate variation, on the net sequestration or release of carbon dioxide and the role of biophysical processes controlling the net exchange. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Manage Biological & Environmental Research Facility Operations (SC7-3)

Manage all Biological & Environmental Research (BER) facility operations and construction to the highest standards of overall performance, using merit evaluation with independent peer review.

FY 2002 Targets and Results

Target: Maintain and operate the BER scientific user facilities so the unscheduled downtime averages less than 10% of the total scheduled operating time. **Result:** The Environmental Molecular Sciences Laboratory (EMSL) has been open to users 24 hours, with over 100 unique instruments that receive mixed usage (high performance computer, nuclear magnetic reso-

nance spectrometers, *etc.*) (MET GOAL)

Target: Keep within 10% of cost and schedule milestones for upgrades and construction of scientific user facilities; begin acceptance testing of the new high performance computer at the Environmental Molecular Sciences Laboratory (EMSL) at the Pacific Northwest National Laboratory (PNNL); continue construction of the CCFG at ORNL. **Result:** The first phase of the new high performance computer for the Environmental Molecular Sciences Laboratory (EMSL) was delivered on time in early May 2002. Several benchmark tests have been performed on the 64-processor prototype system, and the system has performed as well as or better than expected. Construction of the Laboratory for Comparative and Functional Genomics at Oak Ridge National Laboratory remains on schedule and on target. (MET GOAL)

FY 2001 Targets and Assessments

(1) Upgrades and construction of scientific user facilities were kept within 10% of cost and schedule milestones. Commissioning of the protein crystallography Structural Biology User Station at the Los Alamos National Laboratory was initiated, and construction of the Center for Comparative and Functional Genomics at Oak Ridge National Laboratory was initiated. (MET GOAL)

(2) The BER scientific user facilities were maintained and operated so the unscheduled downtime averaged less than 10% of the total scheduled operating time. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Basic Energy Sciences

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Basic Energy Sciences	SC	20	Basic Energy Sciences	696	685	665	670

Description:

Basic Energy Sciences (BES) and its predecessor organizations have supported a program of fundamental research focused on critical mission needs of the Nation for over five decades. The diversified program was established as the Division of Research in the Atomic Energy Commission in 1946, and was later renamed Basic Energy Sciences as it continued to grow through legislation included in the Atomic Energy Act of 1954, the Energy Reorganization Act of 1974, the Department of Energy Organization Act of 1977, and the Energy Policy Act of 1992.

Today, the mission of the BES program—a multi-purpose, scientific research effort—is to foster and support fundamental research in focused areas of the natural sciences, in order to expand the scientific foundations for new and improved energy technologies, and to understand and mitigate the environmental impacts of energy use. BES delivers the knowledge needed to support the President's *National Energy Plan* for improving the quality of life for all Americans. In addition, BES works cooperatively with other agencies and the programs of the National Nuclear Security Administration (NNSA) to discover knowledge and develop tools to strengthen national security and combat terrorism. As part of its mission, the BES program plans, constructs, and operates major scientific user facilities to serve researchers at universities, national laboratories, and industrial laboratories.

Build Research Programs in Scientific Disciplines (SC4-1)

Build leading research programs in the scientific disciplines encompassed by the Basic Energy Science mission areas and provide world-class, peer-reviewed research results cognizant of DOE needs as well as the needs of the broad scientific community.

FY 2002 Targets and Results

Target: Evaluate the following ongoing efforts using Basic Energy Science Advisory Committee (BESAC) and BES sponsored workshops, with the goal of direction, the activities toward international leadership and relevance to emerging technologies: superconductivity. Publish results and continue to structure BES programs in accordance with these results. **Result:** The Materials Sciences and Engineering subprogram conducted a workshop entitled "High Temperature Superconductivity" on April 6-8, 2002, in San Diego, CA to assess the leadership and relevance of superconductivity research. A report has been published and is available. Future BES superconductivity research will continue to be funded in light of the workshop results. (MET GOAL)

Target: As part of the continuing, high-level review of management processes and the quality, relevance, and national and international leadership of BES programs, review chemical sciences activities using a BESAC-chartered Committee of Visitors. **Result:** The Chemical Sciences, Geosciences, and Energy Biosciences subprogram was the first organization in Basic Energy Science that was reviewed by a Committee of Visitors (COV) in February 2002. The COV is a scientifically recognized and accepted means of evaluating research programs, program quality, and the effectiveness of program administration. Although too numerous to list here, the results of the COV report and its recommendations can be viewed at the web address listed below in the References. (MET GOAL)

Target: Competitively select and peer review at least 80% of all new research projects, and evaluate approximately 30% of ongoing projects using guidelines defined in 10 CFR 605 for the university projects and similar guidelines established by BES for the laboratory projects. **Result:** Ninety-eight percent of all FY 2002 new BES-supported research projects were competitively selected and peer reviewed, and approximately one-third of ongoing projects received peer review during FY 2002. (MET GOAL)

FY 2001 Targets and Assessments

(1) Used expert advisory committees and rigorous peer review committees to ascertain that the research performed by investigators in universities and DOE laboratories is focused and outstanding. An additional indicator of the success of our scientific research was recognition through the awards received by our researchers and by the broader scientific community. (MET GOAL)

FY 2000 Targets and Assessments

(1) Maintained the high quality and relevance of DOE's science research effort as evaluated by annual peer reviews and advisory committees. (MET GOAL)

(2) Continued Partnerships for Academic-Industrial Research, in which peer reviewed grants are awarded to university researchers for fundamental, high-risk work jointly defined by academic and industrial research partners. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Enable U.S. Leadership in Nanoscale Science (SC4-2)

Enable U.S. leadership in nanoscale science, allowing the atom-by-atom design of materials and integrated systems of nanostructured components having new and improved properties for applications as diverse as high-efficiency solar cells and better catalysts for the production of fuels.

FY 2002 Targets and Results

Target: Award 40 grants to universities and six projects at DOE laboratories in selected areas of nanoscale science, engineering, and technology. **Results:** Forty-six new grants were awarded to universities. Twelve projects at DOE laboratories were initiated in selected areas of nanoscale science, engineering, and technology. (MET GOAL)

Target: Begin engineering and design of three Nanoscale Science Research Centers (NSRC). Complete six percent of total Project Engineering Design (PED) at LBNL, 60% at ORNL, and 24% at SNL by the end of FY 2002. **Result:** Project Engineering Design was begun on three Nanoscale Science Research Centers (NSRC). PED funding was obligated to LBNL (6% complete), ORNL (60% complete), and SNL (24% complete). (MET GOAL)

FY 2001 Targets and Assessments

(1) Initiated 76 grants to universities (from 417 grant applications) and 12 projects at DOE laboratories (from 46 Field Work Proposals) in selected areas of nanoscale science, engineering, and technology. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Manage Basic Energy Sciences Facility Operations (SC7-4A)

Manage Basic Energy Sciences (BES) facility operations and construction to the highest standards of overall performance using merit evaluation with independent peer review.

FY 2002 Targets and Results

Target: Maintain and operate the BES scientific user facilities so that unscheduled downtime averages less than 10% of the total scheduled operating time. Maintain the cost and schedule milestones within 10% for upgrades and construction of scientific user facilities. **Result:** Basic Energy Sciences' seven major user facilities have operated an average 96.1% of their scheduled operating times in FY 2002. In addition, no shutdowns occurred at these major facilities in FY 2002. (MET GOAL)

Target: Continue upgrades on the major components of the SPEAR 3 storage ring at the Stanford Synchrotron Radiation Laboratory (SSRL), maintaining cost and schedule within 10% of baseline. At the end of FY 2002, the upgrade of SPEAR 3 will be 70% complete. **Result:** The SPEAR 3 storage ring at the SSRL was on cost and schedule to within 10% of baseline and 71% complete in FY 2002. (MET GOAL)

FY 2001 Targets and Assessments

(1) Maintained and operated the scientific user facilities so that the unscheduled downtime averaged less than 10% of the total scheduled operating time. (MET GOAL)

FY 2000 Targets and Assessments

(1) Met the cost and schedule milestones for the upgrade and construction of scientific facilities. (MET GOAL)

(2) Continued fabrication of instrumentation for the short-pulse spallation source at the Manual Lujan Jr. Neutron Scattering Center at the Los Alamos Neutron Science Center (LANSC). (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Restore U.S. Prominence in Neutron Research (SC7-4B)

Restore U.S. preeminence in neutron scattering research, instrumentation, and facilities to provide researchers with the tools necessary for the exploration and discovery of advanced materials.

FY 2002 Targets and Results

Target: Select and begin fabrication of one additional instrument for the Spallation Neutron Source (SNS). **Result:** With two new grants selected and awarded, fabrication of instrumentation at the Spallation Neutron Source has begun. (MET GOAL)

Target: Continue construction of the SNS, meeting the cost and timetables within 10% of the baselines in the construction project data sheet, Project Number 99-E-334. At the end of FY 2002, construction of the SNS will be 47% complete. **Result:** The Spallation Neutron Source construction, project number 99-E-334 was 51% completed, on cost/schedule and within 10% of the baseline construction project data sheet. (MET GOAL)

FY 2001 Targets and Assessments

(1) Met the cost and schedule milestones for upgrade and construction of scientific user facilities, including the construction of the SNS. (MET GOAL)

FY 2000 Targets and Assessments

(1) Continued construction of the SNS, meeting cost and timetables as contained in the Critical Decision II agreement, to provide beams of neutrons used to probe and understand the physical, chemical, and biological properties of materials at an atomic level leading to better fibers, plastics, catalysts, and magnets and improvements in pharmaceuticals, computing equipment, and electric motors. (MET GOAL)

FY 1999 Targets and Assessments

(1) Began Title I design activities, initiated subcontracts and long-lead procurements, and continued R&D work necessary to begin construction activities of the SNS. (MET GOAL)

GPRA Program Activity: Advanced Scientific Computing Research

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Advanced Scientific Computing Research	SC	20	Advanced Scientific Computing Research	159	122	137	144

Description:

The mission of the Advanced Scientific Computing Research (ASCR) program is to foster and support fundamental research in advanced scientific computing—applied mathematics, computer science, and networking—and to provide the high performance computational and networking tools that enable DOE to succeed in its science, energy, environmental quality, and national security missions.

Build Research Programs in Focused Disciplines (SC5-1)

Build leading research programs in the focused disciplines of applied mathematics, computer science, and network and collaboratory research important to national and energy security to spur revolutionary advances in the use of high performance computers and networks.

FY 2002 Targets and Results

Target: Complete the development of the Cougar lightweight kernel for clusters of Alpha processor-based computers, and begin the assessment of scalability and performance for selected applications. **Result:** The Cougar lightweight kernel operating system for the Accelerated Strategic Computing Initiative (ASCI) Red machine has been ported to CPlant at Sandia National Laboratory. This port takes maximum advantage of the open-source Linux kernel and enables a direct comparison of application performance on the CPlant system under the normal Linux full-kernel operating system and the ported microkernel, thus completing the lightweight kernel operating system. Applications assessment and scalability has begun. (MET GOAL)

FY 2001 Targets and Assessments

(1) Initiated project to understand the advantages and issues associated with lightweight kernel operating systems rather than full kernels for the compute nodes of extreme-scale scientific computers. (MET GOAL)

FY 2000 Targets and Assessments

(1) Develop advanced computing capabilities, computational algorithms, models, methods, libraries, and advanced visualization and data management systems to enable new computing applications to science. (MET GOAL)

FY 1999 Targets and Assessments

(1) Provide fundamental research in environmental sciences, biology, molecular sciences, and computational modeling that will underpin the cleanup of contaminated sites. (MET GOAL)

Create Mathematical & Computing Systems Software (SC5-2)

Create the Mathematical and Computing Systems Software and the High Performance Computing Facilities that enable Scientific Simulation and Modeling Codes to take full advantage of the extraordinary capabilities of terascale computers, and the Collaboratory Software Infrastructure to enable geographically-separated scientists to effectively work together as a team as well as provide electronic access to both facilities and data.

FY 2002 Targets and Results

Target: Achieve operation of the IBM-SP computer at 5.0 teraflop "peak" performance. These computational resources will be integrated by a common high performance file storage system that facilitates interdisciplinary collaborations. Transfer the users with largest data processing and storage needs to the IBM-SP from the

previous generation Cray T3E. **Result:** Phase two of the National Energy Research Scientific Computing Center-3 (NERSC) system was brought online at the end of FY 2001. This 3,328-processor IBM-SP system achieved a peak performance of five teraflop/second during FY 2002, NERSC has increased disk cache and added Fibre Channel disks. Archive storage was also expanded. Approximately 400 Cray T3E users are being transferred to the higher performance computing IBM-SP. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

Continued to fabricate, assemble, and operate premier supercomputer and networking facilities that serve researchers at national laboratories, universities and within industry, enabling understanding of complex problems and effective integration of geographically distributed teams in national collaborations. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Provide Advanced Scientific User Facilities (SC7-5)

Provide 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 ten percent of schedule and budget; and facility technology research and development programs meet their goals.

FY 2002 Targets and Results

Target: Deliver preliminary report on Advanced Scientific Computing Advisory Committee (ASCAC) review of ASCR high performance computing facilities. **Result:** The ASCAC preliminary report on the ASCR high-performance computing facilities was received in May 2002 at the Advisory Committee meeting. The scope of the facilities assessment activity was broadened by the Director of Science to include addressing the Japanese challenge to U.S. supercomputing primacy represented by the Earth Simulator. (MET GOAL)

Target: Maintain and operate facilities, including NERSC and ESnet, so the unscheduled downtime on average is less than 10% of the total scheduled operating time. **Result:** The National Energy Research Scientific Computing Center (NERSC) has reached an unscheduled downtime on the high performance computing capabilities of the T3E of 0.54%, and on the IBM-SP, 1.26%. ESnet has successfully achieved an unscheduled downtime of only 0.2%. (MET GOAL)

FY 2001 Targets and Assessments

(1) Operated facilities, including the National Energy Research Scientific Computing Center (NERSC) and ESnet, within budget while meeting user needs and satisfying overall SC program requirements. NERSC delivered 3.6 teraflop capability at the end of FY 2001 to support DOE's science mission. (EXCEEDED GOAL)

(2) Initiated the review of ASCR high performance computing facilities by the ASCAC. (MET GOAL)

(3) Expanded and increased access to published and preprinted scientific and technical information via cost-effective, specialized information retrieval systems, resulting in a 25% increase in users served. (EXCEEDED GOAL)

FY 2000 Targets and Assessments

Increased the availability of peer-reviewed scientific journal literature, preprints, and reports to DOE and the public by 25% over FY 1999 through collaborations with publishers, data compilers, exchange partners, and R&D programs using Web-based mechanisms. (EXCEEDED GOAL)

Met 75% of the requirements of computer facilities and networks users. (NEARLY MET GOAL)

Plan of Action:

In the case of both ESnet and NERSC, the demand for computing capabilities far exceede what current resources are able to provide. To address this problem NERSC will continue using peer reviews and focus on the Office of Science's highest priority research to allocate limited resources to achieve optimum scientific output from the facility. ESnet employs a number of innovative network management and contracting procedures to deliver the maximum amount of service for the minimum cost, as previously noted by external review committees.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Fusion Energy Sciences

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Fusion Energy Sciences	SC	20	Fusion Energy Sciences	256	263	237	224

Description:

The Fusion Energy Sciences (FES) program leads the national research effort to advance plasma science, fusion science, and fusion technology. Fusion offers the potential for abundant, safe, environmentally attractive, affordable energy. The science and the technology of fusion have progressed to the point that the next major research step is the exploration of the physics of a self-sustained plasma reaction in a burning plasma physics experiment. The Office of Science (SC) will fund research that supports such an experiment. In addition, SC will fund the exploration of innovative approaches to confining, heating, and fueling plasmas. In order to develop a predictive capability to design future fusion experiments and energy systems, unique, state-of-the-art experiments and theoretical models benchmarked against those experiments will be funded by SC. The characteristics of the materials used in the construction of fusion power plants will determine the environmental impact that those power plants will have on the environment. SC will support scientific research aimed at developing materials for fusion applications in coordination with its basic materials science program that will ensure that fusion-generated power will have a minimal environmental impact. SC will support and sustain basic plasma science research as the vital scientific core of the fusion program.

Develop Basis for Predicting Behavior of Plasma (SC6-1)

Develop the basis for a reliable capability to predict the behavior of magnetically confined plasma, and use the advances in the Tokamak concept to enable the start of the burning plasma physics phase of the U.S. fusion sciences program.

FY 2002 Targets and Results

Target: Successfully demonstrate innovative techniques for initiating and maintaining current in a spherical torus. **Result:** The National Spherical Torus Experiment (NSTX) has initiated plasma using Coaxial Helicity Injection and maintained high ratios of plasma pressure to applied magnetic pressure for increased durations by raising current drive while reducing induction. A number of these plasmas were operating in the High-Confinement-Mode (H-mode) lasting essentially the flattop duration of the plasma current. (MET GOAL)

Target: Use recently upgraded plasma microwave heating system and new sensors on DIII-D to study feedback stabilization of disruptive plasma oscillations. **Result:** These studies were successfully carried out in DIII-D in FY 2002, using the recently acquired electron cyclotron heating (ECH) power. Up to 4.0 MW of ECH power was deposited in selected regions of the plasma, using steerable ECH antennae, to drive additional plasma current. These currents alter the conditions for detrimental plasma oscillations and stabilize them to avoid disruptions. The stabilization of different modes of oscillations has been demonstrated, raising the performance of the plasma and extending its pulse length. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed, by June 2001, the 6 MW power upgrade of the DIII-D microwave system, and initiated experiments with it to control and sustain plasma current profiles, with the goal of maintaining improved confinement of plasma energy for longer periods of time. (BELOW EXPECTATIONS)

Plan of Action: While the completion of the upgrade to the Dill-D microwave power was delayed until March 2002 without additional cost to allow implementation of an innovative fix to a longstanding technical problem, the program obtained successful initial results on controlling and sustaining the current profiles with a lower level of available power. This fix will improve future operations.

(2) Improved nonlinear magnetohydrodynamics codes to be capable of computing the effect of realistic resistive walls and plasma rotation on advanced Tokamak pressure limits. (MET GOAL)

(3) Evaluated first physics results from the innovative Electric Tokamak at University of California Los Angeles (UCLA) to study fast plasma rotation and associated radial electric fields due to radio frequency-drive, in order to enhance plasma pressure in sustained, stable plasmas. (MET GOAL)

FY 2000 Targets and Assessments

(1) Maintained high scientific quality in the Energy

Research Program, as judged by the Program Advisory Committees. (MET GOAL)

(2) Operated the DIII-D Tokamak facility to test the feasibility of using increased radio frequency heating power, and improved power exhaust capabilities to extend the pulse length of advanced operating modes—a requirement for future fusion energy sources. (MET GOAL)

(3) Operated a novel magnetic fusion confinement device, the National Spherical Torus Experiment, with 0.5 mega-ampere plasma currents approaching 0.5-second pulse lengths, and one mega-ampere currents for shorter pulses. (MET GOAL)

(4) Made operational three innovative concept exploration experiments in fusion science—The LSX field-reversed configuration and the flow-through Z pinch, both at the University of Washington, and the Pegasus quasi-spherical toroidal plasma at the University of Wisconsin—providing basic scientific understanding of relevant concept phenomena. (MET GOAL)

FY 1999 Targets and Assessments

(1) Maintain high scientific quality in the Energy Research Program as judged by the Program Advisory Committees. (MET GOAL)

Develop Technologies for Fusion Energy Sciences (SC6-2)

Develop the cutting edge technologies that enable Fusion Energy Sciences (FES) research facilities to achieve their scientific goals and investigate innovations needed to create attractive visions of designs and technologies for fusion energy systems.

FY 2002 Targets and Results

Target: Complete measurements and analysis of thermal creep of Vanadium Alloy (V-4Cr-4Ti) in vacuum and lithium environments; determine controlling creep mechanisms and access operating temperature limits. **Result:** Measurements in vacuum completed in early FY 2002 and measurements in lithium were completed in FY 2002. Data analysis provided the basis for formulating models of mechanisms responsible for deformation by thermal creep at high temperatures. Advancement was made in fundamental understanding of impacts from impurities, especially oxygen, on deformation rates. (MET GOAL)

Target: Complete design and fabrication of the High-Power Prototype advanced ion-cyclotron radio frequency antenna that will be used at the Joint European Torus (JET). **Result:** All design work has been completed, and the fabrication and assembly of the components that ORNL is responsible for was ready for completion as scheduled by September 2002. However, the delivery of the capacitors that are to be provided by JET could not meet the same schedule and is expected to be delayed by about two months until November 2002. (MIXED RESULTS) **Plan of Action:** Since the delayed capacitors provide structural support for the inner conductor of the transmission line of the antenna, the whole assembly will not be completed as scheduled. Shipment of the capacitors is expected in November 2002, with final assembly to be completed by the end of December 2002.

FY 2001 Targets and Assessments

(1) By June 2001, entered into a new NSF/DOE Partnership in Basic Plasma Science and Engineering to provide continuity after the existing agreement ended, and initiated a new element of the U.S.-Japan collaborative program by the end of FY 2001. (NOT MET)

Plan of Action: The NSF partnership agreement that permits joint solicitation of basic plasma science studies, was signed in February 2002. The new element of the U.S.–Japan program was initiated as planned.

(2) Completed the DOE-Japan Atomic Energy Research Institute (JAERI) collaboration on fusion plasma chamber exhaust processing in the Tritium Systems Test Assembly (TSTA) facility at Los Alamos National Laboratories (LANL). (MET GOAL)

(3) Initiated a new U.S.-Japan collaborative program for research on enabling technologies, materials, and engineering science for an attractive fusion energy source. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Manage All Fusion Energy Sciences Facility Operations (SC7-6)

Manage all Fusion Energy Sciences (FES) facility operations and construction to the highest standards of overall performance, using merit evaluation and independent peer review.

FY 2002 Targets and Results

Target: Keep deviations in weeks of operation for each major facility within 10% of the approved plan. **Result:** The National Spherical Torus Experiment (NSTX) at the Princeton Plasma Physics Laboratory achieved its 12 planned weeks of operation in FY 2002, and is currently

undergoing minor modifications in preparation for operation in FY 2003. The Alcator C-Mod facility at Massachusetts Institute of Technology is currently in operation after having completed a major 9-month inspection of the integrity of the Tokamak core of the facility. The core was found to be satisfactory and the facility achieved its target of eight weeks of operation. The DIII-D facility at General Atomics achieved 12 of its planned 14 weeks of operation in FY 2002, and therefore did not achieve the target of operating at least 90% of the planned weeks. The facility was forced to shut down earlier than planned due to a water leak. (MIXED RESULTS) **Plan of Action:** To maintain the overall progress of the DIII-D research program, the decision was made to fix the leak and then proceed with other planned modifications of the facility in order to be ready to operate the facility at an optimum schedule in FY 2003, pending approval of the FY 2003 budget request. The leak has been repaired.

Target: Successfully complete within cost and in a safe manner all TFTR decontamination and decommissioning activities. **Result:** The Tokamak Fusion Test Reactor (TFTR) Decontamination and Decommissioning (D&D) project at Princeton Plasma Physics Laboratory was completed this year on cost and schedule. (MET GOAL)

Target: Keep deviations in cost and schedule for upgrades and construction of scientific user facilities within 10% of approved baselines. **Result:** The Lower Hybrid (LH) Heating System upgrade for the Alcator C-Mod facility at Massachusetts Institute of Technology is in its third year of fabrication and remains on cost and on schedule. The upgrade is scheduled to be complete in FY 2003. The Electron Cyclotron Heating (ECH) upgrade for the DIII-D facility at General Atomics is well over 80% complete and within cost. Two of the three heating tubes have performed to specification; however, the third tube developed a leak and is being repaired. (MIXED RESULTS) **Plan of Action:** Although repairs have to be made to the Electron Cyclotron Heating (ECH) tube, the final tests to the ECH are still on track and scheduled to be completed in FY 2003.

FY 2001 Targets and Assessments

(1) Kept deviations in cost and schedule for upgrades and construction of scientific user facilities within 10% of approved baselines. (MET GOAL)

(2) Achieved planned cost and schedule performance for dismantling, packaging, and offsite shipping of the Tokamak Fusion Test Reactor (TFTR) systems. (MET GOAL)

(3) Kept deviations in weeks of operation for each major facility within ten percent of the approved plan. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Science Management and Support

Plan GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Program Direction				*	*	**	**
Safeguards and Security (S&S)				*	*	**	**
Science Facilities and Infrastructure		20		10	1	**	**
Technical Information Management		20		10	10	**	**

*In accordance with OMB Statement of Federal Financial Standards Number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, these costs were allocated to the programs and are not reported separately.

**These were not responsibility segments in FY 00 and FY 99

Description:

The purpose of Science Management and Support is to manage a broad set of scientific disciplines, programs, projects, and facilities. This program enables a skilled, highly motivated Federal workforce to manage the Office of Science's research portfolio and facilities in support of new and improved energy, environmental, and health technologies, and provides continuous science education opportunities.

Science Program Direction consists of three subprograms: Program Direction, Science Education, and Field Operations. Beginning in FY 2003, Program Direction and Field Operations have been realigned to include all functions performed in the Office of Science (SC) Field complex in the Field Operations subprogram. The Science Education subprogram supports four educational human resource development programs that train students to enter careers in Science, Mathematics, Engineering, and Technology (SMET). The Field Operations subprogram is the centralized funding source for the field Federal workforce responsible for the management and administrative functions at the Chicago and Oak Ridge Operations Offices, and program management oversight provided by the site offices supporting SC laboratories and facilities.

- **Safeguards and Security:** The mission of the Office of Science (SC) Safeguards and Security (S&S) program is to ensure appropriate levels of protection against: unauthorized access, theft, diversion, loss of custody or destruction of Department of Energy (DOE) assets, and hostile acts that may cause adverse impacts on fundamental science, national security, or the health and safety of DOE and contractor employees, the public or the environment.
- **Science Facilities and Infrastructure:** The mission of the Science Laboratories Infrastructure (SLI) program is to conduct Departmental research missions at the Office of Science (SC) multi-program and program dedicated laboratories.
- **Technical Information Management:** The mission of the Technical Information Management (TIM) program is to lead DOE e-government initiatives for disseminating information resulting from and relevant to the Department's research and development (R&D) program. The Office of Scientific and Technical Information (OSTI), within SC, manages the TIM program.

Ensure Efficient Science Program Management (SC8-1)

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

FY 2002 Targets and Results

Target: Advance science knowledge and its application by providing access to 5,000 new full-text technical reports and increasing access to preprint servers from 5,200 to 8,000 sites. **Result:** Target was substantially exceeded in FY 2002. Access to 9,152 new full-text reports has been enabled through DOE's Information Bridge. During this same period, the number of preprint servers accessible through the PrePRINT network has increased to 9,672. (MET GOAL)

Target: Establish a baseline of unauthorized access into SC Security areas or intrusions into SC Cyber Systems that process sensitive but unclassified information. **Result:** In FY 2002 SC cyber system incidents were actively reported to the DOE Computer Incident Advisory Capability (CIAC) and were used to establish a FY 2002 baseline. All FY 2002 results are being consolidated, reported and made available to SC safeguards and security directors. (MET GOAL)

Target: Increase the number and/or diversity of the applicants for summer internships by 20%. **Result:** For 2002, the number of undergraduate interns increased by 105 to a total of 438, a 32% gain over the previous year. The number of students from underrepresented populations grew by 37 to a total of 96, a 63% increase over the FY 2000 baseline. (MET GOAL)

Target: Prepare a 5-Year Workforce Restructuring Plan. Recruit for all scientific and technical positions via the automated DOE Job Line to reach a more diverse candidate pool and decrease the time to fill positions. Implement a simplified position classification process/system to reduce administrative burdens and processing times. **Result:** The 5-Year Workforce Restructuring Plan is being incorporated into the Office of Science (SC) Restructuring Project to be completed on or by December 31, 2002. All recruit actions for scientific and technical positions are now advertised via the automated DOE Jobs Online, thus reducing the time it takes to fill Office of Science Headquarters positions. Continuous process improvements are being made to more effectively and quickly evaluate applicant qualifications by using the DOE's automated applicant referral System. The internal process for developing and approving all new position descriptions in the Office of Science has been simplified, thus reducing administrative burdens and processing times for position classification. (MIXED RESULTS) **Plan of Action:** Phase 1 of the SC Restructuring Project is estimated to reach completion by December 31, 2002. As part of this effort, statements of roles, responsibilities, accountabilities, and authorities will be approved for major SC elements; management systems will be inventoried and prioritized for reengineering; system owners will be identified; appropriate memoranda of understandings will signed; the new SC structure, including organizational alignment and reporting relationships, will be fully defined and approved; SC leadership will be assessed; and appointments will be made to critical positions in the new management structure.

Target: Develop a 5-year program plan for addressing infrastructure needs. (FMFIA) **Result:** The Office of Science has developed a draft multi-year "Roadmap" of funding options that addresses the $2 billion in Science laboratory complex infrastructure modernization needs identified in the "Infrastructure Frontier Report: A Quick Look Survey of the Office of Science Laboratory Infrastructure, April 2001." The Roadmap is being used to develop infrastructure funding budgets. (MET GOAL)

Target: Improve and integrate performance planning and measures between budget documents and DOE performance plans, and conduct six pilot retrospective and/or prospective studies to examine the societal impact of SC research. **Result:** Integration of performance planning and measures between budget documents and performance plans has progressed through a Basic Energy Sciences Advisory Committee comprehensive review of performance measures and actions that followed two SC initiated interagency workshops on integrating the OMB R&D Investment Criteria, and SC completion of the OMB PART (Ongoing). In addition, Phase 2 of the Foresighting Study was completed, and Phase 3 began to explore the global challenges over the next 25 years that may affect future science and technology management and policy. (MIXED RESULTS) **Plan of Action:** Five of the six multi-year studies have been started and are currently being conducted as planned. Because of the general DOE reduction in Office of Science funding, the remaining studies have been planned for FY 2004.

FY 2001 Targets and Assessments

(1) Launched several research management studies to identify: (a) best practices in benchmarking, (b) best practices to administer public science communication, (c) effective use of quantitative performance measures to evaluate the societal impact of basic research, and (d) a case study methodology to ensure the success of future case studies of societal impact of science. (MET GOAL)

(2) Established and filled 10 Excepted Service (EJ) positions. Implemented process improvements and automated recruitment methods to expedite filling critical vacancies. (MET GOAL)

(3) More than 1,000 applicants for undergraduate laboratory research internships were received. 479 students were selected for summer 2001. 479 students were placed. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

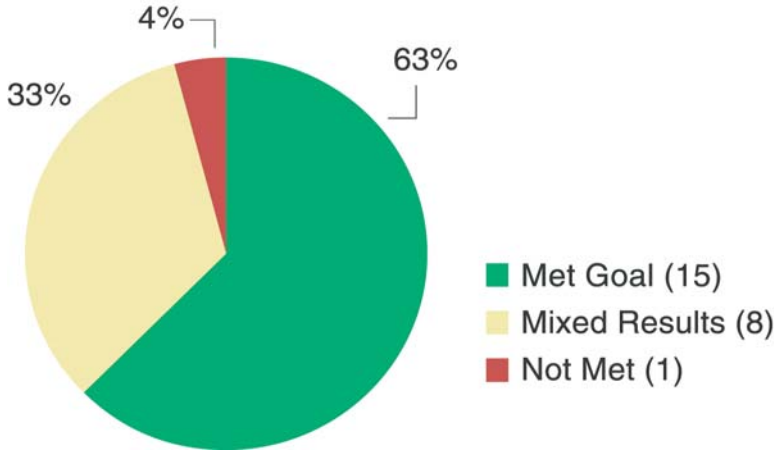
There were no related targets.

Energy Resources

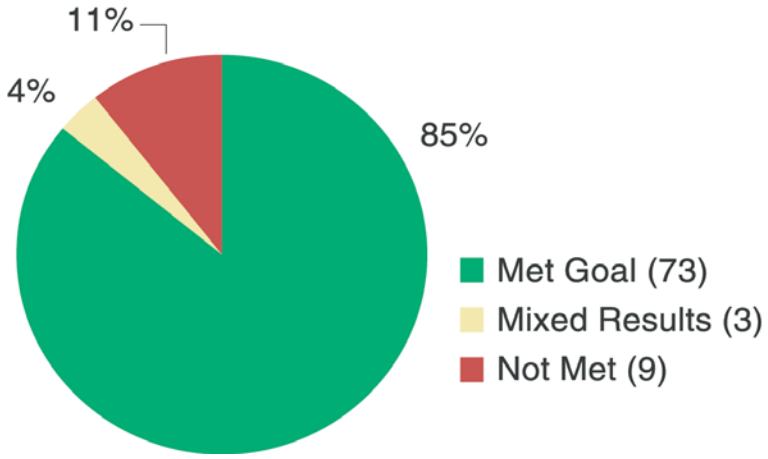
Goal: Increase global energy security, support smooth functioning of energy markets, and reduce adverse environmental impacts associated with energy production, distribution, and use by developing and promoting advanced energy technologies, policies and practices that efficiently increase domestic energy supply, diversity, productivity, and reliability.

The following pages contain detailed information on the results achieved for revised final Energy Resources programs performance goals and targets by FY 2002, as presented in the FY 2003 Annual Performance Plan. There were 22 Program Strategic Performance Goals (PSPGs) in FY 2002 for Energy Resources programs. The overall results achieved are:

Program Strategic Performance Goals



Annual Targets



GPRA Program Activity: Federal Energy Management Program

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
FEMP	EE	21		31	26	27	23

Description:

The mission of the Federal Energy Management Program (FEMP) is to increase energy efficiency and reduce the environmental impact of Federal government operations by advancing energy and water conservation, promoting the use of renewable and distributed energy, and improving utility decisions at Federal sites, including those of the Department of Energy. Through alternative financing vehicles, technical assistance, and outreach campaigns, FEMP helps the Federal government lead by example by conserving energy and using more reliable energy sources at its own facilities. FEMP leverages both Federal and private resources to provide assistance to Federal agencies, and is responsible for collecting reimbursements from agencies for the technical assistance it provides.

Discussion:

Executive Order 13123, issued in June 1999, set new requirements for energy efficiency, renewable power usage, water use, and greenhouse gas generation within the Federal sector. FEMP works with Federal agencies to achieve the following goals:

- Increase energy efficiency in Federal buildings by 20% by 2000, by 30% by 2005, and by 35% by 2010, relative to 1985. Preliminary data show that the Federal government reduced energy intensity by 23.6% in 2000.
- Increase the efficiency of Federal industrial and laboratory facilities (energy intensive buildings) by 20% in 2005, and 25% in 2010 compared to 1990 levels.
- Obtain 2.5% of Federal facilities' electricity needs from renewable energy sources by 2005.
- Reduce greenhouse emissions attributable to Federal buildings energy use by 30% by 2010 from a 1990 baseline.

Advancing Energy Efficiency and Water Conservation (ER1-1)

Increase energy security and decrease the environmental impact of Federal government operations by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at Federal sites.

FY 2002 Targets and Results

Target: Support the Federal goal of obtaining 2.5 % of Federal facilities' electricity needs from renewable energy sources by 2005 by:
– Achieving between $80 and $120 million in private sector investment through Super Energy Savings Performance Contracts (ESPCs).
– Publishing an initial listing of products that use minimal standby power by December 31, 2001, in accordance with E.O. 13221.
– Training 4,000 Federal energy personnel in best practices supporting National Energy Policy education goals.
– Completing at least 60 energy assessments, including ALERTS, SAVEnergy Audits, industrial facility assessments and operation and maintenance assessments to identify energy and cost saving opportunities. **Result:** Trained 6,270 energy personnel in best practices, completed 60 energy assessments, published initial list of 20 products that use minimal standby power in November 2001 on the web and December 2001 in the Federal Register, and achieved $97.1 million in private investment through super ESPCs in FY 2002. (MET GOAL)

Target: Continue efforts to reduce energy intensity in Federal buildings by 24% by the end of FY 2002 as compared to 1985 energy use. **Result:** Continued FEMP efforts have resulted in reductions of energy intensity in Federal buildings of 23.6% compared to the Executive Order baseline, reducing energy use per square foot from nearly 140,000 Btu to nearly 105,000 in FY 2001. (MET GOAL)

FY 2001 Targets and Assessments

(1) Continued efforts to reduce energy intensity in Federal buildings and reported the results achieved through the end of FY 1999, toward the goal of achieving a 22% reduction by the end of FY 2001 as compared to 1985 energy intensity. Preliminary data suggests that agencies exceeded this goal a year early, achieving a 23.6% reduction in energy intensity in 2000. (EXCEEDED GOAL)

(2) Achieved $120 million in private sector investment through Super ESPCs. (MET GOAL)

(3) Completed 25 Assessment of Load and Energy Reduction Techniques (ALERT) assessments to shave anticipated peak demand and general energy consumption by 10%. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed one nationwide Solar technology Super-Energy Savings Performance Contract (Super ESPC) for use by all agencies, bringing the total number of technology Super-ESPCs to four.
(NEARLY MET GOAL)

Plan of Action: Issue the solicitation in FY 2001 and implement projects in calender year 2001.

(2) Continued efforts to reduce the use of energy in Federal buildings and reported the results achieved through the end of FY 1998, towards the goal of achieving a 20% reduction by the end of FY 2000 as compared to 1985 energy use. Preliminary data shows that the Federal government reduced energy intensity by 17% in 1997. (MET GOAL)

FY 1999 Targets and Assessments

(1) Completed three nationwide Solar technology Super-Energy Savings Performance Contracts (Super ESPCs) for use by all agencies.
(BELOW EXPECTATION)

Plan of Action: Completed one solar technology Super-Energy Savings Performance Contract for photovoltaics. Two of the solar technology Super ESPCs will not be developed as planned. One, solar thermal, has been dropped due to a lack of agency demand for a new contract. The other, solar pre-heat, has been dropped due to a cancellation of the solicitation. The Department's Federal Energy Management Program is currently re-evaluating the most appropriate mechanisms to increase deployment of renewable technologies in Federal facilities.

Notes: **Starting in FY 2003, the number of projects assisted will be used as an indicator toward achievement of annual Federal energy reduction targets since 1) the number of projects is wholly under the control of FEMP, whereas reduction in energy intensity is a government-wide achievement, and 2) previous year data are not available until after the report on Annual Performance is due.

GPRA Program Activity: Industrial Technologies

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Industrial Technology	EE	21		181	196	161	163

Description:

The Office of Industrial Technologies (OIT) partners with key energy-intensive industries to develop and apply advanced technologies and practices that reduce energy consumption, improve environmental performance, maintain and create jobs, boost productivity, and significantly improve the competitiveness of the United States.

Partner With Key Energy Intensive Industries (ER1-2)

Partner with key energy-intensive industries to develop and apply advanced technologies and practices that reduce energy consumption, improve environmental performance, maintain and create jobs, boost productivity, and significantly improve the competitiveness of the United States.

FY 2002 Targets and Results

Target: Commercialize ten new energy efficient technologies in partnership with the most energy intensive industries. **Result:** From 1992-2001, 105 technologies were commercialized. For 2002, very preliminary results have already identified seven commercialized technologies. A decade of experience demonstrates that sufficient technologies will be identified in this year's totals from the final report to exceed the target. The program project activities are consistent with the historic conversion of ten or more technologies being commercialized by industry. These data are collected at the end of the year through an annual survey. (MET GOAL) **Plan of Action:** A decade of experience demonstrates that sufficient technologies will be identified in this years totals from the final report to exceed the target. The program project activities are consistent with the historic conversion of ten or more technologies being commercialized by industry. These data are collected at the end of the year through an annual survey.

Target: Complete two showcase demonstrations of advanced energy efficient technologies at industry sites. **Result:** One showcase has been completed at Augusta Newsprint in Georgia. The second showcase, "The Texas Technology Showcase," will focus on chemicals and petroleum refining industries and will be broadened to include sessions on other EERE technologies, including wind, Clean Cities, FreedomCAR, cogeneration/CHP, bioenergy, and hydrogen fuel cells. The showcase is scheduled for March 17-19th, 2003, in Houston, Texas, in conjunction with five participating companies and over ten corporate or organizational sponsors. Given the expanded breadth of this new approach, the outcome is anticipated to be much greater in terms of energy savings, since many EERE technologies will be involved. Principal second showcase direct goals have been completed, including plant-wide energy efficiency evaluations and staff training in using best practices tools. The event has been postponed to add value to the industry, sites, and DOE investment by broadening content and participation. (NOT MET) **Plan of Action:** The Office of Industrial Technologies in conjunction with other EERE programs, states and EERE Regional Offices has examined and planned broadening this successful approach to technology demonstration to include other EERE technologies that can impact the industrial sector, including building technologies that account for over 10% of industrial energy use as well as distributed energy and renewable energy technologies. The showcase is scheduled for March 17-19, 2003.

Target: Assist industry in saving more than 265 trillion Btu of energy, worth more than $1.6 billion. **Result:** Estimated energy savings directly attributable to industry programs (including commercialized technologies, best practices and the Industry Assessment Centers) were over 350 trillion Btu worth $1.45 billion (equivalent to over $1.85 billion in 2000 dollars), exceeding the program goal. (MET GOAL)

TARGET: Complete 20 new Allied Partnerships (formal agreements between industry and DOE's Industrial Program) with energy intensive companies, trade organizations and other groups. **Result:** In FY 2002, 35 new Allied Partnership Agreements were signed, including 14 signed in the fourth quarter of FY 2002. (MET GOAL)

Target: Continue support for Industrial Assessment Centers operating at 26 participating universities that will conduct over 600 combined energy, waste, and productivity assessment days of service to manufacturing clients. **Result:** Industrial Assessment Centers operated at 26 participating universities. In FY 2002, 648 combined energy, waste, and productivity assessment days of service to manufacturing clients were achieved. Realized energy dollar cost savings from these plant assessments were over $66 million, with an additional $6 million in environmental waste savings and over $54 million in productivity dollar benefits. (MET GOAL)

FY 2001 Targets and Assessments

(1) In FY 2001, commercialized ten new technologies from both the nine vision industries as well as the crosscutting programs. (MET GOAL)

(2) In FY 2001, OIT helped industry save an estimated 262 trillion Btu of energy worth more than $1.6 billion. (MET GOAL)

(3) Continued support for Industrial Assessment Centers operating at 26 participating universities that conducted approximately 650 combined energy, waste and productivity assessments. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Transportation Sector

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Transportation Technology	EE	21		322	288	262	277

Description:

The Office of FreedomCAR and Vehicle Technologies and the Office of Hydrogen, Fuel Cells, and Infrastructure Technologies partner with industry, research organizations, State governments, and other Federal agencies to support development and use of advanced vehicle technologies and fuels that reduce demand for petroleum, decrease emissions of criteria air pollutants and greenhouse gases, and enable the U.S. transportation industry to sustain a strong, competitive position in domestic and world markets.

This mission directly supports the Secretary's mission and priorities for ensuring our energy security by reducing the amount of oil needed for transportation services, and by encouraging the development and use of alternative fuels. In addition, this program addresses the Secretary's priority for implementing the National Energy Policy (NEP).

The estimated annual benefits from these efforts through 2020 are:

	2005	2010	2020
Petroleum Displaced (Million Barrels per Day)	0.14	0.48	2.55
Total Primary Energy Displaced (Trillion Btu)	44	684	4,678
Energy Costs or Savings (Millions of $)	3,896	19,755	61,483
Carbon Equivalent Emissions Displaced (MMTCe)	2.3	14.4	92.1

Development and Use of Advanced Vehicle Technologies (ER1-3)

Partner with industry, research organizations, State governments, and other Federal agencies to support development and use of advanced vehicle technologies and fuels which reduce demand for petroleum, decrease emissions of criteria air pollutants and greenhouse gases, and enable the U.S. transportation industry to sustain a strong, competitive position in domestic and world markets.

FY 2002 Targets and Results

Target: Complete development of second-generation lithium ion electrochemistry for hybrid vehicle power. **Result:** The second-generation development of lithium ion electrochemistry for hybrid vehicle power is complete, with over Over 300 cells were produced and tested, enabling specification and commercialization of the next generation battery materials for durable and cost effective performance in vehicles. (MET GOAL)

Target: Reduce gassing in sealed lithium ion batteries so that cells do not vent after five years of storage at full charge. **Result:** Demonstrated reduced gassing in sealed lithium ion batteries so that cells do not vent after 5 years of storage at full charge. (MET GOAL)

Target: Achieve $275/kW for a 50 kW fuel cell power system. **Result:** Two different cost analysis studies estimate the current 50kW fuel cell technology has achieved the $275/kW price objective for production level fuel cells. (MET GOAL)

Target: Complete initial testing of light trucks with prototype diesel engines to demonstrate a 35% increase in fuel efficiency at Tier II emissions. **Result:** Completed initial testing of light trucks with prototype diesels demonstrating a 35% increase in efficiency and meeting Tier II EPA emissions standards by April 2002. (MET GOAL)

Target: Demonstrate 45% thermal efficiency for a heavy-duty diesel engine while meeting EPA 2004 emission standards. **Result:** Heavy duty diesel engine thermal efficiency of 45% that met the EPA 2004 emission standard was demonstrated in December 2001. (MET GOAL)

Target: Fabricate a sport utility vehicle chassis component using carbon fiber in a low cost molding process that is suitable for high volume production. **Result:** Substantial progress was made toward fabricating a sport utility vehicle chassis component using carbon fiber, in a low cost molding process suitable for high volume production. A critical

molding machine breakdown and its repairs have resulted in this target completion being deferred to January 2003. The delay will not affect achieving the long-term goal. (NOT MET) **Plan of Action:** The machine has been repaired (this diagnosis, design and reconstruction set back the schedule three months). The project is scheduled to be completed by January 2003.

Target: Reduce parasitic losses of heavy vehicle systems from 39% to 36%. **Result:** Exceeded the goal in 2002, demonstrating reductions of parasitic losses that can improve vehicle fuel economy by approximately 12% through reductions in aerodynamic drag and through systems electrification. (MET GOAL)

Target: Achieve 135,000 alternative fuel vehicles in operation in Clean Cities. **Result:** Conservative estimates of growth in Clean Cities alternative fuel vehicles indicate more than 135,000 alternative fuel vehicles were in operation in Clean Cities by end of FY 2002. (MET GOAL)

Target: Develop a prototype yeast capable of fermenting multiple biomass-derived sugars to meet cost goals for the ethanol/gasoline blend markets. **Result:** This effort has been postponed. The Congressional earmarks, nearly $40 million for the Biomass Program in FY 2002, resulted in a major reduction in EE's discretionary resources aimed at biomass R&D. In addition, EE's management, in consultation with Congress, directed that the funding originally intended for the development of a yeast technology platform be included in the Biomass R&D broad-based solicitation issued in FY 2002. (NOT MET) **Plan of Action:** If FY 2003 funding allows, EE will increase yeast R&D. Please note, however, that Congressional earmarks may require significant funding, resulting in fewer resources for our yeast platform work.

FY 2001 Targets and Assessments

(1) Completed testing of the 276-volt battery aimed at demonstrating an integrated system having thermal and electrical controls. (MET GOAL)

(2) Completed test and evaluation of a fuel-flexible 50 kW integrated fuel cell power system. (MET GOAL)

(3) Completed explorations of lithium-polymer and lithium ion battery technologies; lithium ion was selected as the most promising approach for continued development. (MET GOAL)

(4) Light truck demonstration resulted in a 35% increase in fuel efficiency in a sport utility vehicle. (MET GOAL)

(5) Completed explorations of four approaches to lower-cost precursors for carbon fibers; down-selected and initiated further work on the two most promising approaches. (MET GOAL)

(6) Supported the annual acquisition of 12,000 alternative fuel vehicles in the Federal fleet. (MET GOAL)

(7) Conducted a competitive solicitation and selected at least one partner for demonstrating the conversion of cellulosic feedstock at a corn ethanol plant. (MET GOAL)

FY 2000 Targets and Assessments

(1) Worked with three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles (PNGV) technologies in concept vehicles with up to three times the average fuel economy of the 1993 Taurus, Lumina, and Concorde models. (EXCEEDED GOAL)

(2) Completed testing of baseline prototype, 50-volt high power lithium-ion modules for use in hybrid vehicles. (MET GOAL)

(3) Launched two projects that will lead to 100% penetration of alternative fuel vehicles in selected niche applications, such as a local taxi fleet or the buses for a particular goal. (EXCEEDED GOAL)

(4) Demonstrated conversion of agricultural wastes to ethanol at a small commercial scale using a genetically engineered fermentative microorganism. (MET GOAL)

FY 1999 Targets and Assessments

(1) By September 1999, in cooperation with industry and other Federal agencies, developed a direct injection power system technical roadmap and a fuel cell power system technical roadmap to integrate fuels and lubricants research and development with development of engine and emission treatment technologies. (MET GOAL)

(2) Expanded Clean Cities program to create continuous corridors of alternative transportation fuel availability in and between 10 major urban centers. (MET GOAL)

(3) Built a single cylinder proof-of-concept diesel engine that delivers up to 55% efficiency. (NEARLY MET GOAL)

Plan of Action: Final financing has been delayed until more equity money is attained. This is expected to happen in FY 2000.

(4) Supported an industrial partner to complete site preparation and began construction of industry-owned facility to demonstrate first-of-a-kind cellulosic biomass to ethanol technology from agricultural crop waste. (NOT MET)

GPRA Program Activity: Renewable and Distributed Energy

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Power Technologies (Distributed Energy)	EE	21		400	328	301	321
Renewable Energy Resources	EE			*	*	*	*

* – This was not a responsibility segment in FY 02-FY 99.

Description:

The Distributed Energy and Renewable Energy Resources Programs lead the national effort to develop clean, competitive, reliable power technologies for the 21st century, and to accelerate their acceptance and use, nationally and internationally. The mission of the Distributed Energy Program is to strengthen America's electric energy infrastructure and provide utilities and consumers with a greater array of energy efficient technologies choices for the generation, transmission, distribution, storage, and demand management of electric power and thermal energy. The Renewable Energy Program includes biomass, solar, wind, geothermal, hydrogen, and hydropower. Advances in these areas will not only add to the Nation's secure source of domestic energy supplies, but will also enhance reliability due to the distributed nature of these sources.

Strengthen Energy Security, Environmental Quality (ER2-1)

Strengthen America's energy security, environmental quality, and economic vitality through public-private partnerships that promote energy efficiency and productivity; bring clean, reliable, and affordable energy technologies to the marketplace; and make a difference in the everyday lives of Americans by enhancing their energy choices and quality of life.

FY 2002 Targets and Results

Target: Demonstrate a microturbine package (highly efficient for reducing peak loads) at a university site. **Result:** Completed a demonstration of a microturbine package at a university site in spring of 2002. (MET GOAL)

Target: Complete construction of a small-scale (300 kW to 1 MW) geothermal power plant for field verification. **Result:** Design and environmental assessment of AmeriCulture 1 MW facility in New Mexico was completed. (MET GOAL)

Target: Construct a process development unit of a ceramic membrane system for membrane system tests for hydrogen production. **Result:** A ceramic membrane process development unit has been constructed and testing has begun. (MET GOAL)

Target: Complete initial testing of Detroit superconducting transmission cable and document operational costs and reliability. **Result:** Cables have been ordered, received and installed. However, small leaks in the vacuum cooling tube have prevented testing to date. Two cables have been removed for testing at the lab and one remains in place. (NOT MET) **Plan of Action:** We are working on addressing the leaks in the vacuum cooling tubes and concurrently trying to determine whether the remaining installed cable can be tested and provide sufficient information for documenting operational costs and reliability. In the event that this test cannot be performed at the Detroit site, we have begun to work with other utilities to find appropriate sites/partners to do similar testing.

Target: Convene and support the principals to enable IEEE to publish the draft P1547 Standard for Distributed Resources Interconnected with Electric Power Systems**.** **Result:** Convened and provided support to principals to develop the standard. The standard is complete, and has been reviewed and passed. IEEE members voted from August 28-September 28, and 90% affirmed the new standard. (MET GOAL)

Target: Reduce manufacturing cost of PV modules to $2.25 per watt (equivalent to $0.20 to $0.30 per kWh from an installed solar system). **Result:** The manufacturing cost of crystalline silicon PV modules is now less than $2.25 a Watt completing this objective. (MET GOAL)

Target: Complete 300 hours of testing of the advanced bromine battery system in partnership with Detroit Edison. **Result:** System has been tested for 300 hours. (MET GOAL)

FY 2001 Results and Assessments

(1) Completed 5,000 durability, performance, and emissions tests of the Mercury 50 Advanced Turbine System engine. (EXCEEDED GOAL)

(2) Test facility completed for pilot-scale testing of the innovative turbine design developed by the Alden Research Laboratory team. (MET GOAL)

(3) Selected industrial partners to build two cost-shared geothermal power plants using Enhanced Geothermal System (EGS) technology. (MET GOAL)

(4) Moved advanced wind hybrid control system technology, developed jointly with USDA Agricultural Research Center, to commercial availability. (MET GOAL)

(5) Document 6,000 hours (100% load) of operation of the first successful HTS' power delivery system to power an industrial use. (EXCEEDED GOAL)

(6) Installed first-of-a-kind superconducting electrical transmission cables to replace existing delivery to an urban substation serving 14,000 customers in Detroit, Michigan and begin testing operation and reliability. (MET GOAL)

(7) Developed a 14% efficient stable prototype thin-film photovoltaic module. (MET GOAL)

FY 2000 Targets and Assessments

(1) Demonstrated two advanced industrial turbine system engines at end-user sites. (MET GOAL)

(2) Completed two designs of advanced air-cooled condensers for geothermal applications. (NEARLY MET GOAL)

Plan of Action: In FY 2000 NREL developed improved designs for tube bundles, filed a patent for the design and began discussions with potential industry partners, including manufacturers to produce tubes and full heat exchangers for testing. The Idaho National Environmental and Engineering Laboratory (INEEL) has completed a design of finned condenser tubes and has begun laboratory testing of representative cross sections. A manufacturer who has joined the project as an industrial partner has tentatively agreed to provide prototype tubes for additional testing.

(3) Installed and began testing of two proof-of-concept turbines under the Next Generation Turbine program, leading to commercial availability of technology capable of producing electricity at 2 ½ cents per kWh in 15 mph wind resource by 2003. (MET GOAL)

(4) Installed the first industrial HTS electrical transmission cables at Southwire Plant in Carrollton, Georgia and began testing system reliability. (MET GOAL)

(5) Developed a 13% efficient stable prototype thin-film photovoltaic module. (NEARLY MET GOAL)

Plan of Action: Siemens Solar, Inc. has produced prototype copper indium diselenide (CIS) modules that were measured at the Department's National Renewable Energy Laboratory (NREL) at 12.9% efficiency—essentially meeting the goal. CIS is the most promising film for meeting the program's cost goals. Achieving nearly 13% validates the feasibility of low-cost commercial modules that can become more cost competitive than today's crystalline silicon technologies.

(6) Demonstrated fully autonomous operation of a 10 kW dish engine system for off-grid applications. *(*MET GOAL)

FY 1999 Targets and Assessments

(1) Initiated the 8,000-hour test of the gas turbine engine for the Advanced Turbine System for use in industrial cogeneration. (MET GOAL)

(2) Established a United States-based commercial firm as an internationally recognized certification agent using testing and design review services provided by the National Wind Technology Center. (MET GOAL)

(3) Developed codes, standards and safety specifications for residential PV roof systems. (NEARLY MET GOAL)

Plan of Action: Due to additional time needed to resolve issues raised by the P929 (PV interconnection) ballot committe members, the full committee vote was delayed until FY 2000. However, two significant actions have been accomplished in this reporting period. The committee recommended practice was approved by the IEEE SCC21 chairman. Also, the IEEE Standards Board approved the project: Standards for Distributed Power Resources Interconnection with Electric Power Systems. The project is now an official standards development project.

GPRA Program Activity: Building Technology, State, and Community Programs

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Building Technology, State, and Community Programs	EE	21		258	307	290	255

Description:

The Building Technology, State, and Community Programs (BTS) directly addresses DOE's goal of increased energy security, reliability, and affordability, while reducing the environmental impacts related to energy use. Through research, development, deployment, and codes and standards, BTS programs can significantly contribute to reducing these vulnerabilities in the future:

- BTS' programs reduce the amount of fossil fuels (including electricity generation) required to operate residential and commercial building uses, and for electricity generation.
- BTS' programs also address the reliability of the energy supply system by targeting energy uses (such as commercial lighting) that contribute to the demand peak for electricity.

BTS' R&D efforts range from near term public-private partnerships with industry that increase performance of existing technologies (e.g., heat-pump water heater), to more long-term technologies that represent a fundamental change in the way energy services are delivered (e.g., solid state lighting). In addition to excessive risk associated with longer-term research, there are a number of other market factors that contribute to a relatively low level of R&D (let alone energy research) in the building sector. These factors include: fragmentation of the industry; sensitivity to first cost without consideration of full life-cycle costs; lack of builder and consumer information on the full benefits of energy efficiency products; split incentives in the market (e.g., owners buy equipment but renters pay utility costs); and compartmentalization and lack of communication between the building professions, which leads to sub-optimal designs and less-than-optimal building operation.

Develop, Promote and Integrate Technology (ER3-1)

In partnership with industry and government, develop, promote, and integrate energy technologies and practices that make buildings more efficient, productive and affordable.

FY 2002 Targets and Results

Target: Increase the knowledge base of the residential construction industry by pursuing six lines of research investigations focusing on industry identified priorities, e.g. low cost moisture protection, right-sized heating, ventilation and air-conditioning (HVAC) designs, super efficient distribution systems, etc. **Result:** Seven Research areas were completed. Specific research projects include: energy performance of insulated, unvented attics; development of low cost wood shear panels; energy impacts of ICS (Integral Collector Storage) solar domestic hot water preheat systems; evaluation of mixing performance of residential mechanical ventilation systems; development of high performance affordable housing; evaluation and mitigation of moisture problems in manufactured housing; evaluation of dehumidification systems for residential buildings; and evaluation of low energy buildings with onsite power generation systems. (MET GOAL)

Target: Complete at least 850 highly resource-efficient, cost-effective homes through the Building America consortia, bringing the total number of homes built through the program to more than 4,500. **Result:** Building America completed 1,700 homes in Fiscal Year 2002, bringing the total number of homes built through the program to more than 5,350. More homes were built than the original goal due to increased program success, increased program efficiency, increased builder participation, and reduced lead times to house completion. (MET GOAL)

Target: Publish one proposal for an upgrade to the Federal Residential Building codes, and one proposal for an upgrade to the Federal Commercial Building codes. **Result:** All supporting documents for commercial codes including the draft Notice of Proposed Rule are in the General Counsel's office of DOE for concurrence. Preliminary concurrence from various agencies and FEMP has been obtained. Federal code staff work has been completed; significant comment response and redesign and timing of review currently underway by general counsel may result in delay for publication by one quarter. (NOT MET) **Plan of Action:** The delay is due to the need to complete the Environmental

Analysis and assessment of impacts. The plan of action is to obtain and incorporate comments and revisions, if any, complete revisions to Environmental Assessment, and submit the mandatory concurrence package. Approval could be delayed until the second quarter of FY 2003.

Target: Establish one High Performance Buildings Roadmap implementation framework, leading to the goal of 30% more energy efficient new commercial construction compared to 1996 standard practice. **Result:** The draft framework from the High Performance Building Roadmap was tested multiple times with actual building design projects in FY 2002. Draft guides for achieving low-energy commercial buildings are being reviewed, and final guidelines are to be published in early FY 2003. (MET GOAL)

Target: Recruit 500 additional retail stores, five additional utilities, and three additional manufacturers, bringing the total number of stores marketing ENERGY STAR appliances to 7,000. **Result:** DOE has recruited 8,475 additional stores, 41 additional utilities and 23 additional appliance manufacturers as partners in the ENERGY STAR program as of July 2002. The total number of stores marketing ENERGY STAR appliances now stands at 14,975. (MET GOAL)

Target: Issue two proposals for upgrades and five upgrades to appliance standards and test procedures. **Result:** Two proposals for appliance standard upgrades have resulted in Final Rules. The Residential Central Air Conditioner and Heat Pump, and the Final Rule for Dishwasher Test Procedure for Non-Sensor type machines were issued in the Federal Register in May 2002. (MET GOAL)

Target: Implement and improve WINDOW 5 for National Fenestration Ratings Council (NFRC) production runs; train and support NFRC simulators. **Result:** WINDOW version 5.1 was released to Industry on October 2, 2002 at a National Fenestration Rating Council NFRC meeting. A Simulation Training Manual and an improved optics database editor (allows for the formulation of advanced glazings including laminated glass) were also released with Windows. An improved heat transfer model, THERM 5.0, was also released. The suite of programs allows for heat transfer modeling of new designs that promote energy efficient product development at significantly lower cost than conventional prototype development. (MET GOAL)

Target: Establish 40 new Rebuild America community partnerships, and assist these communities to retrofit 80 million square feet of floor space in K-12 schools, colleges, public housing, and State and local governments. **Result:** Sixty-five new Rebuild America community partnerships were established in FY 2002. Retrofitted 90 million square feet of floor space in K-12 schools, colleges, public housing, and State and local governments. (MET GOAL)

Target: Conclude field demonstrations of heat pump water heaters with utility partners. **Result:** Concluded field demonstrations of heat pump water heaters with utility partners. Data was collected from 16 units over a year. Data analysis was performed and a draft report was produced in June. (MET GOAL)

FY 2001 Targets and Assessments

(1) With Building America Partners, completed 3,000 energy-efficient environmentally sound high performance homes. (EXCEEDED GOAL)

(2) Recruited 400 new ENERGY STAR partners, bringing the total number of stores marketing ENERGY STAR appliances to 6,500. (EXCEEDED GOAL)

(3) Issued three proposals for upgrades and three upgrades to appliance standards and test procedures. WINDOW 5 was released and approved by National Fenestration Rating Council (NFRC); algorithms were adopted as an International Standards Organization (ISO) standard. (MET GOAL)

(4) Established 40 new Rebuild America community partnerships, and assisted these communities to retrofit 80 million square feet of floor space in K-12 schools, colleges, public housing, state and local governments. (MET GOAL)

(5) Completed Phase I field demonstrations of heat pump water heaters, with utility partners. (MET GOAL)

FY 2000 Targets and Assessments

(1) In partnership with Building America, developed more than 2,000 highly energy-efficient, environmentally sound, and cost-effective houses and disseminate results to builders of 15,000 other houses through PATH. (NEARLY MET GOAL)

Plan of Action: Seeking additional support from PATH and other dissemination sources to meet dissemination goals.

(2) Recruited five utility partners to promote ENERGY STAR products; an additional 500 retail stores to promote Energy Star products; and 40 window partners to promote Energy Star Windows.
(EXCEEDED GOAL)

FY 1999 Targets and Assessments

(1) Completed 100 homes that are over 50% more efficient than typical homes through the Building America program, bringing the total number of homes completed to 700; added five new community scale projects for building 1000 additional homes in FY 2000; and transferred research recommendations to the Partnership for Advancing Technology in Housing (PATH). (EXCEEDED GOAL)

(2) Worked with the Federal Trade Commission to allow manufacturers to add the ENERGY STAR logo to the yellow and black FTC “Energy Guide” label for covered products, and recruited an additional 1,500 stores to market ENERGY STAR appliances nationwide. (EXCEEDED GOAL)

GPRA Program Activity: Weatherization Assistance Program

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Energy Conservation	EE			*	*		

* – These cost are included in the building technology, state, and community programs GPRA program activity (see page 125)

Description:

The Weatherization Assistance Program provides technical assistance and formula grant monies to state and local weatherization agencies throughout the U.S. The network of approximately 970 local agencies provides the trained crews who perform the weatherization services for eligible low-income households in single-family homes, multifamily dwellings, and mobile homes.

The Weatherization Assistance Program (1) reduces energy costs for low-income households, which are disproportionately burdened by utility bills; (2) benefits local economies by reducing the local impacts of energy price volatility; (3) reduces the need for other public services such as fuel assistance, housing, and health care; and (4) improves housing and community conditions.

Weatherization Assistance Program (ER3-2)

Reduce the energy costs of low-income households by providing cost-effective energy efficiency improvements while ensuring the health and safety of the people served.

FY 2002 Targets and Results

Target: Weatherize 105,000 homes, bringing the total number of homes weatherized to 5.1 million.* The weatherization assistance program reassessed the total number of homes weatherized between FY 2001 and FY 2002. **Result:** The program weatherized 105,000 homes in FY 2002. 100% of grants were awarded. (MET GOAL)

FY 2001 Results and Assessments

(1) Weatherized 75,350 homes, bringing the total number of homes weatherized to 4.8 million. (MET GOAL)

FY 2000 Targets and Assessments

(1) Weatherized 68,000 homes, bringing the total number of homes weatherized to 4.8 million. (EXCEEDED GOAL)

FY 1999 Targets and Assessments

(1) Weatherized 67,845 homes, bringing the total number of homes weatherized to 4.7 million. (EXCEEDED GOAL)

* The weatherization assistance program reassessed the total number of homes weatherized between FY 2001 and FY 2002.

GPRA Program Activity: High Efficiency, No/Low Emissions Power Systems R&D

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Coal Research & Development	FE	21		264	249	129	124
Clean Coal Technology	FE	21		44	115	53	55

Description:

The Power Systems R&D program addresses the energy and environmental demands of the post-2000 domestic market, including increasing international pressure to reduce greenhouse gas emissions, and helps U.S. industry meet the needs of a currently large and growing export market, while contributing to national energy security. The Coal program is focused on three goals. The first is to develop progressively higher efficiency and cleaner power generation systems with 10%-20% lower busbar electricity costs, which will ultimately evolve into a "Vision 21" fleet of new power and energy plants with near zero levels of pollutants. The second is to develop super-clean emission control systems for SO_2, NO_x, air toxics, and particulate matter that can be applied to existing plants. The third goal is to evaluate economically viable approaches to carbon sequestration to address climate change concerns.

Complete Mercury Control Systems Reducing Emissions (ER4-1)

By 2005, complete the development of mercury control systems capable of reducing mercury emissions by 70% (90% by 2010) in existing plants at half of current (2001) cost ($/kWh) for application in over 300 GW of coal-fired plants in the U.S.

FY 2002 Targets and Results

Target: Complete report characterizing concentration and composition of ambient $PM_{2.5}$ as input to the EPA $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) review. This data will help identify the impact of emission sources on air quality. **Result:** A comprehensive report on the DOE-NETL $PM_{2.5}$ research program, including information on the concentration and composition of ambient $PM_{2.5}$ in coal-burning regions and implications for coal-fired power plants, was presented on September 11, 2002, at the Air Quality III Conference, Arlington, Virginia. The report was subsequently transmitted to EPA for use in its review of the $PM_{2.5}$ NAAQS. (MET GOAL)

FY 2001 Targets and Assessments

(1) Delivered to EPA two years worth of high-quality $PM_{2.5}$ ambient monitoring data from the upper Ohio River Project. (MET GOAL)

(2) Issued a request for proposals for the commercial scale demonstration of technologies to assure the reliability of the Nation's energy supply from existing and new electric generating facilities. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed pilot studies on mercury emission controls that augment existing pollution control technologies, and are expected to reduce mercury emissions by over 50% at less than half the cost originally estimated in EPA's December 1997 Report to Congress on mercury. (MET GOAL)

(2) Completed the first large scale (600MW) test of selective non-catalytic reduction, which will allow coal-fired power plants to satisfy ozone transport (OTAG) requirements for reduction of emissions of oxides of nitrogen and also reduce fine particulate matter. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Complete Demonstration of a Fuel-Flexible Power System (ER4-2)

By 2006, complete the demonstration of a fuel-flexible power system capable of meeting sulfur and nitrogen emission standards with improved thermal efficiency at a scale suitable for further commercial deployment by the power industry, and by 2008, complete development of a fuel-flexible power system capable of achieving 52% thermal efficiency.

FY 2002 Targets and Results

Target: Complete initial tests of the IGCC air-blown transport gasifier on bituminous coal, to determine the feasibility of the technology on high rank coals for significantly improving reliability, cost effectiveness, and efficiency for producing electricity. **Result:** The feasibility of using high-rank coals in the transport gasifier was demonstrated by completing a total of 180 hours of air-blown testing with Sufco bituminous coal at the PSDF in September 2002. The test went smoothly in the gasifier as well as the particulate collection device (PCD). The corrected heating value of the syngas is about the same using either the Sufco bituminous or Powder River Basin bituminous coal. A brief shutdown to inspect the reactor and PCD showed no damage or significant blockage. The transport reactor is a simpler design, with no internal parts to wear out rapidly, and cooler operation, which should help prolong refractory life, the biggest problem with slagging high-temperature, oxygen-blown gasifiers. More than 1,000 hours on bituminous coals will be needed to complete testing. The initial test completed during FY 2002 represents approximately 20% of the total needed to fully assess the technology. Southern Company Services has estimated total plant costs using a transport reactor to be 5-18% lower than for those employing existing gasifiers. They estimate the efficiency to be 46.0% versus 37.9-43.1% for commercial gasifiers. (MET GOAL)

Target: Complete construction and start operations of Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, Florida. **Result:** The JEA Clean Coal Technology (CCT) "Large-Scale Circulating Fluidized-Bed (CFB) Combustion Demonstration Project" completed construction and startup operations at the Northside Generating Station in Jacksonville, Florida. This plant, a 297.5-megawatt unit, delivered power to the grid beginning in February 2002, achieved rated output in May, and has been operating at 100% capacity on coal-fuel blends as a base-loaded unit since mid-summer. The two-year DOE demonstration testing period is scheduled to begin in January 2003. (MET GOAL)

FY 2001 Targets and Assessments

(1) Demonstrated hydrogen and CO_2 separation from syngas to meet the long-term goals of providing low-cost hydrogen for high-efficiency fuel cells, and for providing concentrated CO_2 streams for sequestration. (MET GOAL)

(2) Completed design and continue construction of the Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, Florida. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed demonstration of the third integrated gasification combined cycle project (Pinion Pine) utilizing air-blown gasification and hot gas cleanup for improved thermal efficiency, and continued operations of one other project (Polk) in order to establish the engineering foundation leading to new generation of 60% efficient power plants. (NEARLY MET GOAL)

Plan of Action: Discussions with new owners of the Pinion Pine IGCC Plant will take place upon completion of the transfer of ownership of the plant.

FY 1999 Targets and Assessments

(1) Completed the commercial demonstration of one integrated gasification combined cycle project (Wabash), and continued operation of two other gasification projects in order to establish the engineering foundation, leading to new generation of 60% efficient, ultraclean coal power plants. (MET GOAL)

Complete Options to Achieve CO_2 Capture/Storage (ER4-3)

By 2005, complete the development of options that can achieve CO_2 capture/storage at less than a 25% increase in the cost-of-electricity (COE). By 2010, achieve CO_2 capture/storage with a 5% increase in the COE.

FY 2002 Targets and Results

Target: Complete the injection of 2,500 tons of CO_2 into a depleting oil reservoir to monitor the transport of CO_2 and verify predictive geologic models on reservoir integrity. **Result:** This target was not met. The Bureau of Land Management did not issue the field operations permit that would lead to a favorable Record of Decision until the last week of September 2002. Also, the cost of the planned seismic survey has tripled since submission of the original proposal. This significantly higher cost resulted in a delay related to project funding adjustments. Instead of passing through Sandia National Laboratories, funds for the seismic survey are being transferred directly to the industrial partner, Strata Petroleum, Inc., resulting in a cost-savings of $300,000. This savings has helped to offset increased costs of the field operations. (NOT MET) **Plan of Action:** NETL will exert more control over planned project activities and budgeted activities being managed by other National Laboratories. NETL will have more visits to the project site and continuously during the various phases of the project and emphasize to the lead lab, the industry partners, and selected field operation contractors that the project needs to stay on the prescribed schedule. More frequent project team meetings will occur in order to evaluate what issues and progress is being made toward the required field activities. It is currently anticipated that, according to the project's revised schedule

and plans for conducting field activities, the following tasks will be completed by the end of FY 2003: (1) pre-injection 3D surface seismic geophysical survey, (2) down-hole Vertical Seismic Profile geophysical survey, (3) injection of 2500 tons of CO2 and micro-seismic monitoring, and (4) follow-up post-injection 3D surface seismic geophysical survey (after a several-week soaking period for CO_2).

Introduce $400/kW Solid-State, Modular Fuel Cell (ER4-4)

By the 2010 time frame, introduce a $400/kW solid-state, modular fuel cell having between 40 to 50 percent fuel-to-electricity efficiency, and introduce optimal fuel cell-miniturbine hybrid systems utilizing natural gas and hydrogen.

FY 2002 Targets and Results

Target: Restart and test the 220-kW hybrid solid oxide fuel cell (SOFC) microturbine power plant at the National Fuel Cell Research Center. If successful, this test will verify the commercial design for this particular SOFC technology for DG or CHP applications. **Results:** This GPRA target is complete. The unit was restarted and test results have verified the commercial design basis. Testing will continue for approximately 1,300 hours in order to satisfy the requirements of the industrial partner. (MET GOAL)

Target: Complete development of manufacturing processes that will reduce MCFC stack and other component production reject rates, reduce product cost per kW, and improve throughputs. These improvements will be incorporated into a MCFC manufacturing plant boosting production capacity from 6 MW to 50 MW per year. **Results:** FuelCell Energy (FCE) has completed the construction of a 50-MW Molten Carbonate Fuel Cell (MCFC) manufacturing facility in Torrington, CT. Each of the process lines has been tested and has achieved the 50 MW run rate. FCE reports that the new manufacturing processes incorporated into the Torrington facility have reduced stack module costs by a factor of two. This was driven by reducing the cost of non-repeating hardware (such as stack end plates) as well as improvements in process yields for repeating components (the cells themselves). Balance-of-plant cost ($/kW) has also been reduced by 40%. (MET GOAL)

FY 2001 Targets and Assessments

(1) Began testing of a 300kW-1MW solid oxide fuel cell/turbine hybrid commercial prototype for distributed power applications. (MET GOAL)

(2) Initiated construction of a fixed-bed slagging gasification and fuel cell demonstration project (Kentucky Pioneer Energy Project). (NEARLY MET GOAL)

(3) Began construction of a one MW Solid Oxide Fuel Cell (SOFC) hybrid. (BELOW EXPECTATIONS)

Plan of Action: This target is no longer applicable as a result of a program decision to redirect effort in this area to focus on further design improvements aimed at low-cost solid oxide fuel cell systems. Cancellation of this milestone to refocus the effort does not impact the higher-level objective or schedule.

FY 2000 Targets and Assessments

(1) Began testing of the first market prototype solid oxide fuel cell for distributed power applications. (MET GOAL)

(2) In support of Vision 21, completed testing of a 250kW fuel cell/turbine hybrid, and delivered a conceptual design of a one MW fuel cell/turbine hybrid power plant to facilitate market entry. (NEARLY MET GOAL)

Plan of Action: Tests on a 220KW hybrid unit will begin in December 2000, for a 6-month testing period.

FY 1999 Targets and Assessments

(1) Successfully operated a 100kWe solid oxide fuel cell for 4,000 hours. (MET GOAL)

GPRA Program Activity: Clean Fuels R&D

Description:
Clean Fuels R&D seeks to create mid-to long-term options for producing fuels for transportation and other end-use sectors from alternative domestic resources, such as coal and natural gas. Some specific key program areas include the development of: 1) new ceramic membranes that would separate coal gas, biomass-derived gas, or natural gas into synthesis gas for producing hydrogen or conversion to premium liquid fuels; 2) synthesis gas conversion processes for producing fuels that enable advanced vehicle engine/after-treatment systems to achieve high efficiencies and ultra-low emissions; and 3) high-value carbon products from coal that can be used in a wide range of industrial applications.

Complete Combined Advanced Air Separation Unit (ER4-5)

By 2007, complete development of a combined advanced air separation unit and partial oxidation membrane in a single compact reactor to provide significantly lower cost syngas and hydrogen from natural gas (25% less costly) to produce a variety of end-use transportation fuel products.

FY 2002 Targets and Results

Target: Complete laboratory scale test operations of a novel ITM-syngas ceramic membrane reactor to reduce gas-to-liquid fuel conversion costs.
Result: Tests to determine ceramic membrane performance in laboratory-scale apparatus are complete. The Ion Transport Membrane (ITM) H2/Syngas project has now tested five membranes which have each been operated for over six months at high pressure. Tests confirmed the selection of membrane materials and provided data for performance models. Additional laboratory-scale testing of catalysts and membrane stability will continue in support of pilot-scale operations in the Process Development Unit and future commercialization. From these laboratory successes, process design and economic evaluations, extrapolated to a commercial-scale (760 MMSCFD) hydrogen plant with CO_2 separation, showed the potential to provide a carbon-free "clean fuel" with over 30% capital cost savings in the syngas production step and over 20% capital cost savings in the overall hydrogen production/CO_2 separation plant. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed negotiations with industrial teams selected to implement the Early Entrance Co-production Plant (EECP) projects, and initiated Phase I of the three-phase activity. (MET GOAL)

(2) Completed laboratory evaluation of the initial set of hydrogen separation membranes. (MET GOAL)

(3) Began laboratory scale test operations of a novel syngas ceramic membrane reactor to reduce gas-to-liquid fuel conversion costs, and initiated construction of first stage scale-up of the reactor. (MET GOAL)

FY 2000 Targets and Assessments

(1) Complete solicitation for, and selection of, candidate industrial teams for the Early Entrance Co-production Plant (EECP) project in which innovative alternative fuels will be co-produced along with electricity and chemical products. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Domestic Oil and Gas Supply R&D

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Petroleum Research & Development	FE	21		65	63	55	43
Natural Gas Research & Development	FE	21		46	35	59	129

Description:

The Department's Domestic Oil and Gas Supply Program invests program funds in technology projects and in policy and regulatory analyses designed to ensure the availability of competitively-priced oil and natural gas supplies to support a strong U.S. economy, and to maximize the public benefit of the Nation's oil and gas resources. The Program's R&D activities focus on protecting the environment while enhancing the efficiency of domestic oil and natural gas exploration, recovery, processing, transport, and storage operations. Fossil Energy (FE) activities under this program support the following general performance goal that flows from the National Energy Policy and, as appropriate, the Department's Strategic Plan.

Technologies To Reduce Exploration and Production Cost (ER5-1)

By 2005, demonstrate advanced technologies with the potential to reduce exploration and production cost by five to ten percent. For difficult geologic settings, develop drilling and completion technologies and higher resolution imaging and diagnostics tools that can reduce costs, increase ultimate recovery, and reduce formation damage.

FY 2002 Targets and Results

Target: Demonstrate safe economic slimhole drilling technology in actual use under Arctic conditions. This technology can significantly reduce cost and environmental impacts. **Result:** The demonstration of safe economic slimhole drilling technology in actual use under Arctic conditions was completed during the 3rd quarter of 2002. Under this project, which had the goal of reducing the cost and environmental impact of drilling in the Arctic, four slimhole wells (approximately three inches in diameter) were successfully drilled and completed in the Red Dog Mine area in Alaska. This slimhole system reduced the cost of a typical well by 50% (from two million dollars to one million dollars) and reduced the size of the footprint to one-third that of a typical North Slope drilling system. (MET GOAL)

Target: Complete laboratory testing and begin field demonstrations of an improved remedial technology for storage wells. **Result:** Laboratory testing was completed. Field demonstration activities were initiated in first quarter 2003. Furness-Newburge, Inc., completed laboratory testing of a sonic tool for scale removal on casing supplied by Southern California Gas and Puget Sound Gas during August, 2002. On August 22, 2002, the final field and well site were selected by the project team and NICOR engineers. A field test plan was developed for the data collection, field operations, and data analysis. (MIXED RESULTS)
Plan of Action: The sonic tool will be tested in the Pontiac Gas Storage Field in early November 2002. Efforts to date continue to support the overall goal of reducing the cost of deliverability by ten percent per year.

Target: Develop two technologies to detect and quantify areas of high fracture density in currently uneconomic low permeability gas reservoirs. Select drill sites for demonstration of the two technologies.
Result: Four technologies/methodologies to detect and quantify areas of high fracture density made significant progress in FY 2002. These technologies are able to detect and quantify high fracture density in currently uneconomic low-permeability gas reservoirs. Progress has buttressed the projection that fracture-detection methodology can double the average per-well productivity, thus indicating the near-term commercial potential of the technologies.

Two technologies were demonstrated and verified through well drilling in FY 2002. These are: 1) The State University of New York at Buffalo completed geological field studies along with geochemical studies of near surface soil gas to detect and quantify anomalous fractured areas in New York State. These initial field data were integrated with subsurface seismic, gravity, and magnetic survey data to locate structural anomalies at the Trenton-Black River Limestone reservoir horizon that were evaluated as drilling targets for gas production. A

well was drilled between Seneca and Cayauga Lakes on a graben- horst feature that did not produce economic gas flow, but the drilling did hit a highly fractured dolomitized fault system where it was expected from the integration of the data available.

2) Lawrence Berkeley National Laboratory led an integrated team that evaluated high-resolution cross-well seismic surveying as a tool to quantify fracture density over a 1000-foot section of a sandstone reservoir in the western San Juan Basin of New Mexico. This investigation involved a collaborative effort with Conoco to evaluate the influence of fracture density and orientation on gas production using an azimuthal seismic survey in the borehole. Conoco drilled a dedicated research well for the cross-well seismic surveys and the results were very positive. The research well is currently producing gas and is one of the most productive wells in the field. The results of the seismic surveys are still being processed, but early results indicate that the azimuthal velocity differences can be used for fracture evaluation.

Well sites have been selected for two other technologies that have been developed. These technologies, which will be field verified in FY 2003, are: (3) Advanced Resources International continued development of a geomechanical model,which has been proven through well drilling in a development field setting. In a demonstration that focused on exploration, this model was used to help Burlington Resources locate a drill site for an exploration well. Burlington plans to drill the well in FY 2003 without further Government subsidy.

(4) In another exploration-driven demonstration, Geospectrum identified subsurface features associated with gas-filled fractures in the Lower Dakota sandstone in a nine-square-mile area by mapping seismically observed lineament density; seismically inferred gas saturation and clay-vs.-sand percentage; azimuthal differences in interval velocity and acoustic impedance; and an amplitude-vs.-offset anomaly that correlates well with known gas occurrences in wells, and is therefore considered a direct indicator of gas deposits. By overlaying these seismic and geologic attributes with production histories from existing wells, Geospectrum has predicted several optimum sites for new wells. Burlington Resources and DOE's NETL have selected and approved a site for drilling in early 2003. This was a direct application of fracture technology proven over an existing field by Blackhawk in Wyoming. (MET GOAL)

Target: Demonstrate a small-diameter, light-weight composite drill pipe for ultra-short radius drilling. **Result:** ACPT (Advanced Composite Products and Technology, Inc.), following laboratory commercial testing standards, fabricated several full-size strings of light-weight composite pipe and demonstrated that the composite pipe was commercially viable. The tests were so successful that three commercial companies have agreed to use several sections of the pipe in actual drilling operations in FY 2003. These operators are using this pipe with no subsidy from the Federal Government. The pipe when fully incorporated into the well will reduce the weight of the drill string by 50%. Because the rig can be smaller, this will reduce the cost associated with drilling deeper wells. The day rate for the largest onshore drilling rigs is around $40,000/day. Smaller rigs cost far less – as much as $20,000/day less. (MET GOAL)

FY 2001 Targets and Result

(1) Completed the demonstration of five advanced secondary and tertiary technologies. Based on models, it is estimated these technologies will increase near-term incremental production by 1.7 million barrels of oil, and long-term incremental production by over 2.4 billion barrels of oil. (NEARLY MET GOAL)

Plan of Action: DOE will continue to pursue the completion of the one remaining technology demonstration project. However, its completion is dependent upon the corporate plans and business strategy of the new property owner. The new owner/operator has expressed an interest in continuing work once the sale is completed and will request a modification to the contract with DOE. DOE program managers will work with the new owner/operator of the suspended demonstration project to minimize the delay in the demonstration of the new technology. However, the plan of action is completely dependent upon decisions by the new owner/operator. Successful resumption and completion of this project will allow the goals of this performance measure to be fully met. The new owner/operator has not provided a time frame for negotiating a modified contract.

(2) Demonstrated the field application of a shoulder-mounted, portable video methane leak detection system that can be used to significantly reduce costs of leak monitoring at refineries and other facilities while reducing harmful air emissions. Annual savings of $500,000 per year per refinery, on average, would result from regulatory acceptance and application of this technology. (BELOW EXPECTATIONS)

Plan of Action: Complete the refinery test in FY 2002. Analyze results and work with the Environmental Protection Agency and industry to implement this technology as the approved method for leak detection in U.S. refineries.

(3) Quantified a hydrate deposit by correlating core samples with geophysical and well log data. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed demonstration and transfer of seven advanced secondary and tertiary technologies, adding 92 million barrels of reserves, increasing the number of economic wells and reducing abandonment rates. (MET GOAL)

(2) Completed field testing and monitoring of two technologies for downhole separation of oil and water, resulting in reduction in produced water and a potential increase in oil production per well. (NEARLY MET GOAL)

(3) Demonstrated a cost-effective horizontal well and advanced exploration and stimulation technologies in low permeability natural gas formations for increasing recovery of the 5,000+ TCF of gas in place in the Greater Green River and Wind River Basins. (NEARLY MET GOAL)

Plan of Action: A stimulation demonstration will not be pursued at this time.

(4) Identified a site containing gas hydrates suitable for testing the feasibility of methane recovery. (MET GOAL)

FY 1999 Targets and Assessments

(1) Demonstrated four advanced production enhancement technologies that could ultimately add 190 million barrels of domestic reserves, including 30 million barrels during FY 1999. (EXCEEDED GOAL)

(2) Completed an online environmental compliance expert system, developed in cooperation with states, that will improve oil and gas production economics by giving producers on-line access to Federal and state rules and regulations, and allowing them to conduct environmental permitting and reporting over the Internet, reducing time and costs related to environmental compliance. (NEARLY MET GOAL)

Plan of Action: Online environmental compliance expert system has been completed and a website server is available on the National Petroleum Technology Office web page. The prototype Federal regulatory website has been updated with regulatory information and given a new format that serves as a foundation for the expert system to answer producers' questions on compliance with Federal environmental laws. For State systems, completed a model for State oil and gas regulatory websites with the Interstate Oil and Gas Compact Commission and the State of Indiana. Indiana will assist other States to implement similar websites.

(3) Completed development of one Advanced Drilling, Completion & Stimulation technology system that could contribute to an additional 6 trillion cubic feet (TCF) of domestic gas reserves by 2010. (MET GOAL)

GPRA Program Activity: FE R&D Crosscutting and Special Activities

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Program Direction & Management Support	FE			*	*	*	*
Environmental Restoration	FE			**	**	**	**
Cooperative Research & Development	FE			**	**	**	**
Fuels Program	FE			**	**	**	**
Advanced FE Metallurgical Research	FE			**	**	**	**

* – In accordance with OMB statement of Federal Financial standards number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, these costs were allocated to the programs and are not reported separately.
** – These are not responsibility segments.

Description:

These programs primarily support the salaries and benefits of the Federal staff that manage FE programs or are relatively small, special activities in FE. Therefore, this group does not have performance goals and, therefore, has no associated targets. In particular:

- Program Direction and Management Support provides funding for salaries, benefits and overhead expenses for management of the FE program at Headquarters, the Federal Energy Technology Center, and the National Petroleum Technology Office.
- Environmental Restoration funds activities to ensure protection of workers, the public, and the environment in performing the FE mission at FE field facilities.
- Cooperative R&D funds collaborative strategic research at two former FE facilities.
- The Fuels Program includes management of the regulatory review of natural gas imports and exports, exports of electricity, and the construction and operation of electricity lines that cross U.S. international borders.
- Advanced Metallurgical Research carries out research concerning the extraction, processing, use and disposal of mineral substances at the Albany Research Center in Oregon. These funds primarily support the salaries and benefits of the Federal staff that manage FE programs or are relatively small, special activities in FE. Therefore, this group of budget lines does not have performance goals that meet the criteria for inclusion in this plan.

GPRA Program Activity: Petroleum Reserves

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Strategic Petroleum Reserve (SPR)	FE	21		157	166	195	318
Naval Petroleum and Oil Shale Reserves	FE	21		15	12	16	28

Description:

Petroleum Reserves includes the Strategic Petroleum Reserve (SPR), the Northeast Home Heating Oil Reserve, and the Naval Petroleum and Oil Shale Reserves (NPOSR). The SPR ensures and maintains the readiness of the capability to draw down and distribute crude oil from the SPR inventory to commercial distribution systems in order to protect the domestic U.S. economy from the impact of energy supply disruptions. SPR executes U.S. obligations to act cooperatively with member nations of the International Energy Agency (IEA) to deter or respond to supply disruptions which would adversely affect member nations. The Northeast Home Heating Oil Reserve was authorized via the Energy Policy Act of 2000 (Public Law 106-469) and permanently established in March 2001. The two million barrel heating oil reserve is separate from the SPR, and is capable of assuring home heating oil supply for the Northeast states during times of very low inventories and significant threats to immediate further supply. The reserve is located in commercial facilities located in New York Harbor; New Haven, Connecticut; and Rhode Island.

Maintain an Effective Strategic Petroleum Reserve (ER6-1)

Maintain an effective Strategic Petroleum Reserve (SPR) to deter and respond to oil supply disruptions and cooperate with the importing member nations of the International Energy Agency. Ensure achievement of a calculated site availability of 95% or greater with drawdown capability of 4.4 million barrels per day for a sustained 90 day period, within 15 days notice by the President. Maintain the Northeast Home Heating Oil Reserve to respond to and mitigate the regional effects of a severe short-term energy supply disruption in the Northeast. Ensure the capability to complete drawdown within 12 days of a Presidential notice.

FY 2002 Targets and Results

Target: Continue the delivery of exchanged Federal Royalty Oil to the SPR that was transferred to DOE in FY 1999-2001, per the FY 1999 Agreement with the Department of Interior. Approximately 11 million barrels will be added to SPR inventory in FY 2002. **Result:** Delivery to the SPR of exchanged Federal Royalty Oil was continued, per the FY 1999 Agreement with the Department of the Interior. In FY 2002, this effort added approximately 9.4 million barrels to SPR inventory, and contributed toward the total delivery to inventory of 42.5 million barrels during the fiscal year, from all exchange and Federal Royalty Oil agreements. (MET GOAL)

Target: Commence the transfer of Federal Royalty Oil under Phase III to the SPR in April 2002. By the end of FY 2002, add 9.2 million barrels of royalty oil to the SPR inventory. **Result:** Transfer of Federal Royalty Oil to the SPR under Phase III commenced in April 2002. In FY 2002, approximately 10.2 million barrels of royalty oil from Phase III were added to the SPR inventory, exceeding the projected target for this effort. (MET GOAL) **Plan of Action:** Additional contracts are planned for award for FY 2003 delivery and beyond as the mechanism for filling the SPR to capacity.

Target: Award the contract for degas plant construction by November 30, 2001. A degas plant is a vapor pressure system for the continuous removal of excess gas from the SPR crude oil inventory. **Result:** Completed the annual target with the award on November 29, 2001, of the firm fixed-price turnkey (design/build) contract to Petrofac LLC of Tyler, Texas, to provide a portable degas plant for continuous removal of excess gas from the SPR crude oil inventory. (MET GOAL) **Plan of Action:** Project is on schedule with additional milestones scheduled in future fiscal years.

FY 2001 Targets and Assessments

(1) Established a Northeast Heating Oil Reserve of up to two million barrels. (MET GOAL)

(2) Completed the transfer of Federal Royalty Oil to the SPR by November 2000, per the FY 1999 Agreement with the Department of Interior. (MET GOAL)

FY 2000 Target and Assessment

(1) Completed contracting for the transfer and/or exchange of 28 million barrels of Federal Royalty Oil from the Department of the Interior for a net increase of approximately 23 million barrels in the SPR inventory, with deliveries of a remaining four million barrels in FY 2001. (MET GOAL)

(2) Completed the Life Extension Program to ensure the long-term reliability, effectiveness, and operational readiness of SPR facilities and systems. (MET GOAL)

(3) Ensured the achievement of a calculated site availability of 95% or greater with drawdown capability of 4.1 million barrels per day for a sustained 90-day period within 15 days notice by the President. (MET GOAL)

FY 1999 Targets and Assessments

(1) Initiated additional SPR infrastructure Life Extension Program projects, thereby bringing program implementation to approximately 96% of the $328 million program. (MET GOAL)

GPRA Program Activity: Nuclear Energy R&D

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Nuclear Energy Research Initiative	NE	21		29	25	20	6
Advanced Accelerator Applications	NE	21		56	30	10	*
Nuclear Energy Plant Optimization	NE	21		6	5	1	*
Nuclear Energy Technologies	NE	21		10	7	*	*

* – These were not responsibility segments in this fiscal year.

Description:

Our Nation's investments in nuclear energy R&D are made in response to the benefits that are now routinely expected by the public, and in anticipation of those new benefits that are likely to accrue. Currently, emission-free nuclear power plants produce 20% of our Nation's electricity. The *National Energy Plan* calls for the expansion of nuclear energy in the United States. In support of this goal, the Department's nuclear energy R&D programs address improving the performance of the Nation's current operating nuclear power plants, addressing the key technical issues impacting the expanded use of nuclear energy, deploying new nuclear plants by 2010, and developing advanced reactor and fuel cycle concepts. Nuclear Energy's R&D is conducted under the following programs: Nuclear Energy Plant Optimization; Nuclear Energy Research Initiative; Nuclear Energy Technologies; Advanced Nuclear Medicine Initiative; and Advanced Accelerator Applications.

Key Issues of Economics, Proliferation, and Waste Management (ER7-1)

Effectively address the key issues of economics, proliferation, and waste management that affect the future use of nuclear energy by conducting long-term, investigator-initiated, peer-reviewed research and development.

FY 2002 Targets and Results

Target: Complete the first 3-year phase of NERI research and development. **Result:** The first 3-year phase of NERI research and development (R&D) was completed as of September 30, 2002. NERI R&D addresses key scientific and technical issues related to expanded use of nuclear energy in a global economy and helping to preserve the Nation's nuclear science and technology infrastructure. (MET GOAL)

Target: Complete funding for the 10 NERI projects initiated in FY 2000; provide funding for the second year of the 13 NERI projects initiated in FY 2001; and, award at least 16 new NERI projects. **Result:** Funding for the 10 NERI projects initiated in FY 2000 and for the 13 NERI projects initiated in FY 2001 was provided by September 30, 2002. Also in FY 2002, 24 new NERI projects were awarded that are focused on advanced nuclear energy systems including production of hydrogen using nuclear power, advanced nuclear fuels/cycles, materials sciences, and fundamental chemistry. (MET GOAL)

Target: Award at least six International NERI bilateral cost-shared research projects with three countries. **Result:** Eight I-NERI bilateral cost-shared research projects were awarded as follows: one with France, six with Korea, and one with the Nuclear Energy Agency (NEA). In addition, funding was provided for the three I-NERI cost-shared projects initiated with France in FY 2001. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed funding for the first 3-year phase of Nuclear Energy Research Initiative (NERI) research and development; selected feasible and important reactor and fuel cycle concepts for continued development; and, issued approximately 15 new awards. (MET GOAL)

(2) Established bilateral research programs with other countries to improve the cost, and enhanced the safety, non-proliferation, and waste management capabilities of future nuclear energy systems. (MET GOAL)

FY 2000 Targets and Assessments

(1) Continued Nuclear Energy Research Initiative (NERI) research to improve the understanding of new reactor and fuel cycle concepts and nuclear waste management technologies, and began to develop a preliminary feasibility assessment of the concepts and technologies. (MET GOAL)

(2) Advanced the state of scientific knowledge and technology to enable incorporation of improved proliferation resistance, safety, and economics in the potential future design, and development of advanced reactor and nuclear fuel systems. (MET GOAL)

FY 1999 Targets and Assessments

(1) Established a peer-reviewed Nuclear Energy Research Initiative, initially funded at $19 million, to select and conduct investigator-initiated innovative scientific and engineering research that will address the issues facing the future of nuclear power in the U.S., including proliferation concerns, economics, and the management of nuclear waste. (MET GOAL)

Resolution of Nuclear Power Plant Issues (ER7-2)

Contribute to the resolution of nuclear power plant issues in the four critical R&D areas related to long-term plant aging, and the development of advanced technologies in three critical R&D areas to improve plant reliability, availability, and productivity to ensure that current plants can continue to operate up to and beyond their initial license period.

FY 2002 Targets and Results

Target: Complete five projects initiated in prior years associated with managing long-term effects of plant aging and improving electricity generation. **Result:** Completed five prior year projects associated with managing the long-term effects of plant aging and improving electricity generation. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed four projects, continued 10 projects initiated in FY 2000, and initiated eight new projects to conduct R&D activities associated with managing long-term effects of plant aging and improving electricity generation. (MET GOAL)

FY 2000 Targets and Assessments

(1) Issued the first update to the Joint DOE/EPRI Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants. (MET GOAL)

(2) Implemented a cooperative cost-shared R&D program by working with industry, universities, national laboratories, and the Nuclear Regulatory Commission to address technical issues that could impact continued operation of current nuclear power plants. (MET GOAL)

FY 1999 Targets and Assessments

(1) Completed Memoranda of Understanding with the Nuclear Regulatory Commission and the Electric Power Research Institute (EPRI) to guide future implementation of the Joint DOE-EPRI Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants. (MET GOAL)

Commercial Nuclear Power Plants for Deployment (ER7-3)

Successfully address the regulatory, technical, and institutional issues to enable one or more orders for new commercial nuclear power plants in the United States by 2005 for deployment by 2010.

FY 2002 Targets and Results

Target: Develop and sign an agreement with U.S. industry and our international partners to begin a gas reactor fuel-testing program that will enable licensing of gas-cooled reactors in the United States. **Result:** Existing agreements established between NE, General Atomics, and the European Commission's High Temperature Reactor Technology Network are being used by the Department to sponsor a multi-year gas reactor fuel irradiation test program at the High Flux Reactor in Petten, the Netherlands. The results from the test program will support the licensing of advanced gas-cooled reactors in the United States which are identified as a candidate for deployment in the Nuclear Energy Research Advisory Committee Report, "A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010." INEEL and ORNL, in conjunction with industry, NRC and DOE, developed and issued a program plan for the development and qualification of advanced gas reactor fuels in the United States in September 2002. (MET GOAL)

Target: Complete at least two cooperative agreements with U.S. power generating companies to jointly proceed with at least two NRC Early Site Permit (ESP) applications for specific DOE and/or commercial sites. **Result:** Early Site Permit Scoping Study award selections were announced February 2002. Two ESP Scoping Study cooperative agreements were finalized and issued on April 15, 2002, with Dominion Energy Inc. and on May 3, 2002, for Exelon Company LLC. Final scoping study project reports were issued in September 2002. An ESP Demonstration solicitation was issued and proposals were received on April 15, 2002. Award

selections were made June 3, 2002. Three cooperative agreements with Dominion Energy Inc., Exelon Company LLC, and Entergy Nuclear Potomac Company were completed September 2002. (MET GOAL)

Target: Complete and issue the government/industry roadmap to build new nuclear plants in the United States by 2010. **Result:** On October 31, 2001, a Near-Term Deployment Working Group, operating under the direction of the Department's Nuclear Energy Research Advisory Committee, completed and issued "A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010" which recommends actions to be taken by industry and the Department to support deployment of new advanced nuclear power plants in the United States by 2010. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Develop Next-Generation Nuclear Energy Systems (ER7-4)

Develop, in close cooperation with the international community and industry, one to three next-generation nuclear energy systems that represent significant improvements in all aspects of nuclear power technology.

FY 2002 Targets and Results

Target: Complete the draft Generation IV Technology Roadmap for development of the next generation nuclear energy systems. **Result:** The draft Generation IV Technology Roadmap for development of next generation nuclear energy systems was completed. On September 30, 2002, the Nuclear Energy Research Advisory Committee agreed that the roadmap was an initial foundation for the U.S. program. (MET GOAL)

FY 2001 Targets and Assessments

Formally established the Generation IV International Forum to assist in identifying and conducting cooperative R&D. Initiated development of a Generation IV Technology Roadmap for development of next generation nuclear energy systems. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Support Advanced Medical Research (ER7-5)

Support advanced medical research in order to develop an isotope-based treatment to address all forms of cancer by the end of the decade.

FY 2002 Targets and Results

Target: Complete two, and based on the technical merits of the grants, approve the continuation of 12 research and curriculum development awards funded by three-year Advanced Nuclear Medicine Initiative grants to universities, hospitals and research institutions. **Result:** Two three-year Advanced Nuclear Medicine Initiative grant projects have been completed. Technical merits of the 12 continuation research and curriculum development grants were evaluated using a peer-review process. Two continuation grants were awarded and ten continuation grants were not awarded before the end of the year. (MIXED RESULTS) **Plan of Action:** The remaining ten funding continuations are being processed and will be awarded by the end of the first quarter of FY 2003.

FY 2001 Targets and Assessments

Provided five grants under the Advanced Nuclear Medicine Initiative. (MET GOAL)

FY 2000 Targets and Assessments

Implemented the Advanced Nuclear Medicine Initiative by providing isotopes or financial assistance for at least five researchers. (MET GOAL)

FY 1999 Targets and Assessments

There were no related targets.

Develop and Demonstrate Advanced Proliferation Technology (ER7-7)

Develop and demonstrate an advanced, proliferation-resistant technology to reduce the quantity and toxicity of U.S. commercial spent nuclear fuel (thus enhancing the operation of a future geologic repository) while simultaneously enabling the United States to vastly increase the efficient use of its nuclear fuel resources.

FY 2002 Targets and Results

Target: Following completion of primary sodium drain, complete deactivation of Experimental Breeder Reactor II (EBR-II) and all directly related surplus facilities by March 2002. **Result:** The EBR-II in Idaho was deactivated and officially closed on March 25, 2002, thus completing a major Departmental effort that began in 1994 with a Congressional decision to terminate the Integral Fast Reactor Program and shut down EBR-II. Closure activities included defueling the reactor, draining and processing the sodium coolant, placing the sodium-bonded spent nuclear fuel in storage until it can be treated, and placing the reactor and non-reactor systems in an industrially and radiologically safe condition. (MET GOAL)

Target: Treat a minimum of 0.5 MTHM of EBR-II spent nuclear fuel. **Result:** A total of 0.6 metric tons of heavy metal (MTHM) of EBR-II spent nuclear fuel were treated, which exceeded the 0.5 MTHM target. Pyroprocessing of EBR-II spent nuclear fuel is a critical component of understanding how to reduce the toxicity of spent nuclear fuel for fast reactors. (MET GOAL)

Target: Demonstrate the separation of highly radioactive isotopes from civilian spent nuclear fuel from uranium with the uranium cleaned up to 99.999% pure (Class C waste), using the newly developed UREX process. **Result:** The hot UREX demonstration of separating highly radioactive isotopes from civilian spent fuel at the Savannah River Technology Center was conducted. The demonstration separated uranium from the highly radioactive isotopes in the spent nuclear fuel. Initial analyses indicate 99.999% purity was achieved. (MET GOAL)

Target: Successfully manufacture advanced transmutation non-fertile fuels and testing containers for irradiation testing in the Advanced Test Reactor. **Result:** Several advanced transmutation non-fertile fuel specimens have been fabricated, and testing containers have been constructed. Irradiation testing is a key activity in the development of proliferation-resistant fuels for advanced fast reactors. (MET GOAL)

Target: Complete a report to Congress comparing chemical processing, and pyroprocessing, accelerator-driven, and fast reactor alternatives for transmutation, proliferation resistance, and life cycle cost estimates. **Result:** The "Report to Congress on Advanced Fuel Cycle Initiative: The Forward Path for Advanced Spent Fuel Treatment and Transmutation Research" was completed and is awaiting Office of Management and Budget concurrence. (MIXED RESULTS) **Plan of Action:** The Office of Management and Budget is expected to send the report to Congress.

FY 2001 Targets and Assessments

(1) Completed the conversion and disposition of 100% of the Fermi reactor sodium coolant in storage at ANL-W. (MET GOAL)

(2) Completed draining the EBR-II primary system and process 100% of all EBR-II sodium in compliance with the INEEL Site Treatment Plan. (MET GOAL)

(3) Treated a minimum of 0.5 metric tons of heavy metals (MTHM) of EBR-II spent nuclear fuel. (MET GOAL)

(4) Established new international agreement on advanced accelerator applications programs with at least one country that significantly leverages financial and technical resources, to the mutual benefit of both countries, particularly in areas such as safety, fuels and materials development, and facility operations. (MET GOAL)

(5) Established a new Advanced Accelerator Applications university fellowship program, and funded ten new graduate students in engineering and science. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed the conversion and disposition of 100% of the secondary sodium coolant from EBR-II, and 40% of the Fermi reactor sodium coolant in storage at ANL-W. (MET GOAL)

(2) Initiated draining sodium from the EBR-II primary system and processing it for disposal. (MET GOAL)

(3) Completed Fuel Conditioning Facility maintenance and resumed sodium-bonded fuel treatment activities. (MET GOAL)

(4) Established a science and engineering based research program into Accelerator Transmutation of Waste (ATW) technology development. Commenced systems studies to establish and evaluate technology options and narrow choices. Issued a Program Plan for the conduct and management of the ATW research program. (MET GOAL)

FY 1999 Targets and Assessments

(1) Completed the demonstration of the electrometal-lurgical spent fuel treatment technology by the end of FY 1999 using Experimental Breeder Reactor-II spent nuclear fuel. (MET GOAL)

(2) Completed the conversion and disposition of 100% of the secondary sodium coolant from EBR-II, and 40% of the Fermi reactor sodium coolant in storage at Argonne National Laboratory-West. (ANL-W) Target reached in FY 2000. (NEARLY MET GOAL)

GPRA Program Activity: Nuclear Energy Educational Infrastructure

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
University Nuclear Science and Reactor Support	NE	21		19	15	15	10

Description:

To retain the capability in the U.S. to conduct research, address pressing environmental challenges, and preserve the nuclear energy option, DOE must work with U.S. university nuclear engineering programs to maintain the education and training infrastructure necessary to develop the next generation of nuclear scientists and engineers. The University Reactor Fuel Assistance and Support program provides funding for U.S. university nuclear engineering programs and university research reactors, which play a critical role in providing this education and training. While the number of nuclear engineering programs and research reactors in the United States has declined precipitously during the 1980s and 1990s, the Nation's need for nuclear engineers and nuclear trained personnel is on the rise due to the excellent job market, the lack of large numbers of recent nuclear engineering graduates, and the increasing number of retirements in the nuclear field. Demand for nuclear engineers now exceeds supply.

Produce Highly Trained Nuclear Engineers and Scientists (ER7-6)

Enable United States universities to continue to produce highly trained nuclear engineers and scientists to supply the Nation's energy, environmental, health care, and national security needs by increasing overall enrollment by three percent per year over the next five years.

FY 2002 Targets and Results

Target: Attract outstanding U.S. students to pursue nuclear engineering degrees by:
- Providing 18 graduate student fellowships with higher stipends beginning in FY 2002;
- Supporting 50 university Nuclear Engineering Education Research Grants to encourage creative and innovative research at U.S. universities; and
- Providing scholarships and summer on-the-job training to approximately 40 sophomore, junior, and senior nuclear engineering and science scholarship recipients.

Result: Outstanding students were attracted to pursue nuclear engineering degrees by taking the following actions:

- A total of 18 graduate student fellowships were awarded;
- A total of 50 Nuclear Engineering Education Research Grants were supported; i.e. 20 new grants were awarded to 20 universities in May 2002 and funding was provided to continue 30 grants awarded in previous years; and
- 50 scholarship awards and summer on-the-job training opportunities were provided to sophomore, junior and senior nuclear engineering and science recipients in May 2002. (MET GOAL)

Target: Support U.S. universities' nuclear energy research and education capabilities by:
- Providing fresh fuel to university reactors requiring this service;
- Funding all of the 23 universities with research reactors that apply for reactor upgrades and improvements;
- Partnering with private companies to fund 20 to 25 DOE/Industry Matching Grants for universities;
- Providing funding for Reactor Sharing with the goal of enabling all of the 28 eligible schools that apply for the program to improve the use of their reactors for teaching, training, and education; and
- Awarding two or more Innovations in Nuclear Infrastructure and Education awards. (MET GOAL)

Result: U.S. universities' nuclear energy research and education capabilities geared to foster increased enrollments were supported as shown below:

Fresh fuel was provided to all university reactors that required this service as follows:

- Missouri in February 2002;
- MIT and Missouri in April 2002;
- Additional fresh fuel shipments are planned to Missouri in August and MIT in September;
- Spent fuel shipments are planned for Missouri in August, and MIT and Michigan in September;
- 23 university reactor upgrade grants were announced June 10, 2002;

• 21 DOE/Industry Matching Grants/Awards for universities were announced June 10, 2002;
• Of the 28 eligible schools, Reactor Sharing award selections were made to the 21 who applied and were announced June 10, 2002; and
• Four Innovations in Nuclear Infrastructure and Education awards were announced June 10, 2002 to help increase the use of university research reactors. (MET GOAL)

FY 2001 Targets and Assessments

Supported U.S. universities' nuclear energy research and education capabilities by:

• Providing fresh fuel to all university reactors requiring this service;
• Funding at least 23 universities with research reactors for reactor upgrades and improvements;
• Partnering with private companies to fund 18 or more DOE/Industry Matching Grants Program for universities; and
• Continued to support Reactor Sharing enabling each of the 29 schools eligible for the program to improve the use of their reactors for teaching, training, and education within the surrounding community.
• Attract outstanding U.S. students to pursue nuclear engineering degrees by:
-Providing 24 fellowships;
-Increasing the number of Nuclear Engineering Education Research Grants to approximately 50 existing and new grants; and
-Providing scholarships to approximately 50 sophomore, junior, and senior nuclear engineering and science scholarship recipients, including the partnering of minority institutions with nuclear engineering schools to allow these students to achieve a degree in their chosen course of study and nuclear engineering. (MET GOAL)

FY 2000 Targets and Assessments

(1) Attracted outstanding U.S. students to pursue nuclear engineering degrees by:

• Providing 18-20 fellowships;
• Increasing the number of Nuclear Engineering Education Grants to 45 existing and new grants; and
• Providing scholarships and summer on-the-job training to approximately 50 sophomore, junior and senior nuclear engineering and science scholarship recipients. (EXCEEDED GOAL)
(2) Supported U.S. universities' nuclear energy research and education capabilities by:
• Providing fresh fuel to all university reactors requiring this service;
• Providing funding for reactor upgrades and improvements at least 23 universities;
• Partnering with 17 or more private companies to fund DOE/Industry Matching Grants Programs for universities; and
• Increasing the funding for Reactor Sharing by 20% over FY 1998, enabling each of the 29 schools eligible for the program to improve the use of their reactors for teaching, training, and education within the surrounding community. (EXCEEDED GOAL)

FY 1999 Targets and Assessments

(1) Attracted outstanding U.S students to pursue nuclear engineering degrees by:

• Increasing the number of fellowships from 14 to 22;
• Increasing the number of Nuclear Engineering Education Grants from 19 to over 40; and
• Providing summer on-the-job training to 29 junior and senior nuclear engineering scholarship recipients. (MET GOAL)
(2) Supported U.S. universities' nuclear energy research and education capabilities by:
• Providing fresh fuel to all university reactors requiring this service;
• Funding at least 20 universities with research reactors for reactor upgrades and improvements;
• Partnering with 19 or more private companies to fund DOE/Industry Matching Grants Program for universities; and
• Increasing the funding for Reactor Sharing by 40% over FY 1998, enabling each of the 26 schools involved in the program to improve the use of their reactors for teaching, training, and education within the surrounding community. (MET GOAL)

GPRA Program Activity: Nuclear Energy Infrastructure

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Isotope Production & Distribution Program	NE	21		18	19	25	27
Fast Flux Test Facility	NE	21		65	41	42	36
ANL-West	NE	21		42	45	50	*
Nuclear Facilities Management	NE	21		37	45	59	*
Advanced Radioisotopes Powersystems	NE	21		33	30	35	45

* These were not responsibility segments in these fiscal years.

Description:

Infrastructure Programs provide for the management of the Department's vital resources and capabilities at sites and facilities assigned to the Office of Nuclear Energy, Science and Technology (NE). These resources ensure that the Department's unique facilities are available to meet the vital missions of the Federal government, and that these assets are maintained in a safe, secure, environmentally-compliant and cost-effective manner, ensuring the protection of site workers, the public, and the environment. Programs include the Fast Flux Test Facility (FFTF), ANL-West, and Nuclear Facilities Management.

Fast Flux Test Facility is a U.S. Government-owned 400 megawatt, sodium-cooled research reactor located on the Hanford Site near Richland, Washington. In December 2001, after a review of possible missions and future commercial uses for the Fast Flux Test Facility, the Department determined that restart of the FFTF is impracticable. Accordingly, activities to permanently deactivate the facility are underway.

Argonne National Laboratory - West (ANL-W) Operations maintains and operates essential facilities at ANL-W, safely and securely managing all special nuclear materials at ANL-W, and deactivating unneeded facilities.

Nuclear Facilities Management will shut down and deactivate the Experimental Breeder Reactor-II (EBR-II) at ANL-W and carry out the long-term treatment and management of DOE's sodium-bonded spent nuclear fuel.

The Isotope Production and Distribution Fund includes all isotope production costs financed by revenues from sales of isotopes products and services. Revenue projections for FY 2003 total $8 million.

Protect Our Nation's R&D Infrastructure (ER7-8)

Protect our Nation's nuclear R&D infrastructure by managing the Department's vital resources and capabilities efficiently and effectively, such that, by December 2004, major research/critical facilities will continue to be operational and available for fulfillment of long-term missions as funded by industry and other Federal agencies while unneeded facilities are deactivated in a safe and cost-effective manner.

FY 2002 Targets and Results

Target: Complete upgrades to the FFTF fuel handling control systems and achieve readiness to initiate their validation in FY 2003. **Result:** Upgrades to the FFTF fuel handling control systems were completed and readiness to initiate their validation in FY 2003 has been achieved. (MET GOAL)

Target: Negotiate implementation of a revised Hanford Federal Facility Agreement and Consent Order milestones for FFTF deactivation. **Result:** Signatories to the Hanford Federal Facility Agreement have accepted implementation of revised milestones that would result in completion of FFTF deactivation in February 2011. (MET GOAL)

Target: Meet the milestones for legacy waste cleanup at Test Reactor Area (TRA) in the Voluntary Consent Order between the State of Idaho and DOE, and efficiently manage resources to limit growth in the backlog of maintenance to no more than 10%. **Result:** The Voluntary Consent Order milestones for FY 2002 for legacy waste cleanup at TRA have been completed. The growth in the maintenance backlog for TRA was 6% for FY 2002, which meets the goal of limiting the growth to no more than 10%. (MET GOAL)

Target: Complete 80% of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived radioisotopes essential for U.S. medical research. **Result:** Completed pre-2002 outage work, conventional facility construction, and Transition Region Beamline installation. The overall project, including total estimated cost and other project cost activities, reached 86.7% complete at the end of September. (MET GOAL)

Target: Bring the full-scale scrap recovery line to full operation and begin processing Pu-238 scrap for reuse in ongoing and future missions requiring use of radioisotope power systems. **Result:** The full-scale scrap recovery line was on schedule to be brought to full operation and begin processing Pu-238 by the end of the fiscal year. In April 2002, the Defense Nuclear Facilities Safety Board (DNFSB) raised concerns about the authorization basis that the Department was unable to resolve prior to the end of the fiscal year. Resolution of their concerns will require modifications to some equipment and changes in the safety characterization of some equipment. Making these changes will extend the startup date to the end of the second quarter of FY 2003. (MIXED RESULTS) **Plan of Action:** NNSA has established a response to each of the DNFSB concerns. The responses involve changes to the equipment or safety basis. Once consensus is reached with the DNFSB on the responses, the Department will move forward to complete the required actions to allow the scrap recovery line to be brought to full operation by the end of the second quarter of FY 2003.

Target: Demonstrate the operational capability of radioisotope power systems infrastructure by fabricating quality products at each of the major facilities (i.e., at least eight iridium clad vent sets at ORNL and at least eight encapsulated Pu-238 fuel pellets at LANL). **Result:** Flight quality products at ORNL and LANL demonstrated the operational status of these facilities. Eight iridium clad vent sets were produced at ORNL and eight encapsulated pellets were fabricated at LANL. (MET GOAL)

Target: Develop conceptual design of a Stirling Radioisotope Power System suitable for space exploration missions. **Result:** The conceptual design of a Stirling Radioisotope Power System for space exploration missions has been completed. As part of a competitive procurement, conceptual designs were developed by three contractors. One contractor was selected to proceed to develop their design and fabricate and test an engineering unit. This system, when developed, supports the Department's capability to provide electrical power for spacecraft in future NASA missions. (MET GOAL)

Target: Complete assessment of special purpose fission technology options required to power advanced spacecraft to the outer planets and on the surface of Mars. **Result:** The assessment of fission technology options for space applications was completed. A summary assessment report was prepared that addressed both power for advanced spacecraft and for power on the surface of Mars. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed 75% of the facility construction and equipment installation for the new 100 MeV Isotope Production Facility, which is needed to continue production of short-lived radioisotopes essential for U.S. medical research. (MET GOAL)

(2) Completed installation of the full scale Pu-238 scrap recovery line to process Pu-238 scrap that will be required to provide radioisotope power

systems for planned NASA and national security missions. (MET GOAL)

(3) Competitively selected system integration contractor to develop a flight qualified Stirling Radioisotope Power System for future space exploration missions. (NEARLY MET GOAL)

Plan of Action: The three contractors submitted final revised proposals for the second and third phases of the contract. The revised proposals were evaluated by the Source Evaluation Board (SEB) in August 2001. The program was ready to make an award in FY 2001; however, contract award was delayed into FY 2002 awaiting funding from NASA.

(4) Completed an initial assessment of special purpose fission technologies that are focused on concepts and technologies for space applications. (MET GOAL)

FY 2000 Targets and Assessments

(1) Maintained the FFTF in a safe, environmentally compliant standby condition while implementing a Secretarial decision to conduct a National Environmental Policy Act (NEPA) review of the environmental impacts of enhancing the Department's nuclear research facility infrastructure. (MET GOAL)

(2) Completed at least 40% of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived isotopes for medical research. (MET GOAL)

(3) Completed bench scale demonstration of the process to recover Pu-238 scrap for reuse in power systems for future missions using radioisotope power systems. (MET GOAL)

(4) Executed an industrial contract and initiated associated laboratory efforts to develop small Radioisotope Thermoelectric Generators (RTGs) for anticipated use on NASA's Europa Orbiter and Pluto/Kuiper missions planned for launch in 2003 and 2004.[1] (MET GOAL)

FY 1999 Targets and Assessments

(1) Maintained the Fast Flux Test Facility (FFTF) in a safe, environmentally compliant standby condition to permit implementation of an anticipated Secretarial decision in FY 1999 to deactivate or pursue a potential restart to support a range of national research requirements. (MET GOAL)

(2) Initiated construction and commissioning of the Los Alamos Isotope Production Facility to improve isotope quality with greater operating efficiency. (MET GOAL)

Deliver Isotope Products and Services (ER7-9)

Deliver isotope products and services for commercial, medical, and research applications where there is no private sector capability or sufficient capacity does not exist to meet the United States needs such that by December 2004, deliveries continue to be made to customers as needed.

FY 2002 Targets and Results

Target: Supply quality stable and radioactive isotopes for industrial, research, and medical applications that continue to meet customer specifications no less than 97% of the time, and maintain 95% on-time deliveries.
Result: Quality stable and radioactive isotopes for industrial, research, and medical applications met customer specifications greater than 98% of the time, and on-time deliveries were also 98% for radioisotopes and for stable isotopes. (MET GOAL)

FY 2001 Targets and Assessments

(1) Supplied quality stable and radioactive isotopes for industrial, research, and medical applications that met customer specifications no less than 97% of the time, and maintained 95% on-time deliveries. (MIXED RESULTS)

FY 2000 Targets and Assessments

(1) Supplied quality stable and radioactive isotopes for industrial, research, and medical applications that met customer specifications and maintained 95% on-time deliveries. (NEARLY MET GOAL)

Plan of Action: As of September 30, 2001, the Medical Isotope program exceeded 94% on-time deliveries out of 589 shipments and met customer specifications at 99%, however, the events of September 11th did cause a small number of shipments to be late.

FY 1999 Targets and Assessments

(1) Supplied quality stable and radioactive isotopes for industrial, research, and medical applications that met customer specifications and maintained 95% on-time deliveries. (EXCEEDED GOAL)

Note:

[1]Since the development of this goal, NASA has changed its mission plans and priorities and has deferred the Pluto mission and has asked DOE to develop and baseline a Stirling Radioisotope Power System for the 2006 Europa Orbiter mission and maintain the viability of using spare RTGs and assembling a spare converter from the Cassini mission as backups for the Europa Orbiter mission.

GPRA Program Activity: Energy Information Administration

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Energy Information Administration	EIA	21		80	78	74	72

Description:

As an independent statistical/analytical agency, the Energy Information Administration (EIA) has two principal roles. First, its primary responsibility is to conduct the functions required by statute. This responsibility consists of the development and maintenance of a comprehensive energy database and the publication of reports and analyses for a wide variety of customers in the public and private sectors. There are also specific reports that are required by law. Second, EIA responds to inquiries for energy information. The primary customers of EIA services are public policymakers in the Department of Energy and the Congress. Other customers include other agencies within the Executive branch and the independent agencies of the Federal Government, state and local governments, the energy industry, educational institutions, the news media, and the public. EIA activities under this program support the following general performance goal that flows from the Department's Strategic Plan.

Discussion:

In 1997, in cooperation with the Office of the Assistant Secretary for Energy Efficiency and Renewable Energy (EE), EIA committed to increasing the average number of unique monthly users of its website by 20% annually, from a combined baseline of 70,000. In FY 1997, average monthly user sessions for EIA and EE were 71,500, or slightly higher than the agreed upon baseline average for the combined websites. EIA's actual contribution to this baseline was an average of 64,700 unique monthly users. In the following year, EIA averaged 104,700 unique monthly users, and for FY 1999, EIA averaged 152,600 unique monthly user sessions. That growth in the number of customers continues. During FY 2000, EIA averaged over 322,100 unique monthly users of its website, an increase of over 110% from the previous year. For FY 2001, monthly Internet user sessions averaged in excess of 602,500, which represents a 87.0% increase from FY 2000. In FY 2002, EIA had an increase of over 2.3 million unique users of EIA's website. This growth rate continued the seven year trend of either meeting or exceeding projected growth rates.

Provide National and International Data Analyses (ER8-1)

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

FY 2002 Targets and Results

Target: Maintain and improve web-based networks for the Energy Resources organizations to ensure wide distribution of information about Energy Resources programs, such that the average number of unique monthly users of Energy Resources Websites will continue to grow at least 20% per year through 2005 (from a baseline of about 71,000 per month in 1997). **Result:** EIA had an increase of over 2.3 million unique monthly users of EIA's website for the fiscal year. This growth exceeds the expected target growth rate. (MET GOAL)

FY 2001 Targets and Assessments

Achieved a growth rate of at least 20% per year in the average number of unique monthly users of EIA's website (from about 71,000 per month in 1997). For FY 2001, monthly Internet user sessions averaged in excess of 602,500 which represents a 87.0% increase from FY 2000. (MET GOAL)

FY 2000 Targets and Assessments

Achieved a growth rate of at least 20% per year in the average number of unique monthly users of EIA's website (from about 71,000 per month in 1997). During FY 2000, EIA averaged over 322,100 unique monthly users of its website, an increase of over 110% from the previous year. (MET GOAL)

FY 1999 Targets and Assessments

Achieved a growth rate of at least 20% per year in the average number of unique monthly users of EIA's website (from about 71,000 per month in 1997). For FY 1999, EIA averaged 152,600 unique monthly user sessions, an increase of over 40% from the prior year. (MET GOAL)

GPRA Program Activity: Power Marketing Administrations

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Power Marketing Administrations	BPA, SEPA, SWPA, WAPA	21 21 21 21		(64)	355	(265)	(150)

Description:

The Power Marketing Administrations' (PMAs) missions fulfill the requirements of the Bonneville Project Act of 1937, Section 9 of the Reclamation Project Act of 1939, Section 5 of the Flood Control Act of 1944, the Federal Columbia River Transmission System Act, the Pacific Northwest Electric Power Planning and Conservation Act, and various other acts by marketing and reliably delivering cost-based Federal hydroelectric power, with preference given to publicly-owned electric utilities and cooperatives. This is accomplished by charging rates for supplying Federal power to consumers that are as low as possible, while recovering all operating costs and repaying the Federal investment in power facilities in a timely manner.

The PMAs' programs help achieve the Department's Energy Resources goal through the strategic objective of ensuring Federal hydropower is marketed and delivered reliably to customers in the West, Midwest, and Southeastern United States, repaying Federal power investment, and providing safe working conditions.

Notes:

- Beginning in FY 2001, the Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration's Construction, Rehabilitation, Operation, & Maintenance Account fund purchased power and wheeling through the use of revenues from the sale of power and other alternative financing methods, such as net billing and bill crediting.
- The Bonneville Power Administration Fund and the Colorado River Basins Power Marketing Fund are revolving funds and require no appropriations. Net Receipts from the Colorado River Basins Power Marketing Fund are included in Corporate Management (CM), and reflected in CM's Budget Summary Table.
- DOE's Budget Request is considered discretionary funding. The Bonneville Fund is considered mandatory funding, so its expenses are not included in this table.
- FY 2003 appropriated amounts in this table reflect the Administration's legislative proposal to fully fund post-retirement pension and health benefits in each agency's appropriation. FY 2001 and FY 2002 appropriations have been adjusted to be comparable.

Ensure Federal Hydropower Market (ER9-1)

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 injury frequency rate at or below our safety performance standard.

FY 2002 Targets and Results

Bonneville Power Administration

Target: Bonneville Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards. **Result:** The CPS 1 "pass" rating must be at least 100% for each month in the reporting period and the CPS 2 "pass" rating must be at least 90% for each month in the reporting period to achieve the "green" status. Bonneville Power Administration's CPS 1 measure exceeded 100% for each month in the four quarters of FY 2002, with an average of 197.5% over that period. Bonneville's CPS 2 measure exceeded 90% for each month in the four quarters of FY 2002, with an average of 96.8% over that period. (MET GOAL)

Target: Bonneville Power Administration will meet planned repayment of principal on power investment. **Result:** Planned amortization of $46.5 million for appropriations and $192.5 million for BPA bonds was paid in September 2002. Advance amortization of $266 million was also paid in September 2002. This consisted of $150.5 million for appropriations and $115.5 million for BPA bonds. (MET GOAL)

Target: Bonneville Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. **Result:** At the end of the fourth quarter of FY 2002, Bonneville had a recordable accident frequency rate of 1.7 per 200,000 hours worked, which is below both the 3.3 frequency rate and the Bureau of Labor's most recent rate of 4.8. (MET GOAL)

Southwestern Power Administration

Target: Southwestern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards. **Result:** Southwestern Power Administration (Southwestern) has an average Control Performance Standards (CPS) 1 rating for FY 2002 of 193.29%. Southwestern has an average CPS 2 rating for FY 2002 of 99.68%. (MET GOAL)

Target: Southwestern Power Administration will meet planned repayment of principal on power investment. **Result:** FY 2002 revenues available for repayment are presently estimated at 105% of planned repayment of principal on the Federal power investment. However, audited financial statements for the consolidated Federal power system, which includes both the U.S. Army Corps of Engineers generating projects and Southwestern's transmission system, will not be available by October 31, 2002. (MET GOAL)

Target: Southwestern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. **Result:** At the end of FY 2002, Southwestern has a recordable accident frequency rate of 5.5 or 67% above the 3.3 recordable accident frequency rate. (NOT MET) **Plan of Action:** Southwestern has had one recordable injury due to electrical contact over a fifty-nine year period. The majority of incidents involve back injuries due to falls and lifting heavy objects. Even though the incidents have not been life threatening, they have caused lost work days. Southwestern is concerned about the obvious preventable incidents and is implementing the following plan of action:

- Place more emphasis on job briefings and job hazard analysis;
- Conduct ergonomic training to address proper lifting and other correct work postures;
- Involve employees in safety meetings by making peer presentations on how to work more safely and think safety before and during performance of a given task. Sessions will focus on slips, trips and falls, ergonomics, and attitude toward working safely;
- Conduct formal safety presentations directed toward improving safety performance;
- Assign collateral safety responsibility to the foreman and team leaders who will also attend Safety and Health Team meetings by teleconference every other month;
- Perform a comprehensive review of standard operating work procedures to properly address slips, trips and falls, job hazard analysis and ergonomics;
- Review the safety awards program for effectiveness;
- Review employee performance elements to include a safety element; and
- Involve the local union International Brotherhood of Electrical Workers in the safety program by presenting on-site safety meetings on safe working conditions and practices.

Southeastern Power Administration

Target: Southeastern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards. **Result:** The CPS 1 pass rating must average 100% over a rolling 12

month period. The average CPS 1 rating for nine months of the fiscal year through June 30, 2002 is 221.17%. The CPS 2 pass rating is 90% in each month, and Southeastern has an average CPS 2 rating for nine months of the fiscal year through June 30, 2002 of 99.09%. (MET GOAL)

Target: Southeastern Power Administration will meet planned repayment of principal on power investment. **Result:** Net revenues for FY 2002 are below 80% of planned repayment of principal of the Federal investment. This is the result of several years of severe drought in the southeastern United States. Power purchase and wheeling expenses are high and revenue is considerably lower. (NOT MET) **Plan of Action:** Southeastern has proposed rate increases to increase revenue, changed rate design to pass through Power purchase and wheeling charges, and increased cost recovery from fixed charges. Rate studies are being evaluated to address one of the worst drought periods on record.

Target: Southeastern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. **Result:** At the end of FY 2002, Southeastern has a recordable accident frequency rate of 0.0% (MET GOAL) **Plan of Action:** Anticipating few recordable accidents for the remainder of this fiscal year, Southeastern will continue to emphasize safety issues.

Western Area Power Administration

Target: Western Area Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards. **Result:** The CPS 1 pass rating must average 100% over a rolling 12 month period. The CPS 2 pass rating is 90% in each month. Western has an average CPS 1 rating for FY 2002 of 185.66%. Western's average CPS two for the same period is 98.51%. (MET GOAL)

Target: Western Area Power Administration will meet planned repayment of principal on power investment. **Result:** Incomplete results (data not available). Final results will be based on audited financial statements, estimated to be available in December 2002. Because of severe drought conditions across a large portion of Western's service territory, resulting in reduced hydrogeneration, it is doubtful this target will be met. (NOT MET) **Plan of Action:** Rate adjustments for several of Western's power systems will become effective in Fall 2002. Rate studies are continuing to be evaluated for the remaining systems. This performance target focuses on short-term repayment, with volatile results due to the strong influence of drought and the price of firming energy purchased to meet contractual commitments. Western is planning to adopt measures in its FY 2003 annual performance plan that are less short-term in nature, which reflect its record of repayment over time and are more compatible with the long-term focus of Western's rate making methodology.

Target: Western Area Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. **Result:** Western's total recordable accident rate for FY 2002 is one, far exceeding its goal of 3.3. The latest Bureau of Labor Statistics Rate is 4.8. (MET GOAL)

FY 2001 Targets and Assessments

Bonneville Power Administration

(1) Reliability Performance: BPA. (MET GOAL)

(2) Principal Repayment: BPA. (MET GOAL)

(3) Recordable accident frequency rate: BPA (MET GOAL)

Southwestern Power Administration

(1) Reliability Performance: SWPA (MET GOAL)

(2) Principal Repayment (ER9): SWPA (NEARLY MET GOAL) **Plan of Action:** Southwestern Power Administration nearly met repayment target because rainfall was below normal. Southwestern's corrective action: conduct power repayment study to see if rates need to be adjusted.

(3) Recordable accident frequency rate: SWPA (MET GOAL)

Southeastern Power Administration

(1) Reliability Performance: SEPA (MET GOAL)

(2) Principal Repayment: SEPA (BELOW EXPECTATIONS) **Plan of Action:** Southeastern Power Administration was below expectation on the repayment target because of severe drought for the last three years with less power generation from hydroelectric projects. Southeastern's Corrective Action: Review repayment studies and change rates, as necessary, according to Federal regulation to bring repayment up to established goals and schedules.

(3) Recordable accident frequency rate: SEPA (MET GOAL)

Western Area Power Administration

(4) Reliability Performance: WAPA (MET GOAL)

(5) Principal Repayment: WAPA (BELOW EXPECTATIONS) **Plan of Action:** Repayment targets were below expectations due to below normal rainfall over several watersheds in the marketing area. WAPA will conduct power repayment studies for each project and initiate rate adjustments where needed to ensure all investments are repaid within their allowable repayment periods.

(6) Recordable accident frequency rate: WAPA (MET GOAL)

FY 2000 Targets and Assessments

Bonneville Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

(2) Met planned repayment of principal on power investment. (MET GOAL)

(3) Achieved a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (MET GOAL)

Southwestern Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

(2) Met planned repayment of principal on power investment. (MET GOAL)

(3) Achieved a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (MET GOAL)

Southeastern Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

(2) Met planned repayment of principal on power investment. (NEARLY MET GOAL) **Plan of Action:** Southeastern Power Administration was below expectation on the repayment target because of severe drought for the last three years with less power generation from hydroelectric projects. Southeastern's Corrective Action: Review repayment studies and change rates, as necessary, according to Federal regulation to bring repayment up to established goals and schedules.

(3) Achieved a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (MET GOAL)

Western Area Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

(2) Met planned repayment of principal on power investment. (MET GOAL)

(3) Achieved a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (MET GOAL)

FY 1999 Targets and Assessments

Bonneville Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

Southwestern Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

Southeastern Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

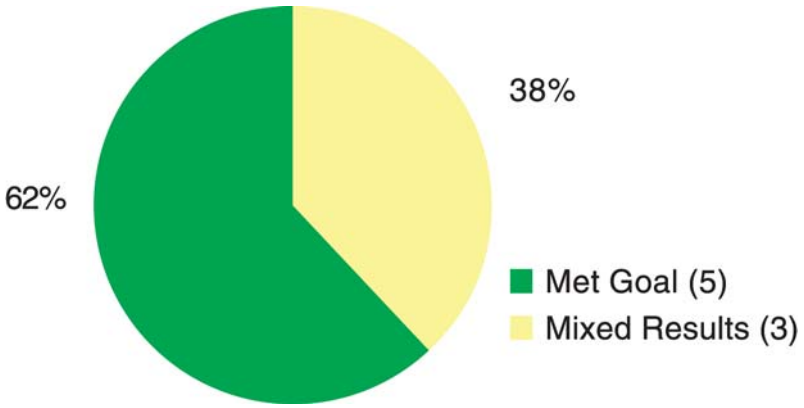
Western Area Power Administration
(1) Ensured that each power system control area operated by a Power Marketing Administration received, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (MET GOAL)

Environmental Quality

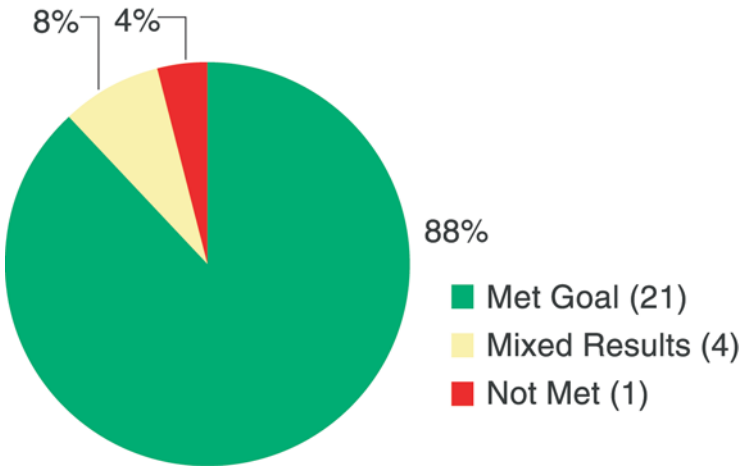
Goal: Aggressively clean up the environmental legacy of nuclear weapons and civilian nuclear research and development programs at 114 of the Department's sites; permanently dispose of the Nation's radioactive wastes; minimize the social and economic impacts to individual workers and their communities resulting from Departmental activities; and ensure the health and safety of DOE workers, the public, and protection of the environment.

The following pages contain detailed information on the results achieved for the revised final Environmental Quality programs' performance goals and targets for FY 2002 as presented in the FY 2003 Annual Performance Plan. There were eight Program Strategic Performance Goals (PSPGs) in FY 2002 for the Environmental Quality programs. The overall results are:

Program Strategic Performance Goals



Annual Targets



GPRA Program Activity: Environmental Management

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Site Project Completion	EM	22		1,511	1,141	1,181	1,155
Defense Facilities Close Projects	EM	22		1,400	1,386	1,407	1,403
Post 2006 Completion	EM	22		3,143	2,782		
Technology Development	EM	22		248	280	258	294

Description:

The Environmental Management (EM) program structure categorizes projects according to their specific appropriation—Defense Environmental Restoration and Waste Management, Defense Facilities Closure, Defense Environmental Management Privatization, Non-Defense Environmental Management, and the Uranium Facilities Maintenance and Remediation Account. EM's program accounts reflect near-term goals and emphasis on completion:

- **Cleanup Reform** provides funding to accelerate activities related to site or facility closure or alternative cleanup strategies, which have the potential for significant life-cycle cost savings over the current baseline cleanup approach.
- **Site Closure** provides funding for completing cleanup and closing down facilities at sites with no continuing federal presence, except for stewardship activities. EM has established a goal of completing cleanup at the sites in this account by the end of 2006.
- **Site/Project Completion** funds those projects (rather than sites) for which EM has established a goal of completion by 2006 at: (1) EM sites where overall site cleanup will not be fully accomplished by 2006; and (2) DOE sites where EM has set a goal of completion of all EM projects by 2006 (except for long-term stewardship activities), but where there will be a continuing Federal workforce at the site to carry out continuing non-EM missions.
- **Post 2006 Completion** provides funding for projects and sites that are expected to require work beyond 2006. This account includes efforts at the largest DOE sites, and also provides funding for the Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.
- **Post 2006 Completion—Office of River Protection** is solely responsible for activities at the Office of River Protection associated with the management, stabilization, treatment, storage, and vitrification of tank wastes.
- **Safeguards and Security** provides funding to ensure appropriate levels of protection against unauthorized access, theft, diversion, loss of custody, or destruction of DOE assets and hostile acts that may cause adverse impacts on national security or the health and safety of DOE and contractor employees, the public, or the environment.
- **Excess Facilities** supports the transfer of contaminated excess facilities to EM from other programs for surveillance and maintenance, and eventual decontamination and decommissioning.
- **Program Direction** provides the critical oversight and management functions for the EM program, including Federal salaries, travel, and other costs.
- **Science and Technology** funds the EM Technology program, which will focus on high priority technical needs at closure sites, identifying technical vulnerabilities, and focusing on near-term projects.
- **Other Uranium Activities Account** supports important government activities related to the Federal Uranium Enrichment Program that were not transferred to the United States Enrichment Corporation (USEC).
- **Uranium Enrichment Decontamination and Decommissioning Fund** includes projects to maintain, decontaminate, decommission, and otherwise remediate uranium processing facilities.
- **The Privatization Account** funds selected projects where the contractor finances the project and does not receive the contractually specified payment from the government until the project or services are delivered in accordance with the contract.

Complete Geographic Site Cleanup (EQ1-1)

Complete geographic site cleanup at 92 of the 114 cleanup sites by FY 2006. Continue cleanup at the remaining sites, including the five largest sites, scheduled for completion in the post 2006 timeframe.

FY 2002 Targets and Results

Target: Complete remediation at one additional geographic site, the Weldon Spring Site in Missouri. **Result:** The Environmental Management program completed one geographic site in FY 2002, the Weldon Spring Site in Missouri. (MET GOAL)

Target: Conduct a top-to-bottom review of the Environmental Management program to ensure a proper and clear focus of the mission programmatic goals and objectives. **Result:** A Top-to-Bottom Review of the Environmental Management (EM) program was completed February 2002. As a result of the review, EM has developed an aggressive plan of action to change how EM approaches its cleanup mission. The EM program is now focusing on accelerating risk reduction and cleanup. EM is currently evaluating, on a site-by-site basis, its performance metrics and milestones to align with the program's new accelerated risk reduction and cleanup approach. EM intends to develop new performance measures, which will more clearly capture the overall progress towards completion of the end-point objective of site cleanup. By developing performance measures which will objectively and accurately measure overall program performance, EM will be in a position to meaningfully monitor and report overall progress towards acceleration risk reduction and cleanup. (MET GOAL)

Target: Update EM Infrastructure Restoration Plan to support 10 year facilities and infrastructure planning. **Result:** Following completion of the Top-to-Bottom Review in February 2002, EM is focusing its resources on accelerating risk reduction and site closure. To do so requires a focus on its core mission – cleanup and closure while addressing the utility of those business practices that don't support the EM mission. As a result of the Review, EM sites have developed, and will continue to refine, Performance Management Plans (PMPs) that define cleanup end states and strategies to reach those end states. The PMPs address facilities and infrastructure planning, not only for the next 10 years, but over the project's life-cycle as well. (MET GOAL)

Target: Complete action addressing safety and health issues at Paducah from 1990 forward (Phase 1). **Result:** The Paducah Corrective Action Plan from EH investigations and all 77 actions have been closed and verified as of April 3, 2002. Three of the 76 corrective actions targeted to be completed in FY 01 were not completed. The three outstanding actions were completed in FY 02. (MET GOAL)

Target: Complete 113 release sites. **Result:** At the end of FY 2004, 129 release sites had been completed. (MET GOAL)

Target: Complete 42 facility decommissioning projects. **Result:** At the end of FY 2002, 136 facility decommissionings were completed. (MET GOAL)

Target: Deactivate 30 facilities. **Result:** At the end of FY 2002, 36 facilities were deactivated. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed remediation at three geographic sites. (MET GOAL)

(2) Completed actions addressing safety and health issues at Paducah from 1990 forward (Phase I). (MET GOAL)

(3) Completed 196 release sites. (NEARLY MET GOAL) **Plan of Action:** Completed 186 (the stated target was revised after publication to 196) release site cleanups.

(4) Complete 28 facility decommissioning. (MET GOAL)

(5) Deactivated 20 facilities. (EXCEEDED GOAL)

FY 2000 Targets & Assessments

(1) Completed remediation at two geographic sites. (MET GOAL)

(2) Monitored field activities and participate in reviews at Savannah River Operations Office to ensure adherence to project costs and schedules. (MET GOAL)

(3) Completed 252 release site cleanups. (NEARLY MET GOAL)

Plan of Action: Completed 207 release site cleanups.

(4) Completed 82 facility decommissionings. (NEARLY MET GOAL)

Plan of Action: Completed 77 of the 82 facility decommissioning.

(5) Deactivated 30 facilities. (MET GOAL)

FY 1999 Targets and Assessments

(1) Geographic Site Cleanup. EM completed three sites in FY 1999. (MET GOAL)

(2) Release Site Cleanup Progress. (NEARLY MET GOAL) **Plan of Action:** EM completed 161 of the planned 165 release site cleanups.

(3) Facility Decommissioning Progress. EM decommissioned 92 facilities. (EXCEEDED GOAL)

(4) Facility Deactivation Progress. (MET GOAL)

Safely Dispose of Waste Generated (EQ1-2)

Safely and expeditiously dispose of waste generated during past and current DOE activities. Continue shipment of transuranic (TRU) waste for disposal at the Waste Isolation Pilot Plant (WIPP).

FY 2002 Targets and Results

Target: Produce 205 canisters of HLW. **Result:** At the end of FY 2002, 173 canisters of HLW were produced. (NOT MET) **Plan of Action:** Only 84% of the FY 2002 target was met due to the Defense Waste Processing Facility (DWPF) at the Savannah River Site not meeting its target. The processing facility did not achieve the expected canister production in FY 2002 because of melter degradation. This degradation was due to one of the four dome heaters failing and continued melter pour spout problems. The melter far-exceeded its design life of two and one half years by operating for over eight years. Though there are no specific plans to make up the FY 2002 shortfall in FY 2003, it is envisioned that the SRS Performance Management Plan will address any near-term canister production shortfalls.

Target: Ship 4,709 cubic meters of TRU waste to WIPP for disposal. **Result:** At the end of FY 2002, 5,122 cubic meters of TRU waste were shipped to WIPP for disposal. (MET GOAL)

Target: Dispose of approximately 8,446 cubic meters of MLLW. **Result:** At the end of FY 2002, 8,435 cubic meters of MLLW were disposed of. (MIXED RESULTS) **Plan of Action:** Given the fact that 99.9% of the target was met, no plan of action was deemed necessary. It is expected that the FY 2003 target will be met.

Target: Treat approximately 2,765 cubic meters of MLLW. **Result:** At the end of FY 2002, 2,694 cubic meters of MLLW were treated. (MIXED RESULTS) **Plan of Action:** Given the fact that 97% of the target was met, no plan of action was deemed necessary. It is expected that the FY 2003 target will be met.

Target: Dispose of approximately 76,655 cubic meters of LLW. **Result:** At the end of FY 2002, 97,374 cubic meters of LLW were disposed. (MET GOAL)

FY 2001 Targets and Assessments

(1) Produce 225 canisters of HLW. (MET GOAL)

(2) Ship 2,425 cubic meters of TRU waste to Waste Isolation Pilot Plant (WIPP) for disposal. (BELOW EXPECTATIONS) **Plan of Action:** There are a number of reasons that shipments to the (WIPP) were lower than the FY 2001 goal. These reasons include: number of "stand downs" at INEEL to correct conduct of operations problems and equipment outage; delays caused by the New Mexico Environment Department (NMED) by reclassifying and approval of certain permit modifications that affected waste characterization activities at sites; delays by NMED in approving site certification audits; and delays in shipments due to weather. INEEL and RFETS have requested an increase in the number of scheduled shipments per week to WIPP to help DOE keep commitments under the Idaho Settlement Agreement and meeting the 2006 Rocky Flats Site Closure target. The WIPP program is seeking additional FY 2002 funding to increase the weekly number of shipments received at WIPP.

(3) Dispose of approximately 8,271 cubic meters of MLLW. (BELOW EXPECTATIONS) **Plan of Action:** The target was missed due to the unavailability of the prerequisite number of treatment facilities and temporary interruptions in shipping activities. A key treatment facility has now come on line and shipping interruptions have been resolved. This combination of corrective actions should enable the department to meet its FY 2002 target.

(4) Treat approximately 4,814 cubic meters of MLLW. (NEARLY MET GOAL) **Plan of Action:** Target was missed because commercial treatment facilities expected to be operating did not come on line. One of the commercial treatment facilities has now come on line and will support meeting EM's FY 2002 target.

(5) Dispose of approximately 47,908 cubic meters of LLW. (EXCEEDED GOAL)

FY 2000 Targets and Assessments

(1) Produced 200 canisters of HLW at the Defense Waste Processing Facility (DWPF) at Savannah River Site and five canisters of HLW at the West Valley Demonstration Project. (EXCEEDED GOAL)

(2) Ship 1,200 cubic meters of TRU waste to WIPP for disposal. (BELOW EXPECTATIONS) **Plan of Action:** From October 1, 1999 to November 8, 1999, only non-RCRA waste was received at WIPP while awaiting approval of the RCRA permit. Due to the wording of the permit, the waste sites had to realign their programs to conform with the requirements. Receipt of waste resumed on March 10, 2000, after a four-month delay.

(3) Implemented the permit requirements in parallel with the court challenge and begin Mixed TRU waste disposal operations at WIPP in FY 2000. (MET GOAL)

(4) Disposed of 10,000 cubic meters of MLLW. (EXCEEDED GOAL)

(5) Treated 6,973 cubic meters of MLLW. (MET GOAL)

(6) Disposed of 40,000 cubic meters of LLW. (EXCEEDED GOAL)

FY 1999 Targets and Assessments

(1) High Level Waste (HLW) Progress-Canisters Produced. (EXCEEDED GOAL)

(2) Transuranic (TRU) Waste Progress-Shipments to WIPP. (NEARLY MET GOAL) **Plan of Action:** Approximately 282 cubic meters of TRU waste were shipped to WIPP for disposal. The plan was to prepare 700 cubic meters and ship 100 to 200 cubic meters. Delayed opening of WIPP postponed the preparation of additional waste for disposal.

(3) Mixed Low-Level Waste (MLLW) Disposal Progress. (MET GOAL)

(4) Mixed Low-Level Waste (MLLW) Treatment Progress. (MET GOAL)

(5) Low-Level Waste (LLW) Disposal Progress. (BELOW EXPECTATIONS) **Plan of Action:** Disposed of more than 49,400 cubic meters of LLW of the 73,000 planned. Contributing factors were lack of agreement with the State of Nevada on cleanup standards and lack of NEPA authority to ship stored waste at Oak Ridge.

Stabilize Nuclear Material and Spent Nuclear Fuel (EQ1-3)

Stabilize nuclear material and spent nuclear fuel by producing safer chemical and/or physical forms of the material, and reduce the level of potential risk to personnel from radiation exposure or to the environment from contamination.

FY 2002 Targets and Results

Target: Stabilize 110 containers of plutonium metals/oxides and 17,225 kilograms bulk of plutonium residues. **Result:** At the end of FY 2002, 243 containers of plutonium metals/oxides and 18,001 kilograms bulk of plutonium residues were stabilized. Rocky Flats was the main contributor to the EM program not meeting its FY 2001 plutonium residue target. In FY 2002, Rocky Flats completed stabilizing all remaining plutonium residue at the site. (MET GOAL)

Target: Move to dry storage 601 metric tons heavy metal (MTHM) of spent nuclear fuel (SNF). **Result:** At the end of FY 2002, 510 metric tons heavy metal of SNF were moved to dry storage. (MIXED RESULTS) **Plan of Action:** Continued equipment and operational problems have significantly reduced the rate of N-Reactor spent nuclear fuel removal from wet storage in the Hanford K-Basin and packaging into Multi-Canister Overpacks for dry storage in the Canister Storage Building. The fuel primary cleaning machine basket failed, shutting down all fuel processing until another basket could be prepared and installed. In addition, a Multi-Canister Overpack failed an integrated leak test. The following corrective actions have been implemented to help increase equipment reliability and efficiency of moving fuel from wet to dry storage: rinse and wash reductions, reduced fuel inspections, equipment improvements and redesign, additional spare parts, pre-planned work packages, and better maintenance outage planning and coordination. Despite these corrective actions, the FY 2002 target of 601 MTHM was not met.

FY 2001 Targets and Assessments

(1) Stabilized 510 containers of plutonium metals/oxides and 29,456 kilograms bulk of plutonium residues. (BELOW EXPECTATIONS) **Plan of Action:** Richland was the primary contributor to not meeting the stabilization of plutonium metals/oxides target. Start-up of packaging equipment at Richland was delayed by three months due to delivery and installation problems. Operations are on hold to resolve a weld porosity problem with packages. Necessary adjustments to work schedule to be made when weld problem corrected. Main contributor to not meeting the stabilization target for plutonium residues was Rocky Flats; however, all residue stabilization is still planned to be completed at Rocky Flats by the May 2002 DNFSB commitment date.

(2) Moved to dry storage 195 metric tons of heavy metal (MTHM) of spent nuclear fuel (SNF). (EXCEEDED GOAL)

FY 2000 Targets and Assessments

(1) Stabilized 400 containers of plutonium metals/oxides, 41,000 kilograms bulk (kg) of plutonium residues, and 130 handling units of other nuclear material in other forms. (NEARLY MET GOAL) **Plan of Action:** Stabilized 29,460 kg bulk of plutonium residues, 574 containers of plutonium metals/oxides, and 224 handling units of other nuclear materials.

(2) Moved to dry storage 35.1 metric tons of heavy metal (MTHM) of spent nuclear fuel (SNF) to dry storage. (BELOW EXPECTATIONS)

Plan of Action: Moved approximately three tons of MTHM to dry storage.

FY 1999 Targets and Assessments

(1) Nuclear Material Stabilization (Plutonium) Progress. (NEARLY MET GOAL)

Plan of Action: EM stabilized 31,033 kilograms bulk of plutonium residues, 16 liters of plutonium

solution, and 275 containers of plutonium metals/oxides. Seismic issue and equipment malfunctions of the stabilization system at Richland contributed to the shortfall.

(2) Spent Nuclear Fuel (SNF) Stabilization Progress. (BELOW EXPECTATIONS) **Plan of Action:** In FY 1999, 0.34 MTHM of SNF was stabilized. This was a result of a criticality issue discovered in the de-watering system operation that precluded processing Three Mile Island spent nuclear fuel canisters.

Deploy Innovative Technologies That Reduce Cost (EQ1-4)

Deploy innovative environmental cleanup, nuclear waste, and spent fuel treatment technologies that reduce cost, resolve currently intractable problems, and/or are more protective of workers and the environment.

FY 2002 Targets and Results

Target: Complete transition to a new Science and Technology (S&T) program and establish a new performance indicator for the S&T program by the end of FY 2002.* **Result:** Transition to a new S&T program was completed in FY 2002. A new performance measure will be developed to track the progress of the S&T program and will be included in EM's annual Fiscal Year Congressional Budget request. (MET GOAL)

FY 2001 Targets and Assessments

(1) Accomplished 200 innovative technology deployments. (MET GOAL)

FY 2000 Targets and Assessments

(1) Accomplished 60 innovative technology deployments. (EXCEEDED GOAL)

FY 1999 Targets and Assessments

(1) Technology Deployment Progress. (EXCEEDED GOAL)

*The February Top-to-Bottom Review of the Office of Environmental Management (EM) Program recommended the redirection of the Science and Technology (S&T) Program. The Assistant Secretary for Environmental Management has directed the reorientation of the S&T program to streamline and focus the program on high payback activities. Transition to a new S&T program will be completed by the end of FY 2002, at which time a new performance indicator will be determined for this goal.

GPRA Program Activity: Civilian Radioactive Waste Management

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Civilian Radioactive Waste Management	RW	22		85	90	1,608	197

Description:

The Office of Civilian Radioactive Waste Management (RW) implements the Federal policy for permanent disposal of high-level radioactive waste and spent nuclear fuel, in order to protect the public health and the environment. Based on the results of the site investigations and related field and laboratory testing conducted over the past 20 years to determine the suitability of the Yucca Mountain, Nevada, candidate repository site, Secretary Abraham, on February 14, 2002, recommended to President Bush that the President approve the site and recommend it to Congress as the repository site. The Secretary forwarded to the President a comprehensive statement of the basis for his recommendation, as required by the Nuclear Waste Policy Act, which included a final environmental impact statement, preliminary comments from the Nuclear Regulatory Commission (NRC), and the views and comments of the Governor and legislature of the State of Nevada. On February 15, 2002, the President approved the Secretary's recommendation and forwarded it to Congress.

Congress approved the designation and the President signed the designation into law on July 23, 2002. Under current plans, waste acceptance at the repository could commence in 2010. However, the Department's schedule remains critically dependent on adequate program funding. Any additional reductions will impact critical near-term milestones for repository development, and possibly the planned 2010 waste acceptance date. During the licensing and pre-construction phase of the program, funding well in excess of past appropriations will be required. In addition, the Department will have to address the concerns of local citizens and national opposition groups, as well as legal challenges.

Obtain Yucca Mountain Construction Authorization (EQ2-1)

Obtain a repository construction authorization from the Nuclear Regulatory Commission in 2008.

FY 2002 Targets and Results

Target: Submit a Final Environmental Impact Statement to the President as required by the Nuclear Waste Policy Act (NWPA). **Result:** The Final Environmental Impact Statement (EIS) for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, was transmitted to the President by the Secretary of Energy on February 14, 2002, as part of the documentation supporting the Yucca Mountain Site Recommendation. (MET GOAL)

Target: Submit a Site Recommendation Report to the President. **Result:** On February 14, 2002, the Secretary of Energy formally recommended to the President that the Yucca Mountain site in Nevada be developed as the Nation's first geologic repository for spent nuclear fuel and high-level radioactive waste. On February 15, 2002, the President recommended the site to Congress. Both houses of Congress voted to override the Governor of Nevada's veto of the President's recommendation. On July 23, 2002, the President signed House Joint Resolution 87 into law and the site designation took effect. (MET GOAL)

Target: Issue Nuclear Waste Policy Act Section 180(c) Notice of Revised Proposed Policy and Procedures for public comment. **Result:** The Nuclear Waste Policy Act Section 180(c) Notice of Revised Policy and Procedures was drafted and was undergoing Departmental review. However, as a result of this Departmental review, it was decided, in consultation with the Office of General Counsel, that it was not appropriate to issue the notice at this time. There are multiple reasons for this decision:

1. The amount of related training States and Native American tribes have already received and continue to receive in response to the September 11, 2001, terrorist attacks.
2. The Nuclear Regulatory Commission and the Department of Transportation are considering revising their regulations to require armed escorts for all spent nuclear fuel shipments.
3. OCRWM will issue a transportation plan for shipments to Yucca Mountain in FY 2003, which will discuss how Section 180(c) of the Nuclear Waste Policy Act will be implemented. (NOT MET)

Plan of Action: RW's transportation plan, scheduled for issuance in FY 2003, will address how RW plans to proceed with the implementation of Section 180(c) of the Nuclear Waste Policy Act, and will include opportunities for public comment. This plan will also incorporate any changes resulting from possible revisions of NRC and DOT regulations.

Target: Begin development of updated Total System Life Cycle Cost and Fee Adequacy reports. **Result:** A letter report supplementing the May 2001 Total System Life Cycle Cost Analysis and Fee Adequacy reports was issued in February 2002. In addition, a detailed response to the Independent Cost Estimate Review of OCRWM's 2001 Total System Life Cycle Cost Report was issued. Some deficiencies in estimating methodology were identified and are being corrected. Several other studies and reports that will be used in developing the next Total System Life Cycle Cost Analysis and Fee Adequacy reports were completed. (MET GOAL)

Target: Issue draft request for proposals for waste acceptance and transportation services. **Result:** Since this target was established, RW reassessed its strategy for acquiring the transportation fleet, equipment, and services needed to implement its national transportation program. Risks and technical and schedule uncertainties, which presented problems to implementing the strategy laid out in the Request for Proposal (RFP) issued in 1998, are unlikely to diminish in the foreseeable future. Therefore, RW implemented an alternative strategy to mitigate the impact of these uncertainties and to address issues that have evolved since the original RFP was issued. This strategy entails the issuance of a new statement of work (SOW) rather than a draft RFP. The draft SOW was issued on September 30, 2002, and meets the purpose of the original performance target. The approach contained in the draft SOW addresses the ongoing business, schedule, and operational risks associated with the transportation of spent nuclear fuel and high-level radioactive waste. The draft SOW solicits comments on the acquisition approach and facilitates the issuance of a final RFP in FY 2003, as originally planned. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed the scientific and technical documents that will provide the technical basis for a possible site recommendation. (MET GOAL)

(2) Conducted statutory hearings in the vicinity of Yucca Mountain to inform the residents that the site is under consideration, and to receive comments regarding a possible site recommendation. (MET GOAL)

(3) Updated all process models and conduct a total system performance assessment for use in the site recommendation. (MET GOAL)

(4) Completed and issue Total System Life Cycle Cost and Fee Adequacy reports. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed public hearings on the Draft Environmental Impact Statement, which was published in August 1999. (MET GOAL)

(2) Selected the reference design for site recommendation and license application. (NEARLY MET GOAL)

Plan of Action: The reference design for site recommendation was selected for the preliminary site suitability evaluation, which was used for the statutory bearings on site recommendation. The license application design will be selected after consideration of comments from stakeholders, including oversight bodies, such as the Nuclear Waste Technical Review Board, if the site designation becomes effective.

(3) Selected the reference natural systems models for site recommendation and license application. (MET GOAL)

FY 1999 Targets and Assessments

(1) Published a draft Environmental Impact Statement (EIS). The Nuclear Waste Policy Act requires a Final EIS to accompany the site recommendation. (MET GOAL)

(2) Completed repository and waste package design inputs for use in total system performance assessment for the repository license application. (MET GOAL)

(3) Completed peer review of the total system performance assessment to provide formal, independent evaluation and critique. (MET GOAL)

GPRA Program Activity: Environment, Safety, and Health

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	F 99
Facility Safety	EH	22		30	52	62	73
Health Studies	EH	22		111	89	98	91

Description:

The Office of Environment, Safety and Health (EH) is a corporate resource that provides leadership and Departmental management excellence to protect the workers, the public, and the environment. EH provides corporate policy, guidance, and technical expertise to support and advise the Secretary regarding the line management implementation of environment, safety, and health requirements and programs. Under the Energy Supply appropriation, EH funds two major activities: Policy, Standards and Guidance; and Corporate Programs. This better characterizes EH as a corporate resource to advance the DOE mission, while promoting the establishment of effective and efficient environment, safety, and health programs. Under the Other EH Defense Activities appropriation, EH funds the following four major core activities: Safety Performance, Health Studies, the Radiation Effects Research Foundation (RERF), and the Gaseous Diffusion Plants activity. In addition, funding is provided for Exposure Compensation Activities that relate to compensation of workers across the complex for work-related illnesses.

Reduce Number of Incidents Below Five-Year Average (EQ3-1)

Reduce the number of reportable deaths, injuries and illnesses and environmental releases from environment cleanup and other operational activities. The goal is that the Department of Energy organization activities remain below the past 5-year averages for the five corporate Environment Safety and Health performance indicators.

FY 2002 Targets and Results

Target: Increase the adoption and use of voluntary consensus technical standards used in DOE Directives and safety documentation (e.g., ANSI, ASTM, ASME) by 20 to 30, to help improve safety and cost-effectiveness. **Result:** Identified 25 additional voluntary consensus standards and consortia standards in use by DOE organizations during the current Fiscal Year. (MET GOAL)

FY 2001 Targets and Assessments

(1) Fully implemented Integrated Safety Management at all DOE sites. (NEARLY MET GOAL) **Plan of Action:** At the beginning of FY 2001, the Department had expected to complete the implementation of Integrated Safety Management (ISM) at its two remaining sites: Los Alamos National Laboratory (LANL) and the Oak Ridge Y-12 Plant. LANL completed its ISM verification assessment, the Albuquerque Operations Office declared ISM implemented at LANL in April 2001. Because of the amount of work needed to prepare for Y-12's review, the Y-12 verification did not start until August 2001. On November 13, 2001, Y-12's verification of ISM implementation was completed, and the Y-12 Area Office subsequently declared Y-12 implementation complete. Under the ISM system, local management must conduct annual reviews and may conduct additional for-cause reviews, as needed, to verify that ISM remains implemented at each site.

FY 2000 Targets and Assessments

(1) Conducted oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, safety management, and accidents. (MET GOAL)

FY 1999 Targets and Assessments

(1) Conducted oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, safety management, and accidents. (MET GOAL)

Identify Health Concerns and Priorities (EQ3-2)

Identify health concerns and priorities as related to environmental cleanup and other operational activities through assessing injuries and illnesses in at least 70,000 current workers across 12 Department of Energy sites, and providing medical screening for at least 4,000 former workers exposed to beryllium and other hazards.

FY 2002 Targets and Results

Target: Establish a Beryllium Registry in January 2002 for current and former DOE workers who may have been exposed. **Result:** The Final Beryllium rule was released in January 2001. The DOE Beryllium Exposure Registry was finalized in 2001. It is currently receiving data from DOE sites identified in the Chronic Beryllium Disease Prevention Plan. (MET GOAL)

Target: Publish an additional ten interim or final international health scientific and technical reports from the RERF, Marshall Islands, and Russians to increase our ability to define the relationship between ionizing radiation dosage and its effect on human health. **Result:** There were 11 articles published in peer-reviewed journals during this period. (MET GOAL)

FY 2001 Targets and Assessments

(1) Made biennial presentations of the results of epidemiologic surveillance analyses to workers and management at participating DOE facilities; and expand public access to the Office of Epidemiologic Studies through improved web linkages. (MET GOAL)

(2) Published 10 interim or final international health scientific and technical reports from the RERF, Marshall Islands, and Russians to increase our ability to define the relationship between ionizing radiation dose and its effect on human health. (MET GOAL)

FY 2000 Targets and Assessments

(1) Proposed legislation to Congress that would establish a program to compensate:
- Current and former Federal and contractor workers and beryllium vendor employees who are ill because of beryllium exposure; and |
- Certain workers at the Oak Ridge East Tennessee Technology Park and the Paducah Gaseous Diffusion Plant in Kentucky who have illnesses associated with exposures which occurred during their employment. (MET GOAL)

(2) Provided medical screening to all DOE workers formerly exposed to beryllium during their employment at DOE facilities. (MET GOAL)

(3) Developed a stronger, more coherent public health agenda at and surrounding DOE sites. (MET GOAL)

FY 1999 Targets and Assessments

(1) Issued an initial status report on the development of a public health agenda by December 31, 1998. (NEARLY MET GOAL) **Plan of Action:** A final public health agenda for each site, which reflects customer and stakeholder input to be issued in FY 2000.

GPRA Program Activity: Worker and Community Transition

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Worker and Community Transition	WT	22		28	36	52	50

Description:

The mission of the Office of Worker and Community Transition is to minimize the social and economic impacts of changes in the Department's activities and encourage disposition of the Department's unneeded assets.

The principal functions of the Office are to: (1) establish policy and provide funding for contractor work force restructuring activities; (2) develop policy for contractor labor relations, oversee the collective bargaining process, and assist the Department's field organizations in labor/management relations; (3) establish policy for community transition and allocate funding to mitigate economic impacts; (4) provide for the disposition of unneeded properties to encourage private sector investment for job creation and economic stability; (5) reduce potential domestic and international economic impacts caused by disposition of unneeded materials by the Defense National Stockpile Center; and (6) provide information and opportunities for participation in the decision-making process affecting the contractor work force and adjacent communities.

Social and Economic Impact of Changing Workforce (EQ4-1)

Minimize the social and economic impacts to individuals and communities caused by changes in the Department's work force by (1) providing 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 community to diversify the economy and employ displaced workers.

FY 2002 Targets and Results

Target: Achieve annual recurring cost savings from separated workers that are at least three times the one time cost of separation. **Result:** Program has achieved the target ratio through FY 2002. (MET GOAL)

Target: Support local community transition activities that create or retain, cumulatively, 27,500 to 29,000 private sector jobs by the end of FY 2002. **Result:** By the end of the third quarter, approximately 27,700 jobs had been created or retained. Target has been achieved. EOY numbers not available yet. (MET GOAL)

Target: Publish an annual report providing updates of workforce restructuring and community transition activities, as required under Section 3161 of the authorizing legislation. **Result:** The Annual Report was published on August 15, 2002 (MET GOAL)

FY 2001 Targets and Assessments

(1) Achieved annual recurring costs savings from separated workers that are at least three times the one time cost of separation. (MET GOAL)

(2) Supported local community transition activities that will create, cumulatively, between 24,000 and 27,500 new private sector jobs by the end of FY 2001. (MET GOAL)

FY 2000 Targets and Assessments

(1) Limited involuntary termination of employment at Department of Energy defense nuclear facilities between 30% and 60% of positions eliminated. (MET GOAL)

(2) Achieved annual recurring costs savings from separated workers that is at least three times the one time cost of separation. (MET GOAL)

(3) Supported local community transition activities that will create 3,000 to 5,000 jobs during FY 2000, bringing the total jobs created to between 20,000 and 25,000 by the end of FY 2000. (MET GOAL)

FY 1999 Targets and Assessments

(1) Kept involuntary separations between 30% and 60% of positions eliminated, while assuring the maintenance of essential work force skills mix and productivity. (EXCEEDED GOAL)

(2) Achieved annual recurring costs savings from separated workers that was at least three times the one time cost of separation. (EXCEEDED GOAL)

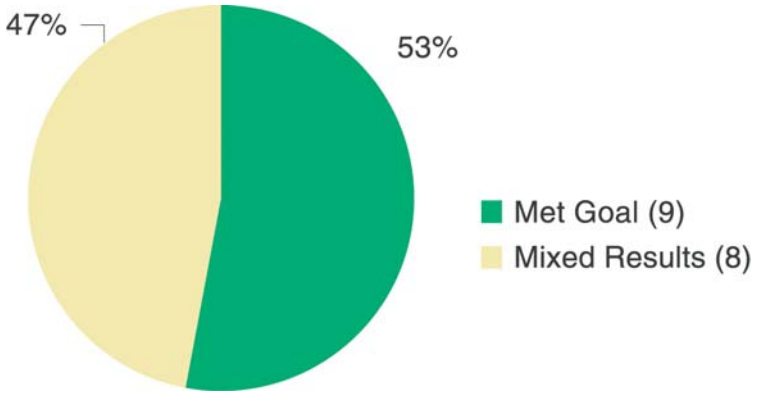
(3) Supported local community transition activities that created, cumulatively, 15,000 to 20,000 new private sector jobs by the end of FY 1999. (EXCEEDED GOAL)

Corporate Management

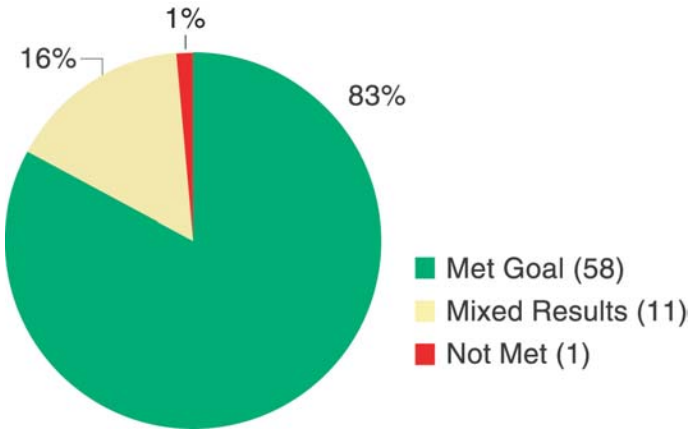
Goal: Demonstrate excellence in the management of the Department's human, financial, physical, and information assets. Successfully implement each of DOE's requirements in the President's Management Agenda; demonstrate measured progress in resolving DOE's management challenges; and resolve all management recommendations from DOE's IG and GAO within three years of issuance.

The following pages contain detailed information on the results achieved for revised final FY 2002 performance goals and targets for offices supporting the Corporate Management goal. There were 17 Program Strategic Performance Goals (PSPGs) in FY 2002 for offices supporting the Corporate Management goal. The overall results achieved are:

Program Strategic Performance Goals



Annual Targets



GPRA Program Activity: Departmental Administration - Management, Budget and Evaluation

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Departmental Administration – Management, Budget and Evaluation	ME			*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, "*Managerial Cost Accounting Concepts and Standards for the Federal Government,*" the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Office of Management, Budget and Evaluation (OMBE) provides the Department with centralized direction and oversight of the full range of financial and planning activities, as well as management administration services. Financial activities include strategic planning and program evaluation; budget formulation, presentation and execution; oversight of DOE-wide internal controls; operation and maintenance of the Department's payroll and financial management systems; project and contract oversight; and program evaluation. Management and administration activities include establishing Departmental human resource and procurement policies, providing human resource and procurement services to DOE headquarters staff, managing headquarters facilities, and providing an array of other administrative services critical to the proper functioning of the Department of Energy.

The budget for the Office of Management, Budget and Evaluation also supports the activities of the Secretary of Energy Advisory Board (SEAB), an external advisory board chartered under the Federal Advisory Committee Act of 1972 (Public Law 92-436).

Instituting A Sound Environment, Safety & Health Culture (CM1-1)

Implement the DOE 5-Year Workforce Restructuring Plan.

FY 2002 Targets and Results

Target: Improve Departmental Human Capital Management by initiating comprehensive human resources strategies which will:

- Streamline the DOE hiring process through process reengineering, automated recruitment, and other means that reduce the time it takes to fill jobs by at least 20% at DOE Headquarters;
- Increase employee access to mission-related training by at least 30% through "on-line" and other technology assisted learning capabilities;
- Achieve cost savings and reduce traditional manually-generated personnel and training paper records by at least 20% utilizing Corporate Human Resources Information System (CHRIS);
- Address skills gaps and aging workforce challenges by hiring at least 15% of new administrative, technical and professional employees at entry levels;
- Reduce managerial layering and shift staffing resources to front line, mission critical positions consistent with Administration guidelines.

Result: The Department has successfully completed the FY 2002 targets established for improving human capital management, except for a 20% improvement in the HQ hiring process time. In 2001, DOE implemented the use of QuickHire, an automated staffing tool. Baseline numbers for that year at HQ indicate that it took an average of 100 days to issue a certificate to a manager from the date of receipt of the request. The implementation of the automated process is behind schedule due to staff losses and revised training initiatives for the HQ Operations staff on this new process, and it is projected that the 20% reduction target will be met in the 2nd quarter of FY 2003. The FY 2002 milestone to increase employee access to on-line learning by 30% has been exceeded. Nearly 7,900 DOE employees accessed the On-Line Learning Center in FY 2002, and over 1,700 training courses (DOE mission-related and others) were available to DOE employees. In FY 2002, 58% of personnel and training actions available in ESS, a component of the Corporate Human Resources Information System (CHRIS), were processed without paper via ESS. In FY 2002 DOE hired 487 employees and 119 (24.4%) were at the entry level for administrative, technical and professional positions, which exceeded the 15% target. Several major DOE program organizations have taken actions to streamline, restructure and

reduce managerial layering in support of Administration guidelines including the National Nuclear Security Administration, the Offices of Science, Environmental Management, and Energy Efficiency and Renewable Energy. (MET GOAL)

Target: Complete the milestones listed in the FMFIA corrective action plan for the Departmental challenge of human capital management. **Result:** The Department has completed the FY 2002 milestones included in the FMFIA corrective action plan for the Departmental challenge of human capital management. An SES Performance Management System was implemented for FY 2002. A DOE Human Capital Management Flexibilities Guide includes a wide range of available flexibilities that support hiring and retention needs, developing employees, and rewarding the DOE workforce. DOE has expanded the use of automated HR systems including implementing an automated hiring system (QuickHire) and an automated, web-based learning technology capability (On-line Learning Center). An SES Candidate Development Program was established and advertised this fiscal year. A Department-wide Career Intern Program was developed and implemented to develop highly qualified technical and non-technical entry to mid-level candidates. Finally, the Department developed performance measures for use in FY 2003-2007 to assess the effectiveness of actions in improving human capital management. These measures are included in the DOE Annual Performance Plan and the Standards for Success for Human Capital Management that OMB and OPM use to provide scorecards to agencies on their improvements in human capital. (MET GOAL)

FY 2001 Targets and Assessments

(1) Improved Departmental Human Capital Management by initiating comprehensive human resources strategies that:
- Implemented the FY 2001 milestones in the DOE Corporate Training Plan;
- Increased the electronic transfer of documents in CHRIS, resulting in 15% of the documents processed electronically. (MET GOAL)

(2) Recruited and hire additional personnel to address immediate needs in HQ critical financial functions. (MET GOAL)

(3) Complete the milestones listed in the FMFIA corrective action plan for the Departmental challenge of human capital management. (NOT MET)

Plan of Action: Implement the initiatives included in the DOE 5-year Workforce Restructering Plan.

FY 2000 Targets & Assessments

(1) Improved Federal technical workforce capabilities at defense sites by implementing the FY 2000 milestones in the Revised Implementation Plan for DNFSB Recommendation 93-3. (MET GOAL)

(2) Improved workforce skills and reduce training costs by implementing the FY 2000 milestones in the DOE Corporate Education, Training, and Development Plan. (MET GOAL)

FY 1999 Targets and Assessments

(1) Improved Federal technical workforce capabilities at defense sites by implementing the FY 1999 milestones in the Revised Implementation Plan for DNFSB Recommendation 93-3. (MET GOAL)

(2) Improved workforce skills and reduced training costs by implementing the FY 1999 milestones in the DOE Corporate Education, Training, and Development Plan. (MET GOAL)

Complete Competitive Sourcing Studies (CM1-2)

By the end of FY 2003, complete competitive sourcing studies on 15% of the Department's inventory of positions that are not inherently governmental. Conduct additional studies in FY 2004 and beyond based on requirements established by the Office of Management and Budget.

FY 2002 Targets and Results

Target: Establish an Agency plan for ensuring the accuracy of Federal Activities Inventory Reform (FAIR) Act data for 2002. **Result:** As part of its FY 2002 inventory collection effort, DOE developed and implemented a more comprehensive corporate process for collecting and reviewing the Department's FAIR data, including the implementation of a complex-wide electronic-based collection instrument. The Department worked to ensure that the inventory submission met OMB requirements, while enhancing it to make the inventory an important and usable tool for furthering the Department's Competitive Sourcing Initiative. The 2002 DOE Inherently Governmental and Commercial activities inventory was submitted to OMB on June 27, 2002. (MET GOAL)

Target: Plan public, private or direct conversion competitions for 15% of the Department's inventory of commercial positions. **Result:** In March 2002, the Department of Energy announced the start of several Competitive Sourcing studies involving approximately 1,000 FTEs, which encompasses 15% of DOE's inventory of commercial positions. These public-private competitions, with the approval of DOE's Competitive Sourcing Executive Steering Group, will take 12 to 48 months to complete, depending on the type of

OMB Circular A-76 study undertaken. OMB, which originally established the 2003 study completion goal, recognizes that most of the Competitive Sourcing studies begun in FY 2002 will be completed after FY 2003. Consequently, OMB, which approved DOE's revised 2002-2004 approach in the Department's updated Competitive Sourcing Plan, has given DOE a "green" for current implementation progress on this Presidential Management Agenda item. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Manage DOE's Financial Resources And Other Assets (CM1-3)

Manage the Department's financial resources and other assets; obtain an unqualified opinion by independent auditors on the Department's annual financial statements; and integrate financial, budget, and program information.

FY 2002 Targets and Results

Target: By September 30, 2002, complete the project design phase for the Phoenix core financial system; update the Project Plan/Baseline and the Business Case; and begin the Configure/Build Phase to prepare the system for deployment. **Result:** All of the measures identified in the FY 2002 Phoenix core financial system target have been accomplished. (MET GOAL)

Target: Obtain an unqualified audit opinion on the Department's FY 2001 financial statements with no material internal control weaknesses reported by auditors by February 27, 2002. **Result:** Obtained an unqualified opinion on the Department's FY 2001 financial statements, with no material internal control weaknesses reported by auditors on January 31, 2002. (MET GOAL)

Target: Issue interim financial statements by May 31, 2002. **Result:** Interim financial statements were submitted to OMB on May 24, 2002. (MET GOAL)

Target: By September 30, 2002, define requirements for integrating financial information with budget and program information. **Result:** The Department has developed a comprehensive Plan of Action to integrate accounting, budget, and performance information and provide real-time management information to program and project managers. (MIXED RESULTS) **Plan of Action:** This plan, when executed over the next few years, will produce a new Business Management Enterprise Architecture that fully complements and supports the new Corporate Enterprise Architecture being developed by the Department's Chief Information Officer (CIO).

Target: Complete all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and the validation of the performance baselines. **Result:** One hundred percent of target has been met. A total of 28 EIRs have been performed; fifteen to twenty-five EIRs were projected to be performed in FY 2002. (MET GOAL)

Target: Review and revise the Department's policy on program and project management for the acquisition of capital assets, and the Project Management Manual and Practices. **Result:** The Program and Project Management Manual edits were completed and entered into the Department's formal review process for comment. Field and program reviews are on going. The process is expected to be completed in December, and publication is planned for February 2003. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed the implementation of the BMIS Phoenix core financial system at a minimum of one service center cluster as part of a phased deployment strategy. (BELOW EXPECTATIONS) **Plan of Action:** The project team is nearing completion of the design for the new BMIS Phoenix system but the progress was below expectations. The design phase of the systems development methodology is in the critical step of recommending the blend of technical and business gap closing strategies.

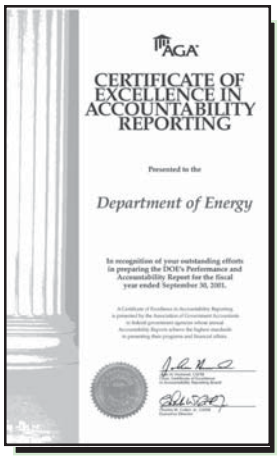
(2) Completed all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and the validation of the performance baselines. (MET GOAL)

(3) Improved External Independent Review procedures and Statements of Work. (MET GOAL)

(4) By April 2001, resolved all recommendations from the National Research Council's report, "Improving Project Management in the Department of Energy." (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed the development of requirements and the creation of a new account structure. Purchased commercial Core Financial System software for 150 users for a pilot implementation at one of the three accounting service centers and two of its satellite sites. Began implementation of solutions for special DOE requirements. (MET GOAL)



(2) By April 2000, implemented new project management policies and procedures that strengthened the management of projects, and by July 2000, had new systems in place to verify progress against established project scope, schedule and cost baselines on projects valued at $5 million or more. (NOT MET)

(3) By September 30, 2000 re-establish the Acquisition Executive and ESAAB processes for use on critical decisions for projects of five million or more. (MET GOAL)

(4) Completed all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and timely delivery of EIR reports. (MET GOAL)

(5) Completed the milestones listed in the FMFIA corrective action plan for the Departmental challenge of project management. (NOT MET)

FY 1999 Targets and Assessments

(1) Identified functional and technical systems requirements for developing a Business Management Information System (BMIS) with a special emphasis on financial management, and developed business scenarios for its evaluation. (NOT MET)

(2) Verified progress against established project scope, schedule, and cost baselines on projects valued at $5 million or more. (NOT MET)

Plan of Action: Office of Field Integration responsible for this goal was closed out. Beginning in FY 2000 this function is the responsibility of the CFO.

(3) Completed four Energy Systems Acquisition Advisory Board (ESAAB) critical actions on required strategic and major systems. (MET GOAL)

(4) Accomplished the milestones of the FMFIA corrective action plan for the Departmental challenge of project management. (NOT MET)

Plan of Action: Office of Field Integration responsible for this goal was closed out. Beginning in FY 2000 this function is the responsibility of the CFO.

Fully Integrate DOE's Budget & Performance (CM1-4)

Make resource decisions based on performance, and fully integrate the Department's budget and performance by FY 2004.

FY 2002 Targets and Results

Target: Establish a Program Analysis and Evaluation Office to enhance performance analysis capability. **Result:** The Office of Program Analysis and Evaluation was established in October 2001. Program Analysts at senior grade levels are now on board and are evaluating budget submissions, performance measures, and their integration with budget. (MET GOAL)

Target: Implement a new performance tracking system. **Result:** The performance measurement tracking system, Joule, was piloted in FY 2002. The system is ready for reporting on the FY 2003 Annual Performance Plan. (MET GOAL)

Target: Expand applied research and development investment criteria to all applied research programs. **Result:** PA&E has expanded the applied R&D investment criteria to include NE, FE, EE, EM and NNSA applied R&D research programs for FY 2004. The web-based application that OMB requested for electronic reporting was provided on time. Program area scorecards were delivered on time. (MET GOAL)

Target: Establish a five-year process, with integrated performance data, for the preparation of the FY 2004 budget. **Result:** Issued five-year planning guidance in early March that directed programs to submit five-year budget data for the FY 2004 Corporate Review Budget. The Corporate Budget Review process examined data for five years and programs' funding targets and full time equivalents were adjusted using Program Budget Decisions. This process has begun to institutionalize the five-year programming process within DOE. As part of the CRB budget process, programs also turned in proposed performance measures for the FY 2004 programs. DOE also established a Plan of Action for budget and performance integration on June 19, 2002, for presentation to OMB. OMB graded us "yellow" for our plan on July 2, 2002. PA&E established Applied Research and Development investment criteria, and issued new Department-wide guidance to standardize performance measure development. (MET GOAL)

Target: Issue guidance and begin development of an updated Department Strategic Plan. **Result:** The Secretary of Energy issued guidance on May 13, 2002, providing instructions and outlining an approximate target date for completion. Initial data collection was completed; a first draft was prepared in September. (MET GOAL)

Target: Complete the milestones in the FMFIA corrective action plan for the Departmental Challenge of Performance Management. **Result:**

The Office of Program Analysis and Evaluation (PA&E) is on track for meeting the FMFIA milestones. New performance tracking software has been purchased and a pilot effort is underway, with the intention of fully implementing the system in FY 2003. PA&E has completed extensive work with all programs in the Department to ensure that performance goals and measures were integrated in the Department's FY 2003 budget. The FY 2003 Annual Performance Plan was published in May, 2002. The DOE Budget Formulation Handbook, which was issued with the FY 2004 budget call in August 2002, contains the new Departmental policy on performance measures. PA&E has initiated a formal training program for the program offices to facilitate the development and reporting of performance goals and measures in conjunction with the FY 2004 budget process. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Improve Contract Management (CM1-5)

Improve the efficiency and effectiveness of DOE's contract management to become a model for government.

FY 2002 Targets and Results

Target: Increase the use of on-line procurement and other e-government services and information so that for 100% of acquisitions valued at over $25,000, all synopses for which widespread notice is required, and all associated solicitations (unless covered by an exemption in the Federal Acquisition Regulation), will be posted on the government-wide point of entry website (www.FedBizOpps.gov). **Result:** One hundred percent of acquisitions valued at over $25,000, all synopses for which widespread notice was required and all associated solicitations (unless exempted by the Federal Acquisition Regulation) were posted on the Government-wide point of entry website (www.FedBizOpps.gov). (MET GOAL)

Target: Increase the use of performance-based contracts so that:

- 60% of total eligible service contracting dollars (over $100K) will be obligated as performance-based service contracts; and
- 66% of total eligible new service contracts (over $100K) will be performance-based service contracts. **Result:** Eighty-five percent of total eligible service contracting dollars (over $100K) have been obligated as performance-based service contracts, and 74% of total eligible new service contracts (over $100K) are performance-based service contracts. (MET GOAL)

Target: Complete milestones listed in the FMFIA corrective action plan for the Departmental challenge of contract management. **Result:** All FMFIA milestones have been completed. Accomplishments include:

1. Review of six major contracts;
2. Review of contract administration and performance-based incentive implementation at three sites, with assessment report completed;
3. Issuance of guidance on the formation and application of contract administration plans;
4. Rewrite and approval of the DOE Acquisition Guide Chapter on Past Performance information;
5. Preparation of a benchmarking report that assessed seven other agency contracts against pre-determined criteria on practices and approaches to contracting for facility management and Federally funded research and development contracts; and development of a model solicitation for use in major site and facility contract competitions. (MET GOAL)

FY 2001 Targets and Assessments

(1) Converted all M&O contracts awarded in FY 2001 to Performance-Based Service Contract (PBSC) management contracts. (MET GOAL)

(2) Awarded approximately 50% of service contracts as PBSC using government-wide standards. (MET GOAL)

(3) Selected and began implementation of DOE-wide electronic contracting for large procurements. (MET GOAL)

(4) Completed milestones listed in the FMFIA corrective action plan for the Departmental challenge of contract management. (FMFIA) (MET GOAL)

FY 2000 Targets and Assessments

(1) Converted all M&O contracts awarded in FY 2000 to a Performance-Based Service Contract (PBSC) using government-wide standards [FAR, 48 CFR Part 39 and Office of Federal Procurement Policy letter 9-2]. (MET GOAL)

(2) Converted one support services contract at each major DOE site to PBSC using the government-wide standards [FAR (48 CFR Part 39), and Office of Federal Procurement Policy letter 91-2]. (MET GOAL)

FY 1999 Targets and Assessments

(1) Converted all management and operating (M&O) contracts awarded in FY 1999 to performance-based contracts. (MET GOAL)

GPRA Program Activity: Economic Impact and Diversity

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Departmental Administration – Economic Diversity	ED			*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Office of Economic Impact and Diversity (ED) consists of the Office of Minority Economic Impact, the Office of Small and Disadvantaged Business Utilization, the Office of Civil Rights and Diversity, and the Office of Employee Concerns/National Ombudsman. The mission of the Office is to identify the impact of energy policies on minorities, minority businesses, and minority institutions, and to promote equal opportunity in employment and contracting at DOE's major contractor facilities.

Increase Diversity in Resource Decisions (CM1-6)

Promote inclusion in all aspects of the Department's human capital and financial resources by increasing diversity in hiring, contracting, internships, mentoring and other developmental programs.

FY 2002 Targets and Results

Target: Develop a DOE-wide "managing diversity" strategy to ensure consistency in approach, and educate top leadership on the interdependence of key change initiatives by showing links between managing diversity and related initiatives such as the Task Force Against Racial Profiling. **Result:** Led a comprehensive review of the Department's diversity programs and developed a diversity improvement action plan which includes the following three major recommendations for managing diversity at DOE:

1. Employ a systems approach toward workforce diversity;
2. Require accountability by supervisors and managers of each DOE element for the diversity of its workforce; and
3. Build diversity into the Department's Human Capital Management Improvement Initiatives.

(MIXED RESULTS) **Plan of Action:** On racial profiling, DOE produced bi-monthly status updates on the Racial Profiling Task Force recommendations to the Deputy Secretary, noting completed recommendations. As part of these two initiatives, DOE issued a new diversity policy, a new sexual harassment policy, a policy on implementation of the President's Strategic Human Capital Management Program with respect to Hispanics, and initiated Quarterly Special Emphasis Programs.

Target: Fully implement the Department's Minority Educational Institutions Strategy, and increase management accountability in implementing the DOE Strategic Plan. **Result:** Met with nine heads of Departmental elements to identify areas of support for minority educational institutions to enforce the Secretary's commitment for baseline funding levels and funding increases that equal levels achieved in fiscal year 1999. The Policy Statement directs all Program Secretarial Officers to:

1. Ensure that Minority Educational Institutions continue to be afforded the opportunity to compete in solicitations leading to financial assistance awards and/or contracts;
2. Establish funding goals consistent with the President's directive to increase funding to Historically Black Colleges and Universities and Hispanic serving institutions by 30% over the next five years; and
3. Ensure that qualified science and engineering students and faculty of these institutions are adequately represented in research and engineering internships, fellowships, employment (including IPAs), and other opportunities. (MIXED RESULTS) **Plan of Action:** Commitments were received from five departmental elements to establish partnerships with Hispanic-serving institutions, Historically Black Colleges and Universities, and tribal colleges and universities. As of September 30, 2002, a Policy Statement Supporting Minority Education Institutions in the

Departmental Core Mission Programs has been prepared and submitted to the Office of the General Counsel for concurrence.

FY 2001 Targets and Assessments

Achieved the Department's small business percentage goals negotiated with the Small Business Administration and the Office of Federal Procurement Policy. (NOT MET)

Plan of Action: The department achieved 2.9% of a 3.7% goal. In order to meet this goal, the Office of Small and Disadvantaged Business utilization (OSDBU) has put in place a plan of action that includes 1) timely and accurate development of the department's procurement forecast, 2) preparation of reasonable annual small business goals, 3) utilization of special procurement tools such as the Mentor-Protégé program, Government Wide Acquisition Contracts and GSA schedules, and an aggressive outreach and marketing program consisting of attendance at various small business conferences and hosting of an Annual DOE Small Business Conference. All of these activities are intended to inform the small business community of the opportunities available and to assist them in bidding as prime contractors. The result should be achievement of the goal.

FY 2000 Targets and Assessments

(1) Determined how well the Department's diversity goals are being met by tracking the Department's personnel actions on hiring and competitive promotions against the current Civilian Labor Force statistics. (MET GOAL)

(2) Ensured equitable opportunities for minority educational institutions and small, minority, and women owned businesses to compete. (NOT MET) **Plan of Action:** The Department did not meet the SBA assigned goal of five percent of total procurement base for prime contracting.

(3) Increased employee awareness by publicizing DOE-wide the scope of the employee concerns program, the availability of the ombudsman function, and the DOE employee concerns program offices at the operations and field offices. (MET GOAL)

FY 1999 Targets and Assessments

(1) Enhanced America's science workforce by ensuring that minority-serving institutions are afforded and take advantage of the Federal research, development, education and equipment opportunities for which they are eligible and increasing their awards by five percent over FY 1998. (NOT MET) **Plan of Action:** New Policy Statement to be issued in FY 2000.

(2) Committed to specific procurement strategies that will increase the participation of women-owned small businesses in the Federal marketplace through a Memorandum of Understanding with the Small Business Administration. (MET GOAL)

(3) Published in the Code of Federal Regulations the DOE Mentor-Protégé Program. (NOT MET) **Plan of Action:** Final action on the proposed rule is expected to be published in May 2000.

GPRA Program Activity: Departmental Administration – Chief Information Officer

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Departmental Administration – Chief Information Officer	CIO			*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*, the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Office of Chief Information Officer (OCIO) provides advice and assistance to the Secretary of Energy and other senior managers to ensure that information technology is acquired and information resources are managed in a manner that implements the policies and procedures of relevant legislation, including the Government Paperwork Elimination Act and the Clinger-Cohen Act, and the priorities established by the Secretary. OCIO provides cyber security policy, planning, and technical development to ensure that consistent standards and requirements are implemented for the protection of classified and unclassified information used or stored on Departmental systems. OCIO also coordinates and articulates a shared vision and corporate perspective among the Department's information activities and champions. OCIO implements departmental initiatives to effectively manage information and to provide for corporate systems that add value to the businesses of the Department, and also ensures that information created and collected by the Department is provided to internal and external customers and stakeholders in a timely, cost-effective, and efficient manner.

As part of the President's Management Agenda, OCIO began the process for advocating E-Government citizen service delivery in the Department. The OCIO will implement customer/citizen relationship management and utilize intergovernmental best practices to expedite Departmental implementation. In addition, the OCIO will develop an agency strategy for existing initiatives underway in the Department, and provide a roadmap for future corporate direction and organization specific efforts.

Implement E-Government Citizen Service Delivery (CM2-1)

Advocate e-government citizen service delivery in FY 2003.

FY 2002 Targets and Results

Target: Assess requirements for the Geospatial One-Stop project and develop a project plan by September 30, 2002. **Result:** The Office of the Chief Information Officer has assessed the requirements for the Geospatial One-Stop project in coordination with the Department's Geographic Information Systems (GIS) community. A comprehensive inventory of the Department's GIS, which is a major project requirement, has been developed to collect GIS data for the Department, and will be released in November 2002. The results will be reported to the Federal Geographic Data Committee (FGDC). (MIXED RESULTS) **Plan of Action:** The Geospatial One-Stop project prospectus has been developed, and the project plan is currently being drafted and will be completed by December 30, 2002. The Departmental representative is currently working with the Geospatial One-Stop project representatives to develop an overall plan for this E-Government initiative.

Target: Develop e-government framework by June 30, 2002. **Result:** This target was met. The Department's e-government framework was discussed and delivered to OMB in June 2002 by the Chief Information Officer. (MET GOAL)

Target: Develop e-government roadmap by September 30, 2002, to reduce information collection burden. **Result:** This target has been met. The Department's e-government Strategic Action Plan addressing the roadmap for delivering services has been released. On October 16, the Secretary delivered the plan to the Director of the Office of Management and Budget during a ceremony which included a demonstration of digital signatures to be used by the Department. (MET GOAL)

Target: Identify use of open standards across the Department. **Result:** The Desktop Guidance Working Group (DGWG) met to finalize the Desktop Guidance Profile. The Profile helps to promote and sustain a consistent desktop environment to reduce costs, improve mission accomplishment, and support delivery of information and services to the public. (MET GOAL)

Target: Conclude CIO Office e-mail pilot. **Results** The e-mail pilot has been concluded and a business case has been developed. This will be reviewed in context of DOE's newly defined E-Government strategy. (MET GOAL)

Target: Increase usage of citizen-centric Energy.gov website by five percent. **Result:** The Energy.gov website is being reviewed for potential improvements as part of the Department's E-Government initiative process called Innovative DOE E-Government Applications (IDEA). After improvements are made, usage is expected to increase by five percent. (MIXED RESULTS) **Plan of Action:** Implementation of the findings and recommendations will begin early FY 2003.

Target: Issue draft Departmental policy and guidance on the use of websites, which includes Section 508 compliance, by September 30, 2002. **Result:** Submission of the draft Notice to the directives system has been withheld pending impact assessment on the Innovative DOE E-Government Applications (IDEA) efforts. (MIXED RESULTS) **Plan of Action:** The impact assessment will establish the value and impact of the draft Notice based on supporting and limiting requirements of the Notice. Staff within the office of the Chief Information Officer will conduct the assessment against established IDEA activities. Upon completion of the assessment and final internal review, the Notice will be formally submitted to the departmental Directives System for coordination, issuance, and implementation.

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Promote Effective Management IT Resources (CM3-1)

Promote the effective management of Information Technology resources in the Department.

FY 2002 Targets and Results

Target: Complete Corporate Systems Information Architecture (CSIA) implementation, Strategic Information Management (SIM) process, and first CSIA application SIM. **Result:** The SIM process analysis was completed. Development of former CSIA investment projects will now be implemented as part of the DOE Enterprise Architecture program. (MET GOAL)

Target: Complete a business case for procurement modernization across the DOE complex. **Result:** The Department's Strategic Information Management process developed a Procurement Modernization business case for DOE management approval and the Procurement Modernization project was incorporated into DOE's proposed E-Government initiative for E-Procurement. Procurement modernization investments will be completed as part of the Department's proposed E-Procurement investment project. (MET GOAL)

Target: Complete the milestones listed in the FMFIA corrective action plan for the Significant Issue of Information Technology. R**esult:** (1) Memorandum has been drafted and will be presented to the Deputy Secretary in the 1st Quarter of FY 2003. Additionally, the DOE 2004 IT Capital Planning process includes an e-government strategy review and an enterprise architecture review that identifies potentially duplicative proposed IT investments for resolution through the DOE budget process.
(2) The OCIO has drafted a DOE Order that will establish explicit requirements for IT management including roles and responsibilities.
(3) IT acquisition requirements have been integrated into the DOE FY 2004 IT Capital Planning process, and all major IT acquisitions have been reviewed for compliance as part of the FY 2004 budget formulation process.
(4) The DOE IT Enterprise Architecture version 1.01 published in June 2002 contains an IT baseline inventory of applications and major systems in use or under development. This baseline will be updated annually as part of the DOE IT Capital Planning process.
(5) Each major IT investment in the FY 2004 DOE IT Portfolio contains specific performance measures and performance improvement goals. These measures were reviewed by the OCIO as part of the DOE FY 2004 IT Capital Planning process. (MET GOAL)

FY 2001 Targets and Assessments

There were no related targets.

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

Ensure That DOE's Information Assets Are Secure (CM3-2)

Ensure that DOE's information assets are secure through effective policies, implementation, and oversight.

FY 2002 Targets and Results

Target: Develop and implement a comprehensive cyber security program that implements risk-based policies and guidance for the protection of cyber assets. Specifically:
• Update and implement a DOE Cyber Security Program Action Plan;
• Launch a cyber security performance measurement program;
• Issue an updated Cyber Security Threat Statement;
• Develop and update a Cyber Security Performance Improvement Plan and Cyber Scorecard;
• Integrate the cyber security capital planning process with the IT capital planning process;
• Complete Project Matrix Step One to identify the Department's national critical infrastructure, and launch Project Matrix Step Two to identify the interdependencies in the infrastructure. **Result:**
(1) This target has been met. The OCIO developed and updated the Cyber Security Performance Improvement Plan and the Cyber Security Scoreboard.
(2) This target has been met. The action plan was updated and implemented in April 2002.
(3) Update of the Cyber Security Threat Statement is in progress. See the plan of action for more detail.
(4) The cyber security capital planning process has been fully integrated into the Department's IT capital planning documents. The Department IT Management framework document was published.
(5) Completion of Project Matrix Step One and launching of Project Matrix Step Two is in progress. See the plan of action for more details.
(MIXED RESULTS) **Plan of Action:** (1) During the first quarter of FY 2003, several implementation manuals will be entering the department's Directives System process.
(2) The cyber security performance measurement program is currently undergoing management review and approval. The program will be published in the first quarter of FY 2003.
(3) An updated threat statement will be completed in the first quarter of FY 2003.
(4) Due to the delay in collecting asset data, Step One will be completed in the first quarter of FY 2003. The Office of Security is developing a strategic plan that outlines the progress of the Project Matrix program.

Target: Expand a comprehensive DOE-wide cyber security training program. Develop and test a forensics training program through a focused pilot. Develop and update the course catalog. **Result:** Forensics training pilot programs were conducted at Oak Ridge National Labs and Pacific Northwest Labs. The course catalog was completed August 31, 2002. (MET GOAL)

Target: Analyze and disseminate cyber security incident information within DOE, and expand PKI capability department-wide. **Result:** The PKI infrastructure has been established, and certificates are being deployed to the power administration and operations offices. (MET GOAL)

Target: Replace 25% of the Department's Secure Telecommunication Units (STU) IIIs with Secure Telephone Equipment. **Result:** A purchase order to replace 25% of the Department's Secure Telecommunication Units (STU) IIIs with Secure Telephone Equipment was submitted to the vendor in November 2001. The vendor delivered the secure telephone equipment by the end of the fiscal year. (MET GOAL)

Target: Upgrade DOE-wide cyber security infrastructure/architecture according to milestones established in the capital planning documentation. **Result:** Capital planning and an investment control process were established to manage (select and control) corporate cyber security IT investments. All major projects/programs within the CIO cyber security were reported to the Office of Management and Budget (OMB) exhibit 300. Supplemental DOE-wide guidance was issued on reporting security costs on Exhibits 53 and 300. Guidance was issued on addressing supplemental Security/Privacy questions on revised Exhibit 300. A quarterly capital planning meeting was held. (MET GOAL)

FY 2001 Targets and Assessments

(1) Issued a DOE Cyber Security Program Action Plan, published numerous policies and memos, published separate Public Key Infrastructure (PKI) and Training Strategies, and continued to review and provide guidance on Implementation Plans from DOE sites. (MET GOAL)

(2) Implemented an effective cyber security education program available to all DOE staff and contractors. Approximately 4,200 DOE Federal and contractor personnel were trained in PKI/ISS/Cyber Cop, information systems security, and classified computer security. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Policy and International Affairs

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Departmental Administration – Policy and International Affairs	PI			*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*, the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Assistant Secretary for Policy and International Affairs (PI) is the primary advisor to the Secretary and the Department on policy development, analysis and implementation. PI advises the Department's leadership on existing and prospective energy-related policies. PI represents the Department in interagency discussions on energy and related policy issues, and addresses all aspects of the U.S. energy sector, including energy production, markets, reliability, environmental impacts, and economic efficiency.

PI has primary responsibility for the Department's international energy affairs, including international energy policy issues, international energy emergency and national security issues, and international technology cooperation. PI also develops and leads the Department's bilateral and multilateral cooperation, investment, and trade activities with other nations and international agencies. PI works closely with Departmental elements, Federal agencies, and other relevant organizations and institutions to coordinate and align national security and energy emergency activities.

Analysis of Policy and International Affairs (CM4-1)

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, the public, industry, foreign governments, and domestic and international organizations; and enhance the export and deployment of energy technologies internationally.

FY 2002 Targets and Results

Target: Work with foreign governments and multilateral organizations to develop and implement policy decisions that will diversify and enhance world oil production and reduce oil demand growth, as recommended in the National Energy Policy (NEP). **Result:** Organized the May 3, 2002 G8 Energy Ministerial in Detroit, Michigan, where Secretary Abraham and ministers from other developed countries discussed common energy security challenges and cooperative strategies to protect against supply disruptions, reduce oil demand growth, and deploy clean energy technologies. The G8 Ministerial fulfills a specific recommendation set forth in the NEP. In addition, PI worked with Canada's Department of Natural Resources (NRCan) and Mexico's Secretariat of Energy (SENER) to institutionalize trilateral cooperation on energy-related matters and enhance North American energy trade and market integration under the North American Energy Working Group. PI continued bilateral and multilateral activities under the Summit of Americas Hemispheric Energy Initiative, and organized the third US-Africa Energy Ministerial in Morocco, which focused on energy security challenges and strategies to protect against supply disruption, reduce oil demand growth, promote natural gas development, and deploy clean energy technologies. Secretary Abraham attended the Eighth International Energy Forum in Osaka, Japan, to enhance the dialogue among producers and consumers, a NEP recommendation. (MET GOAL) **Target:** Provide assessments of the likely effects of supply constraints in petroleum product, electricity, or natural gas markets, and work with foreign governments, energy suppliers, FEMA and other Federal agencies, and state governments to enhance responses to energy market disruptions, as called for by the NEP. **Result:** Provided assessments of the likely effects of supply constraints in petroleum product and electricity markets, and prepared information on Federal responses and enhanced response options. Worked with foreign governments, energy suppliers, NERC, EPA and other Federal agencies, and state

governments to enhance preparedness for energy market disruptions, as called for by the NEP. (MET GOAL)

Target: Advance trade negotiations, regulatory cooperation programs, and commercial advocacy, as recommended by the NEP. **Result:** Continued efforts on trade negotiations as recommended by the NEP. PI is leading the implementation of the Joint Statement by President Bush and President Putin on the New U.S.-Russian Energy Dialogue signed in May 2002. Supported Secretary Abraham's visit to Russia in November and the formation of the Energy Working Group with Russia's Ministry of Energy, which will focus on oil market developments, investment opportunities, and technology for energy efficiency, clean energy, clean coal, and other areas. Held U.S.-Russia Commercial Energy Summit in Houston to advance the goal of more foreign direct investment by U.S. and Russian energy companies in Russia, U.S. and elsewhere. (MET GOAL)

Target: Collaborate with USAID to direct an interagency working group to implement the Clean Energy Technology Exports Initiative, as recommended in the NEP. **Result:** PI continues to direct the Clean Energy Technology Exports (CETE) initiative in consultation with the Department of Commerce and the U.S. Agency for International Development, as recommended in the Administration's NEP. The five-year strategic plan has been completed and has been sent to Congress. Work is now beginning to establish the CETE Working Group at the political level, and to establish a private-sector advisory panel. Implementation has also begun on the CETE 2008 Beijing Olympics Project. (MET GOAL)

Target: Organize technology training and other capacity building efforts to accelerate the worldwide adoption of technologies and practices that limit, reduce, avoid, or sequester greenhouse gas emissions. **Result:** Developed methodology for assessing technology needs of developing and transition countries and planning to meet these needs. Helped organize and conduct workshops in Seoul and Beijing, and provided technical assistance to Bolivia, Ghana, India, and Nigeria. Conducted seminar on developing country experiences with technology needs assessments during U.N. meeting of technical experts in Bonn, Germany. (MET GOAL)

Target: Coordinate and oversee the implementation of the NEP, including providing analysis and policy guidance, where needed. **Result:** Coordinated and oversaw the implementation of the NEP, elements of the President's Climate Policy Initiative, and other Administration policies. Led or directly supported the implementation of 55 NEP recommendations, two Presidential climate initiatives, and other Administration policies. (MET GOAL)

Target: Analyze the potential effects of proposed environmental actions, including regulations, legislation and international agreements on energy markets. Use the results of these analyses to recommend appropriate modifications. Primary areas of activity are likely to include integration of Federal regulation of powerplant emissions, actions to mitigate any adverse effects of "boutique" fuel regulations, and proposals to reduce, avoid or sequester greenhouse gases. **Result:** Analyzed the potential effects of proposed environmental actions, including proposals affecting motor fuel additives and formulation, multipollutant regulation of powerplants, and New Source Review guidelines. The results of these analyses were presented to Administration and Congressional decisionmakers and used by these decisionmakers to minimize potential adverse effects on energy sector legislative and regulatory proposals while achieving key environmental objectives. Developed proposals to modify New Source Review Regulations, which would save the utilities billions of dollars by enabling improvements to the energy efficiency and productivity of many existing plants without imposing prohibitive additional requirements. (MET GOAL)

Target: Coordinate and support initial milestones of the interagency effort to implement the National Climate Change Initiative, the President's recent proposal to enhance voluntary reporting of greenhouse gas emission reduction-efforts, and other climate policy initiatives. **Result:** Coordinated and supported initial milestones of the interagency effort to implement the National Climate Change Technology Initiative. Organized and managed an interagency and interlaboratory review of long-term technologies capable of substantially reducing global emissions of greenhouse gases, and the completion, by February 2002, of a final draft report for the President. Led agency efforts to plan and create an office to implement the Climate Change Technology Program (CCTP). An interim report on this effort to the President was sent in July 2002. Played a critical role in an interagency effort that led to the formulation of the U.S. clean energy initiative, one of four signature actions of the President in support of the World Summit on Sustainable Development (WSSD), held in South Africa during August 2002. (MET GOAL)

Target: Develop and analyze legislative and regulatory proposals to enhance competition and reliability within electricity, natural gas, and oil markets, including completion of the National Transmission Grid study and initiation of efforts to implement its recommendations, and analysis of various legislative and regulatory proposals to restructure U.S. electricity markets. **Result:** Developed and analyzed legislative and regulatory proposals, such as those included in the House and Senate versions of H.R. 4 to enhance competition and reliability within electricity mar-

kets. Completed the National Transmission Grid study, which was issued in May 2002. Initiated efforts to implement the recommendations of the Grid Study. (MET GOAL)

Target: Guide periodic reviews of DOE energy R&D and science priorities to enhance their support of national objectives, including the completion of the National Climate Change Technology Initiative report and the initiation of implementation efforts. **Result:** Guided review of DOE technology transfer priorities to enhance their support of national objectives. Developed the DOE Order that sets roles and responsibilities governing more than 9,000 technology transfer and partnership initiatives annually, and helped lead the Technology Transfer Working Group. (MET GOAL)

Target: Leverage domestic science and technology resources through new and renewed international collaborations in high priority science and technology areas through work with international partners, as called for by the NEP. **Result:** Organized a high-level energy policy dialogue under the auspices of the Economic Dialogue endorsed by President Bush and Indian Prime Minister Vajpayee in November 2001. The discussions focused on common energy security challenges and parallel ongoing Science & Technology (S&T) cooperation. Signed new bilateral S&T agreements with China, Turkey, United Kingdom, and Canada. (MET GOAL)

FY 2001 Targets and Assessments

(1) Worked with foreign governments and multilateral organizations to develop and implement policy decisions that will diversify and enhance world oil production and reduce oil demand growth, as recommended in the NEP. (MET GOAL)

(2) Analyzed the likely effects of California price caps. Assessed the effects of and appropriate responses to supply constraints in petroleum product, electricity, and natural gas markets. Worked with foreign governments, energy suppliers, other Federal agencies, and state governments to improve responses to energy market disruptions. (MET GOAL)

(3) Participated in WTO Energy Services Agreement trade negotiations, regulatory cooperation, and commercial advocacy, as recommended by the NEP. (MET GOAL)

(4) Coordinated an interagency working group to implement the Clean Energy Technology Exports initiative, as recommended in the NEP. (MET GOAL)

(5) Organized technology training and other capacity building efforts to accelerate the worldwide adoption of technologies and practices that limit, reduce, avoid, or sequester greenhouse gas emissions. (MET GOAL)

(6) Coordinated the Department's input to the National Energy Policy Report (NEP). Provided policy analysis and guidance for appliance, equipment and building efficiency standards. Analyzed legislative proposals designed to increase domestic energy production and enhance energy efficiency. (MET GOAL)

(7) Analyzed the potential effects of environmental actions on energy markets, including legislation to integrate Federal regulation of powerplant emissions (NEP); Federal and state requirements for "boutique" motor fuels (NEP); the modification of New Source Review procedures (NEP); Toxic Release Inventory (TRI) requirements; and domestic and international climate change proposals, among others. (MET GOAL)

(8) Developed and analyzed legislative and regulatory proposals to enhance competition and reliability within electricity, natural gas, and oil markets, including initiation of the National Transmission Grid Study (NEP); supported efforts of the North American Energy Working Group to improve the integration of electricity transmission and natural gas pipeline infrastructure; and analyzed refinery capacity and utilization to ensure the adequacy of future refining capacity, among others factors. (MET GOAL)

(9) Initiated the Administration's National Climate Change Technology Initiative by coordinating a multi-agency review of technology needs and priorities, and guided the implementation of the Department's technology transfer initiative. (MET GOAL)

(10) Leveraged domestic science and technology resources through new and renewed international collaborations in high priority science and technology areas through work with international partners, as called for by the NEP. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Security

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Nuclear Safeguards and Security	SO			*	*	*	*
Security Investigations, Program Direction	SO			*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Office of Security (SO) develops and promulgates safeguards and security policy for the Department. The activities of SO support the Nuclear Safeguards and Security Program, Security Investigations, and Program Direction.

The Nuclear Safeguards and Security Program consists of programs for domestic protection of nuclear weapons, nuclear materials, nuclear facilities, and classified and unclassified information against theft, sabotage, espionage, terrorist activities, or any loss or unauthorized disclosure that could endanger our National security or disrupt operations. Foreign Visits and Assignments provides a centralized focus to track and analyze the details of all foreign visits and assignments for all DOE facilities, to ensure that these visits and assignments are conducted in a secure manner. Physical Security provides cost-effective plans, policies, and technical solutions to ensure that nuclear weapons, special nuclear materials, classified information, and key Departmental facilities and personnel are adequately protected from evolving threats. Plutonium, Uranium, and Special Materials Inventory maintains real-time, reliable, and complete information on DOE nuclear materials that are subject to special control and inventory procedures. Classification/Declassification provides the appropriate level of classification of information to help ensure its protection with an emphasis on declassification of previously classified documents for greater public access. The Security Investigations program funds background investigations for all DOE Federal employees and contractors who, in the performance of their official duties, require access authorizations for Restricted Data, National Security Information, or certain special nuclear material. Program Direction provides funds for all Federal personnel and other contractual support required at DOE Headquarters to carry out the program's mission in a cost effective and efficient manner.

Strategies And Policies For National Security (CM5-1A)

Develop policies and strategies to protect national security and other critical assets entrusted to the Department of Energy (DOE), deploy technological solutions to enhance security, protect Headquarters personnel and facilities, and provide other specialized security activities.

FY 2002 Targets and Results

Target: Complete the milestones listed in the FMFIA corrective action plan for the Significant Issue of Security. **Result:** A ten-year DOE-wide Security Strategic Plan was drafted which promulgates safeguards and security policy based on a sound understanding of threats and capabilities to respond. The DOE Design Basis Threat Interim Guidance, which identifies vulnerabilities and addresses evolving threats against DOE was issued in January 2002. These management tools provide a body of technical information to implement effective security programs for protecting the Nation's security and valuable assets. The FY 2002 Annual Policy Assessment Report, published in October 2002, promulgates safeguards and security technological solutions to meet priority needs. (MIXED RESULTS) **Plan of Action:** Publish DOE-wide Security Strategic Plan (ten years) in the second quarter of FY 2003.

Target: Improve Headquarters response capabilities for handling and resolving security situations by:

- Increasing the total interior and exterior perimeter video coverage by at least 20%;
- Increasing portable explosive detection capability by 50%;
- Increasing the number of trained and armed Protective Force Officers by 15%;
- Increasing officer retention by ten percent through implementation of an innovative "officer retention/recognition" program;
- Developing and implementing a comprehensive performance testing plan that encompasses

Protective Force emergency response responsibilities;
• Providing chemical and biological response training to 100% of Protective Force personnel assigned to critical posts; and
• Conducting transitional firearms training for 100% of armed personnel. **Result:** All actions were finalized by September 2002. Increased video coverage at DOE Headquarters from 61 to 79 cameras; doubled portable explosive detection units from two to four ; increased armed officers from 55 to 84; increased roving patrols and staffed two additional posts; decreased turnover of officers by implementing an aggressive "officers retention/recognition" program (30 officers resigned 6/00-5/01; only 18 officers resigned 6/01-5/02); developed and implemented an Emergency Response Plan DOE-wide; equipped and trained 100% of the protective force officers in the application of chemical protective gear; upgraded and trained all officers with the new DOE Standard handgun. (MET GOAL)

Target: Publish DOE-wide Strategic Plan for Security. **Result:** A ten-year DOE-wide Strategic Security Plan was drafted. The plan details how to counter the evolving threat with improved protection capabilities. Much of the focus over the coming years will be the use of technological solutions in defending against threats. Every effort will be made to consolidate special nuclear material into fewer secure facilities. We will continue to enhance our relationships with other U.S. Government agencies, and actively support Homeland Security initiatives to ensure the security of both the Department's critical infrastructure and the nation's critical energy infrastructure. (MIXED RESULTS) **Plan of Action:** Publish DOE-wide Security Strategic Plan (ten years) in the second quarter FY 2003.

Target: Develop and publish facility security performance metrics. **Result:** At the request of the former Deputy Secretary, security performance metrics were developed by the Security Policy Staff into a Security Metrics Primer. The Director of the Office of Security requested that an abbreviated Quarterly Metrics Report be disseminated, pending the Deputy Secretary's approval of the Security Metrics Primer. The Quarterly Report was published in August 2002. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed the milestones listed in the FMFIA corrective action plan for the Departmental challenge of security. (NEARLY MET GOAL) **Plan of Action:** All planned critical milestones in the FMFIA Departmental challenge of Security have been addressed. Five of the planned critical milestones require the implementation of either Inspector General or General Accounting Office audit recommendations. These five audits included a total of 26 recommendations, of which the Office of Security successfully closed 14. Of the remaining 12 recommendations, four were transferred to the National Nuclear Security Administration for implementation and the remaining eight recommendations have been addressed, but no action has been possible as a result of the office of the Secretary's 6-month moratorium on security-related directives associated with the Hamre Commission examination of security and science at DOE research facilities. Although the "official" close-out action for these recommendations will be the publishing of the DOE policies, the identified requirements are being integrated into current safeguards and security processes.

Ensure periodic and regularly scheduled meetings between all designated offices designed to address, track, and achieve critical milestones. Review and analyze the results of the Hamre Commission study and revise current directives as appropriate.

FY 2000 Targets and Assessments

(1) Completed the milestones listed in the FMFIA corrective action plan for the Departmental challenge of security. (MET GOAL)

(2) Initiated the correction of DOE infrastructure vulnerabilities identified by the President's Commission on Critical Infrastructure Protection. (MET GOAL)

(3) Reduced by 15 actions the processing backlog of requests for classified documents submitted under the Freedom of Information Act and Executive Order 12958 mandatory review provisions. (NOT MET) **Plan of Action:** Additional reviewers were obtained, but the five-fold increase in priority reviews prevented reaching goal this year.

FY 1999 Targets and Assessments

(1) Accomplished the milestones of the FMFIA corrective action plan for the Departmental

challenge of unclassified computer security. (MET GOAL)

Providing Security and Emergency Operations (CM5-1B)

Develop and implement policy and guidelines for the protection of the Department's critical assets. Provide the capability to successfully address the areas of personnel security, physical countermeasures, cyber security (including forensics analysis capability, nuclear material control, and accountability) and policy for hosting foreign visitors. Continue to improve and enhance the control and accountability of nuclear materials in the DOE complex through the development of state-of-the-art technologies, including measurement equipment and core nuclear material accounting software. 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 toward developing the capability required for assuring the Nation's energy infrastructure, including the physical and cyber components of the electric power, oil, and gas infrastructure; 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. Modernize the information security program to analyze and deter major incidents involving the compromise of classified information. This includes expansion of information assurance forensics analysis capabilities to support investigations and prosecutions of unauthorized disclosures of classified information; training for response personnel on preservation of evidence including electronic media; expansion of the Department's technical surveillance countermeasures program; and supporting the development and approval of a comprehensive Cyber Security Program Plan that describes the implementation of cyber security protection for every DOE site.

FY 2002 Targets and Results

Target: Formerly NS6-2: Providing Security and Emergency Operations. Functions were transferred to NNSA, the Office of Security, the Office of Energy Assurance, and the CIO. **Result:** There were four Inspector General reports and one GAO report associated with the PSPG NS6-2 that contained recommendations for SO. SO has closed out all actions for which it had responsibility or transferred them to the appropriate organization for action, with one exception. Under IG Report IG-0482, policy issuance was delayed due to the moratorium placed on security policy changes during the Hamre Commission review. The moratorium has since been lifted, and SO is proceeding with the policy issuance process. The issuance of a DOE Order will close the five open recommendations contained in IG report – IG-0465. The Office of the Chief Information Officer (OCIO) has responsibility for two of the recommendations in the reports mentioned above, which are both on track. OCIO reports the following results:
(1) Implement IG recommendations directed at the Department's Unclassified Cyber Security Program through the Cyber Security Performance Improvement Plan and the release of a series of policy directives. This target is on track for the completion date of September 2003.
(2) Improve metrics for successful implementation of Department-wide cyber security measures and incorporate significant cyber security metrics in Departmental performance plans. (MIXED RESULTS) **Plan of Action:** (1) The Performance Improvement Plan is in place, and a database to track the completion of the recommendations by the CIO and PSOs is updated on a near real time basis. The Cyber Security Policy document has been promulgated. The supporting manuals are in final review with the CIO Policy Working Group. (2) The Departmental Cyber Security metrics package and its implementing memo will be used to support the performance measure requirements being written into the new cyber security policy directives mentioned above. These metrics will also be rolled up from the Program by the OCIO to provide senior management with trends and analysis regarding the status of the Department's Cyber Security Program. The resulting analysis will also be used in establishing initial cyber security measures for DOE and updating the status of the Department's cyber security in relation to those measures for the Departmental performance plans.

GPRA Program Activity: Counterintelligence

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Counterintelligence	CN	23		54	48	35	13

Description:

The Counterintelligence (CN) mission is to identify, neutralize, and deter intelligence threats directed at the Department's facilities, personnel, information and technologies. Executive Order 12333, signed December 4, 1981, governs the conduct of intelligence activities by all agencies within the U.S. Intelligence Community (USIC). Classified Presidential Decision Directive/NSC-61 (PDD-61), "U.S. Department of Energy Counterintelligence Program," dated February 11, 1998, established and defined the Department of Energy's CN Program. The existence of the DOE Office of Counterintelligence was further codified in Public Law 106-65, Section 3204, and Subsection 215.

Protect Sensitive And Classified Material (CM5-2A)

Increase and enhance the protection of sensitive and classified technologies, information, and expertise against attempts by foreign intelligence, industrial intelligence, and non-traditional collectors to acquire nuclear weapons information or advanced technologies from the National Laboratories and other DOE and NNSA facilities, and support the protection of DOE and NNSA personnel and assets from international terrorist activities

FY 2002 Targets and Results

Target: Conduct ten inspections and two re-inspections of site counterintelligence programs in FY 2002, to ensure a comprehensive and quality effort at departmental sites. **Result:** Exceeded target level. Conducted 11 inspections and three re-inspections of site counterintelligence programs, for a total of 14. (MET GOAL)

Target: Conduct 9,500 briefings and debriefings of Departmental travelers, as well as those who are hosts to sensitive country visitors and assignees. Conduct counterintelligence investigations in support of the FBI. **Result:** Conducted 12,190 briefings and debriefings from October, 2001 to present. (MET GOAL)

Target: Develop 20 tactical analysis summaries and four strategic analysis assessments, annually update site-specific threat assessments, and produce the annual DOE threat assessment. These assessments identify targeting of Departmental personnel and assets. **Result:** In FY 2002, the Analysis Program completed more than 20 tactical analytical products, to include Counterintelligence Notes and disseminations of U.S. Intelligence Community terrorism information. The Program also completed several strategic analytical assessments, to include country threat assessments, foreign intelligence threat summaries, and other strategic products, exceeding its goal of four. The Program produced the annual DOE threat assessment. Finally, the Program conducted site-specific threat assessments at all major sites; however, not all smaller sites were assessed. (MIXED RESULTS) **Plan of Action:** Site-specific threat assessments at smaller sites will be conducted as rapidly as possible in the upcoming fiscal years, consistent with manning limitations. Additionally, CN will work with ME to make adjustments to this metric. Due to lack of analytical assets, annual updates of all threat assessments is an unrealistic expectation. Fortunately, experience indicates that basic threat assessments are very important, but updates are not necessarily needed annually.

FY 2001 Targets and Assessments

(1) Complete the Counterintelligence Implementation Plan's recommendations. (FMFIA) (NOT MET) **Plan of Action:** The Department has completed 42 of the 46 recommendations included in a Counterintelligence Implementation Plan that was developed as a result of a 90-Day Study and accompanying Action Plan that were requirements of Presidential Decision Directive 61.

FY 2000 Targets and Assessments

(1) Completed the Counterintelligence Implementation Plan's recommendations. (FMFIA) (NOT MET) **Plan of Action:** Department has completed 42 of the 46 recommendations included in a Counterintelligence Implementation Plan that was developed as a result of a 90-Day Study and accompanying Action Plan that were requirements of Presidential Decision Directive 61.

FY 1999 Targets and Assessments

(1) Implemented the DOE Counterintelligence Action Plan, pursuant to Presidential Decision Directive-61, to strengthen controls and protections of sensitive information, especially at the nuclear weapons laboratories. (NOT MET) **Plan of Action:** Department has completed 42 of the 46 recommendations included in a Counterintelligence Implementation Plan that was developed as a result of a 90-Day Study and accompanying Action Plan that were requirements of Presidential Decision Directive 61.

Providing Intelligence And Counterintelligence (CM5-2B)

The Intelligence program provides timely, high impact foreign intelligence analyses and information for U.S. nonproliferation and arms control policy formulation and execution with all-source evaluations of foreign nuclear weapons programs. The Counterintelligence (CI) program will:

(1) administer investigations that support migration of the CI threat and identify matters that require further investigation by the FBI;

(2) develop threat assessments that identify targeting of DOE personnel and assets;

(3) develop a multi-channel communications program that enhances employee awareness of CI issues with measurable employee feedback;

(4) develop and deploy an enhanced intrusion detection capability for DOE to address cyber threats;

(5) conduct inspections of CI programs that ensure comprehensive and quality effort at DOE sites; and

(6) evaluate employees assigned to high-risk positions

FY 2002 Targets and Results

Target: Complete the Counterintelligence Implementation Plan's recommendations. **Result:** In FY 2002 the remaining four recommendations (#s36, 39, 40 and 41) for the Counterintelligence Implementation Plan were completed. The Implementation Plan has been fully completed and all goals have been met. (MET GOAL)

GPRA Program Activity: Intelligence

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Intelligence	IN	23		40	40	35	38

Description:

The mission of the Office of Intelligence is to provide the Department, other U.S. Government policy makers, and the Intelligence Community with timely, accurate, high-impact intelligence analyses, including support to counterintelligence, to minimize the threat to the nuclear stockpile, national energy infrastructure, and energy security. The Office ensures that the Department's technical, analytical, and research expertise is made available to the Intelligence Community in accordance with Executive Order (E.O.) 12333. The Office provides rapid-response intelligence and applied technology applications to the intelligence, special operations, and law enforcement communities in support of DOE-complex security and homeland security.

Satisfy Customer Needs For Intelligence Information (CM5-3)

Satisfy diverse customer demands for timely, high-impact intelligence necessary to secure the DOE complex and ensure national energy security.

FY 2002 Targets and Results

Target: Reorganize the Office of Intelligence to reflect post-September 11 intelligence priorities and threats to the DOE complex. **Result:** Due to the departure of the Director of the Office of Intelligence, plans to reorganize the organization have been placed on hold. (NOT MET) **Plan of Action:** Once the new Director has been chosen, the reorganization plans will be re-evaluated.

Target: Establish secure, high-bandwidth connectivity to all major DOE sites to provide timely, mission-critical intelligence support. **Result:** The Office of Intelligence has achieved their target of establishing secure, high-bandwidth connections to all DOE Field Intelligence Elements (FIEs) and selected NNSA sites. The bandwidth to six sites has been upgraded to T-1; five T-1; five sites have been upgraded to two T-1s each; one site (our Continuity of Operations site) has been upgraded to five T-1s and the last site has been upgraded to a T-3 connection. The hardware supports the high-bandwidth connectivity. (MET GOAL)

FY 2001 Targets and Assessments

(1) Provided significant timely and high-impact foreign intelligence analyses and support to DOE and United States Government energy, arms control, and nonproliferation policy makers. (MET GOAL)

FY 2000 Targets and Assessments

There were no related targets.

FY 1999 Targets and Assessments

There were no related targets.

GPRA Program Activity: Independent Oversight and Performance Assurance

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule of Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Oversight Activities	OA	23		*	*	*	*

*In accordance with OMB Statement of Federal Financial Standards number 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, the Departmental Administration net costs were allocated to the programs and are not reported separately.

Description:

The Office of Independent Oversight and Performance Assurance (OA) is the Department's exclusive focal point for independent evaluations of safeguards, security, cyber security, emergency management, and environment, safety, and health. It has the expertise and skilled personnel needed to provide the Department's line management programs with the tools and independent program assessments required to preserve and protect critical national security interests, as well as environment, safety, and health programs at Department of Energy (DOE) and National Nuclear Security Administration (NNSA) sites.

The Office provides information needed to ensure that the Secretary of Energy, the NNSA Administrator, and Congress have an accurate, comprehensive understanding of the effectiveness, vulnerabilities, and trends of the Department's safeguards and security; environment, safety, and health; cyber security; and emergency management policies and programs.

The Office of Independent Oversight and Performance Assurance is funded in the Other Defense Activities appropriation. The Other Defense Activities program includes safeguards and security evaluations; environment, safety, and health evaluations; cyber security reviews; emergency management reviews; special reviews; and program direction.

Inspections to Improve Worker and Public Safety (CM5-4)

Provide inspections and reviews that contribute to improved environmental protection and enhanced safety and health of DOE employees, contractors, and the public, as well as enhanced safeguards and security of assets throughout the DOE complex, by identifying and reducing vulnerabilities from environmental safety and health risks, and threats to national security interests.

FY 2002 Targets and Results

Target: Conduct eight safeguards and security evaluations and report the baseline of findings in a database designed to track and measure improvement in these areas at sites throughout the Department. **Result:** During FY 2002, nine evaluations were conducted. Findings were reported in the Department's Safeguards and Security Information Management System (SSIMS). (MET GOAL)

Target: Expand the program to include the Department's integrated safeguards and security management initiative. Conduct 12 limited scope and/or follow-up reviews to evaluate specific topics and corrective actions. **Result:** The implementation of the Integrated Safeguards and Security (ISSM) initiative has been discussed on numerous occasions with representatives of NNSA and DOE. During Independent Oversight reviews and inspections, the implementation of ISSM in the field is evaluated and monitored by the Office of Independent Oversight based on the revised Appraisal Process Protocols approved and published in January 2002. During FY 2002, 17 limited scope or follow-up reviews were conducted. (MET GOAL)

Target: Conduct eight environment, safety and health evaluations at Departmental sites and establish a baseline of findings. Conduct seven limited scope and/or follow-up reviews. Conduct focus reviews on integrated safety management and implementation of DOE systems to protect workers, the public, and environment. Conduct independent safety assessments at the Oak Ridge Operations Office to evaluate the safety posture for defense nuclear facilities, the available technical expertise, and the review/approval processes. **Result:** During FY 2002, nine evalua-

tions were conducted. The findings were reported in the Department's Corrective Action Tracking System (CATS). Ten limited scope or follow-up reviews were conducted. An assessment of the Oak Ridge Operations Office was initiated with the Office of Science and Environmental Management to evaluate the actions taken to address the DNFSB concerns regarding the effectiveness of ISM. Based on the review, further evaluation of Oak Ridge is scheduled for FY 2003. (MET GOAL)

Target: Conduct nine dedicated oversight assessments of emergency management issues. Conduct six limited scope and/or follow-up reviews to evaluate specific topics and corrective actions. **Result:** During FY 2002, nine assessments were conducted. The findings were reported in the Department's Corrective Action Tracking System (CATS). Eleven limited scope or follow-up reviews were conducted. (MET GOAL)

Target: Perform eight cyber security inspections per year. Expand testing to include additional threats to networks and computer systems. Conduct six limited scope and/or follow-up reviews to evaluate specific topics and corrective actions. **Result:** During FY 2002, ten inspections were conducted. The findings were reported in the Department's Safeguards and Security Information Management System (SSIMS). Twenty-one limited scope or follow-up reviews have been conducted. (MET GOAL)

Target: Establish a program to evaluate the performance of DOE sites in safeguards and security, cyber security, emergency management, and environment, and safety and health. Conduct special complex-wide reviews of topics as directed by senior DOE management. **Result:** The OA Appraisal Process Protocols were published in January 2002 to formally establish a program to evaluate the performance of DOE sites in safeguards and security, cyber security, emergency management and environment, safety and health. A special review of the DOE Executive Protection Program was conducted in February 2002, as requested by the Secretary of Energy and senior DOE management. (MET GOAL)

FY 2001 Targets and Assessments

(1) Conducted safeguards and security evaluations at 20 major sites per year to provide an independent assessment of the status of safeguards and security programs for the Secretary, and to establish a baseline of findings in a database designed to track and measure improvement in these areas at sites throughout the Department. (MET GOAL)

(2) Provided for the dedicated oversight of emergency management issues at Department Headquarters and 15 major Departmental sites. This function focuses solely on the effectiveness of the Department's emergency management programs, and establishes a performance baseline of the status of these programs throughout the Department. (MET GOAL)

(3) Performed continuous cyber security inspections and no-notice reviews at 14 major Departmental sites per year to improve oversight of cyber security and establish a baseline of issues through a new function dedicated solely to cyber security reviews, offsite monitoring of Internet security, and controlled attempts to penetrate security firewalls. This new function represents a substantial increase over previous efforts to evaluate cyber security within the Department. (MET GOAL)

(4) Conducted three special complex-wide reviews of topics such as Fire Safety Initiatives, Albuquerque Diversity Review, and National Emergency Response Assets to determine their effectiveness across the complex. Findings and issues associated with these programs will be maintained in a database, in order to track corrective actions and assist in measuring improvement in these critical areas throughout the Department. (MET GOAL)

FY 2000 Targets and Assessments

(1) Conducted oversight special reviews, assessments, evaluations, and inspections addressing emergency management, safety management, and accidents. (MET GOAL)

FY 1999 Targets and Assessments

(1) Conducted oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management and safeguards and security. (MET GOAL)

GPRA Program Activity: Office of Inspector General

GPRA Program Activity	DOE Office	Financial Statement Footnote	Program Element In Schedule Net Costs	NET COSTS ($M) FY02	FY01	FY00	FY99
Departmental Administration – Inspector General	IG	23		36	34	33	31

Description:

As mandated by the Inspector General Act (IG Act), the Office of Inspector General (OIG) promotes the effective, efficient, and economical operation of the Department, including the National Nuclear Security Administration (NNSA). The OIG detects and prevents fraud, waste, abuse, and violations of law in agency programs through audits, investigations, inspections, and other reviews. In addition, the OIG plays an important role in assisting the Department in implementing the Government Performance and Results Act. The OIG also seeks to serve as a facilitator of management reform by evaluating the Department's program performance as it relates to the President's Management Reform Agenda, the Secretary's priorities for a better managed Department, and the most serious management challenges facing the Department. In addition to the requirements of the IG Act, the OIG performs a number of functions mandated by other statutes, executive orders, and regulations.

Audits, Investigations, Inspection, Evaluate GPRA (CM6-1)

Conduct audits, investigations, inspections, and other reviews of those issues, programs and systems having the greatest potential impact on the protection or recovery of public resources, and make associated recommendations for positive change. Evaluate the Department's implementation of the Government Performance and Results Act.

FY 2002 Targets and Results

Target: Complete the required annual financial statement audits by the due dates designated in the law. **Result:** On February 13, 2002, the OIG issued the audit report on the Department of Energy's Consolidated Financial Statements ahead of the March 1, 2002 due date. This is the third consecutive year that the Department's consolidated financial statements have received an unqualified audit opinion. (MET GOAL)

Target: Initiate at least 60% of the audits planned for the year, and replace those audits not started with more significant audits which identify time-sensitive issues needing review. **Result:** In its workplan the OIG identified 61 new performance audits to initiate during the fiscal year, as resources permitted. The OIG's ability to conduct these audits was dependent upon the need to conduct unplanned audits, such as those initiated as special requests from Congress or the Secretary. As of September 30, 2002, the Office had initiated 70% of the audits planned for the year. Consistent with the OIG performance measure, a decision was made to replace planned audits with more significant audits having a greater impact. (MET GOAL)

Target: Initiate at least 70% of inspections planned for the year, and replace those not started with inspections having greater potential impact. **Result:** In its workplan the OIG identified 15 possible performance inspections to initiate during the fiscal year, as resources permitted. The OIG's ability to conduct these inspections was dependent upon the need to conduct unplanned inspections, such as those initiated as a result of Hotline complaints or Congressional or Secretarial requests. As of September 30, 2002, the had OIG initiated 87% of the inspections planned for the year, and replaced those not started with inspections having greater potential impact. (MET GOAL)

Target: Obtain judicial and/or administrative action on at least 35% of all cases investigated during the fiscal year. **Result:** As of September 30, 2002 the OIG obtained judicial and/or administrative action on 37% of all cases investigated during the fiscal year. (MET GOAL)

Target: Obtain at least a 70% acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. **Result:** As of September 30, 2002, the OIG achieved an 82% acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. (MET GOAL)

Target: Complete the milestones listed in the corrective action plan for the Significant Issue of Human Capital Management. **Result:** (1) De-

velop an OIG auditor recruitment and retention plan to maintain a skilled audit workforce. In December 2001, the OIG developed an auditor recruitment and retention plan to maintain a skilled audit workforce.
(2) Request additional funding in the FY 2004 budget to address increasing requirements. In June 2002, the OIG requested additional resources in the FY 2004 corporate review budget to address increased program requirements relating to the President's Management Agenda, the Department's management challenges identified by the OIG, and the Secretary's priorities.
(3) Further improve the OIG's risk-based planning process by integrating planned audits to align with critical audit areas. The OIG has complete Departmental site and programmatic risk assessments, which were used to prepare the OIG FY 2003 annual work plan describing planned audits in critical areas.
(4) Update a consolidated analysis of internal audit staffing levels and needs. In June 2002, the OIG updated a consolidated analysis of internal audit staffing levels and needs.
(5) Increase audit staffing to the level needed to meet audit requirements based on an updated staffing study. The OIG is currently conducting a review of the effectiveness of the Cooperative Audit Strategy, which should be completed by December 2002. The results of this study could impact the audit staffing level. Also, new guidance on the cooperative audit strategy will be issued by September 30, 2003. (MET GOAL)

FY 2001 Targets and Assessments

(1) Completed the required annual financial statement audits by the due dates designated in the law. (MET GOAL)

(2) Initiated at least 60% of the audits planned for the year, and replaced those audits not started with more significant audits which identified time-sensitive issues needing review. (MET GOAL)

(3) Initiated at least 70% of inspections planned for the year, and replaced those not started with inspections having greater potential impact. (MET GOAL)

(4) Obtained judicial and/or administrative action on at least 35% of all cases investigated during the fiscal year. (MET GOAL)

(5) Obtained at least 70% acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. (MET GOAL)

(6) Completed the milestones listed in the corrective action plan for the Significant Issue of inadequate audit coverage. (MET GOAL)

FY 2000 Targets and Assessments

(1) Completed the required annual financial statement audits by due dates designated in the law. (MET GOAL)

(2) Completed at least 60% of the audits planned for the year, and replaced those audits not started with more significant audits which identified time-sensitive issues needing review. (MET GOAL)

(3) Initiated at least 80% of inspections planned for the year and replaced those not started with inspections having greater potential impact. (MET GOAL)

(4) Obtained judicial and/or administrative action on at least 35% of all cases investigated during the fiscal year. (MET GOAL)

(5) Obtained at least 75% acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. (BELOW EXPECTATIONS) **Plan of Action:** The OIG referred 25 cases for prosecution during the year with a 68-percent acceptance rate. The OIG will continue to expand its liaison and cooperative work with the Department of Justice. The OIG will continue to focus its investigative resources on cases with the greatest potential for positive impact on the Department and prosecutive merit.

FY 1999 Targets and Assessments

(1) Rendered, by the designated date, an opinion on the Department's consolidated financial statements, system of internal controls, and compliance with laws and regulations. (MET GOAL)

(2) Completed at least 60% of the audits planned for the year and replaced those audits not started with more significant audits which identified time-sensitive issues needing review. (MET GOAL)

(3) Focused investigations on allegations of serious violations of Federal law by:

- Obtaining judicial and/or administrative action on 30% of all cases in open status during the fiscal year;
- Obtaining acceptance of 75% of the cases presented for prosecution. (MET GOAL)

(4) Planned and, on a timely basis, conducted reviews based on assessments of risk and/or benefit to key Departmental programs. (MET GOAL)

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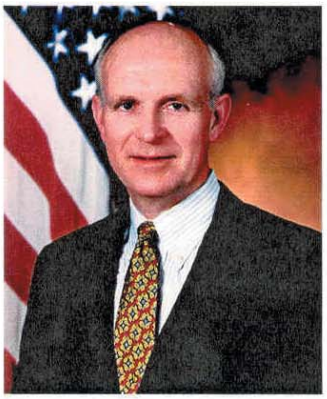
Financial Section

Message from the Chief Financial Officer



I am pleased to present the Department of Energy's consolidated financial statements for FY 2002. An independent public accounting firm, KPMG LLP, working through the Department's Inspector General, has audited these statements. I am proud to report that our financial statements have received an unqualified "clean" opinion. Receiving an unqualified opinion verifies that the financial statements fairly present the Department's financial position. These statements were prepared in accordance with standards developed by the Federal Accounting Standards Advisory Board, as well as the requirements of the Office of Management and Budget and the Government Management Reform Act of 1994.

The Department has also completed an evaluation of its financial management system using guidance issued by the Office of Management and Budget. This evaluation indicated that our system is in general conformance with governmental financial system requirements and identified no material nonconformances. However, we are continuing to improve our existing system to take advantage of the improved capabilities of new technology. Our new financial information system, as envisioned, will provide the capability to integrate financial and performance information, thereby improving its usefulness to managers.

As we continually strive to improve financial management, we are also addressing two concerns identified as reportable conditions by the auditors when they conducted their review of the Department's financial statements. These reportable conditions concern network security and access controls for unclassified information systems and the quality of performance measures used by the Department. While these conditions are not material weaknesses, these issues require our attention and immediate action to improve our performance and financial management at the Department.

My goal is to enhance our processes in carrying out our stewardship responsibilities for the American people, the Congress, the Secretary, and the President. I believe you will find the Department's Performance and Accountability Report to be a comprehensive picture of our programs and finances.

Bruce M. Carnes
Chief Financial Officer

January 15, 2003

Financial Performance Measures

Prompt Payment

The Prompt Payment Act requires Federal agencies to pay commercial obligations within certain time periods. When agencies do not meet these deadlines, interest penalties are incurred. The Department's FY 2002 percentage for on-time prompt payment is 96 percent, indicating our continued strong performance.

Electronic Funds Transfer

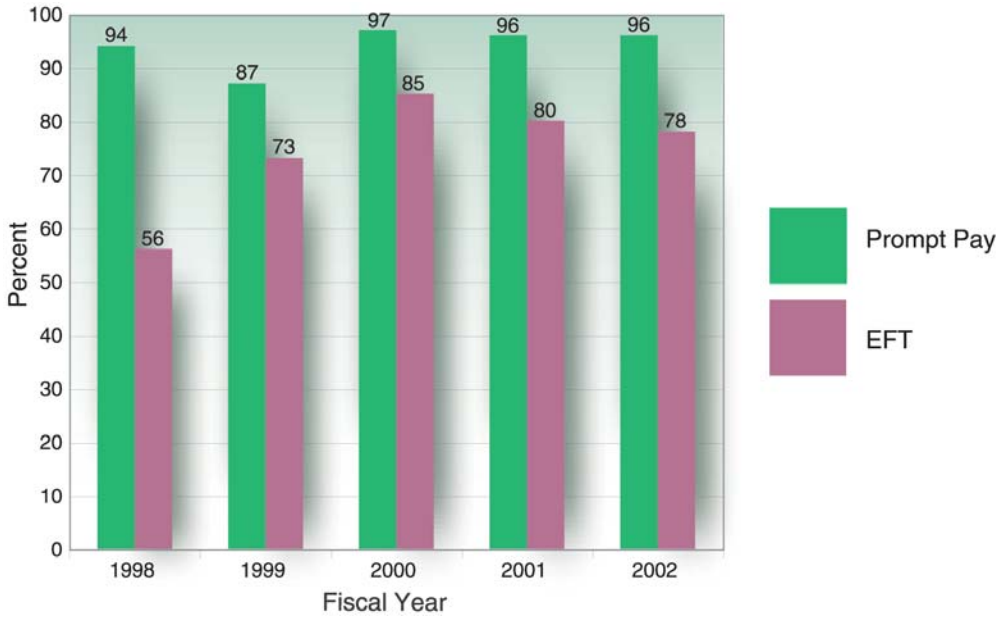
The Debt Collection Improvement Act of 1996 requires the use of Electronic Funds Transfer (EFT) for all Federal payments made after January 1, 1999, with limited exceptions. The Department's percentage of commercial payments made via EFT in FY 2002 is 78 percent.

According to a Treasury Financial Management Service Report, 53 percent of all Treasury Disbursed Vendor Payments in FY 2002 were accomplished electronically. The Department continues a strong performance in this area.

Erroneous Payment Performance

The reduction of erroneous payments is a management improvement initiative of the Administration and a focus of the Congress. While the Department does not have any major benefit programs, we have consistently designed our business practices and systems to safeguard against improper payments. In FY 2002, an erroneous payment reporting and review process that monitors performance throughout the Department was established. During FY 2002 the Department made five million payments with an erroneous payment rate of only 0.25 percent, representing 0.07 percent of the $23.7 billion in payments.

Prompt Payment Percentage / Electronic Funds Transfer (EFT)



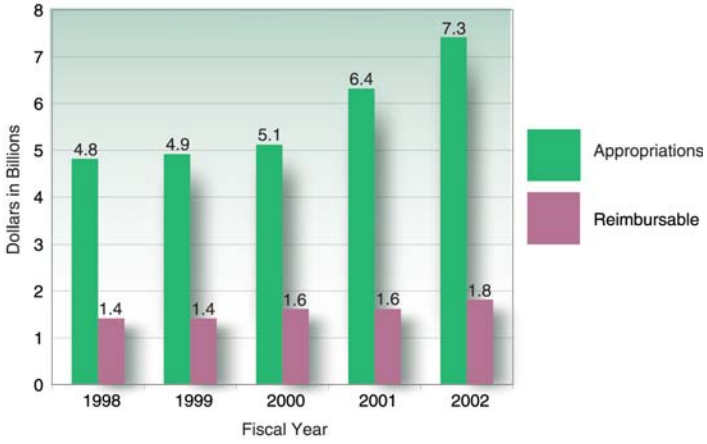
Balances of Uncosted Obligations and Unobligated Appropriations

Significant balances of uncosted obligations occur when a Federal agency contracts out much of its appropriated funds, as does the Department. These uncosted obligations represent the portion of contract obligations related to goods and services that have not yet been received. While balances of uncosted obligations are natural and acceptable, it is incumbent upon Federal agencies to evaluate these balances to ensue that the levels maintained are appropriate and consistent with sound financial management.

The Department's uncosted balance for appropriated activities has increased by $1.1 billion and $1.0 billion for fiscal years 2001 and 2002 respectively. This upward trend is the natural result of funding increases over the last two years occurring in areas that inherently display higher levels of uncosted balances. Specifically, in fiscal year 2002, the Department received supplemental funding late in the year due to events surrounding the September 11 attacks, which did not allow time for full costing before year-end. In addition, funding increases over the last two years in the areas of new construction and grant programs have contributed to this upward movement.

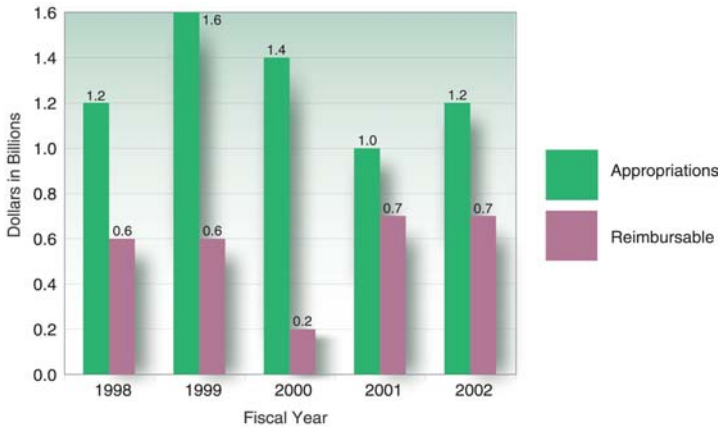
New construction activities have create higher balances due to up front funding of multi-year projects that typically display lower outlays in early phases of the projects, while funding increases in the Department's grant programs result in higher balances due to the unique contracting and accounting mechanisms utilized to execute these programs. The movement in uncosted balances over the last two years is expected and commensurate with program increases. Unobligated balances have remained at a constant level over the same time period.

Uncosted Obligations by Fiscal Year



Unobligated Appropriations by Fiscal Year

(Chart data excludes the Bonneville Power Administration and the United States and Enrichment Corporation)



Since FY 1996, the Department has taken aggressive actions to understand what drives both uncosted and unobligated balances, and more actively consider these resources when determining budget estimates. Most notably, the Department developed a comprehensive methodology for analyzing these balances. This approach follows comparable principles to those established by the General Accounting Office and applies percentage thresholds for specific types of financial and contractual arrangements, thereby allowing evaluation of overall performance based on the variance between the calculated thresholds and the actual balances. Based on these analyses, we believe any additional reductions in uncosted or unobligated balances will be relatively minor, barring any extraordinary funding issues. However, we do expect on-going fluctuations of these balances from year to year based on natural business cycles, as demonstrated over the last two years.

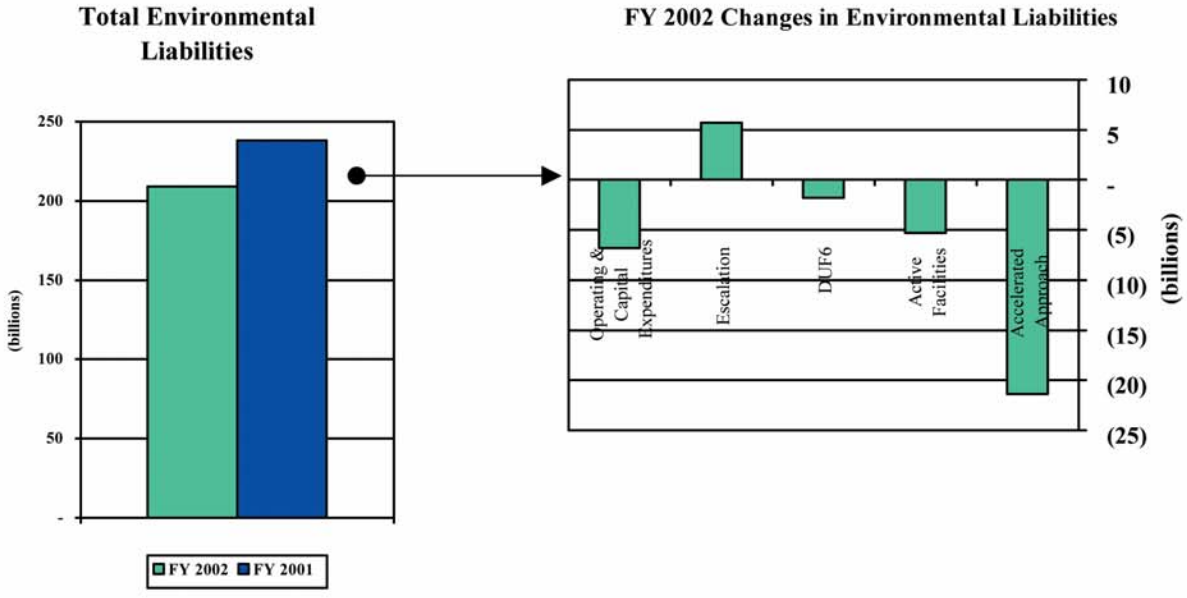
Consolidated and Combined Financial Statements

The Department's financial statements have been prepared to report the financial position and results of operations of the Department of Energy, pursuant to the requirements of the Chief Financial Officers Act of 1990 and the Government Management Reform Act of 1994. While the statements have been prepared from the Department's books and records in accordance with the formats prescribed by the Office of Management and Budget, the statements are different from the financial reports used to monitor and control budgetary resources that are prepared from the same books and records. These statements should be read with the understanding that the Department is a component of the United States Government, that liabilities not covered by budgetary resources cannot be liquidated without the enactment of an appropriation by Congress, and that payment of all liabilities other than for contracts can be abrogated by the Federal Government.

The following provides a brief description of the nature of each required financial statement. Some significant balances and changes in balances from the prior year are noted to help clarify the link to the Department's operations.

The *Balance Sheet* describes the assets, liabilities, and net position components of the Department. Environmental liabilities for cleaning up sites that supported the Nation's production and testing of nuclear weapons comprise by far the largest single component of the balance sheet. Estimating this liability requires making assumptions about future activities and is inherently uncertain. The estimate includes a contingency intended to account for uncertainties associated with the technical cleanup scope of the work.

The Department completed a top-to-bottom review of its environmental management program in FY 2002 that resulted in a new approach focused on reducing risk to public health, workers and the environment on an accelerated basis and at reduced life-cycle costs. The overall life-cycle cost estimate reduction resulting from this review totaled $21 billion. This reduction, along with other changes highlighted in the chart below and more fully explained in the notes to the financial statements, reduced the Department's total environmental liability by $29 billion.



A change in the discount rate used to estimate contractor employee pension plan obligations, coupled with a decline in the equity market valuations of plan assets, were the primary reasons for a shift from a net funding surplus of $5.1 billion last year to a net deficit of almost $1 billion in FY 2002 for these plans. A similar change in the discount rate used to estimate the obligations of contractor postretirement benefits other than pensions was the primary reason for an increase of $1.6 billion in unfunded plan benefit obligations. Increases in the estimated plan benefit obligations are generally amortized over an extended time period, and therefore do not result in an immediate change in unfunded liabilities recorded by the Department. However, this trend has significant implications for future funding and budgeting needs.

The *Consolidated Statements of Net Cost* summarize the Department's operating costs by our four principal business lines. Operating costs reflect the full cost including all direct and indirect costs consumed by a program or responsibility segment. The full costs are reduced by earned revenues to arrive at net operating costs. The largest component of costs in FY 2002 resulted from the reductions in environmental liability estimates noted above.

The *Consolidated Statements of Changes in Net Position* reconcile the beginning and ending balances of unexpended appropriations and cumulative results of operations.

The *Combined Statements of Budgetary Resources* identify the status of the Department's budgetary resources.

The *Consolidated Statements of Financing* reconcile the obligations incurred reported on the Combined Statements of Budgetary Resources to net costs reported on the *Consolidated Statements of Net Cost*.

The *Consolidated Statements of Custodial Activities* identify revenues collected by the Department on behalf of others. These revenues primarily result from power marketing administrations that sell power generated by hydroelectric facilities owned by the Corps of Engineers and the Bureau of Reclamation.

Consolidated Balance Sheets

As of September 30, 2002 and 2001
($ in millions)

	2002	2001 Restated
ASSETS (Note 2)		
Intragovernmental		
Fund Balance with Treasury (Note 3)	$ 14,109	$ 13,580
Investments, Net (Note 4)	17,058	15,812
Accounts Receivable, Net (Note 5)	470	572
Regulatory Assets (Note 6)	4,774	4,851
Other	2	3
Total Intragovernmental	$ 36,413	$ 34,818
Investments, Net (Note 4)	243	222
Accounts Receivable, Net (Note 5)	4,447	4,618
Inventory, Net (Note 7)		
Strategic Petroleum and Northeast Home Heating Oil Reserves	15,758	14,635
Nuclear Materials	22,027	21,693
Other	451	478
General Property, Plant, and Equipment, Net (Note 8)	20,264	19,427
Regulatory Assets (Note 6)	6,845	6,906
Other (Note 9)	3,574	4,176
Total Assets	$ 110,022	$ 106,973
LIABILITIES (Note 10)		
Intragovernmental		
Accounts Payable	$ 122	$ 119
Debt (Note 11)	8,027	8,473
Appropriated Capital Owed to Treasury (Note 12)	2,868	2,758
Deferred Revenues (Note 13)	44	39
Other (Note 14)	272	246
Total Intragovernmental	$ 11,333	$ 11,635
Accounts Payable	3,300	3,682
Debt (Note 11)	6,275	6,241
Deferred Revenues (Note 13)	16,688	16,533
Environmental Liabilities (Note 15)	209,629	238,349
Pension and Other Actuarial Liabilities (Note 16)	8,892	7,624
Other (Note 14)	3,006	2,765
Contingencies (Note 17)	2,009	2,028
Total Liabilities	$ 261,132	$ 288,857
NET POSITION (Note 26 and 27)		
Unexpended Appropriations	8,206	7,335
Cumulative Results of Operations	(159,316)	(189,219)
Total Net Position	$ (151,110)	$ (181,884)
Total Liabilities and Net Position	$ 110,022	$ 106,973

The accompanying notes are an integral part of these statements

Consolidated Statements of Net Cost

For the Years Ended September 30, 2002 and 2001
($ in millions)

	2002	2001 Restated
Costs (Note 18)		
National Nuclear Security Activities (Note 19)		
Program Costs	$ 6,763	$ 5,917
Earned Revenues	-	-
Net Cost of National Nuclear Security Activities	$ 6,763	$ 5,917
Science (Note 20)		
Program Costs	$ 2,812	$ 2,693
Earned Revenues	-	-
Net Cost of Science Programs	$ 2,812	$ 2,693
Energy Resources (Note 21)		
Program Costs	$ 6,481	$ 7,278
Earned Revenues	(4,330)	(4,766)
Net Cost of Energy Resources Programs	$ 2,151	$ 2,512
Environmental Quality (Note 22)		
Program Costs	$ 1,451	$ 712
Earned Revenues	(454)	(483)
Net Cost of Environmental Quality Programs	$ 997	$ 229
Other Programs (Note 23)		
Program Costs	$ 2,569	$ 2,215
Earned Revenues	(2,299)	(2,095)
Net Cost of Other Programs	$ 270	$ 120
Costs Not Assigned to Programs (Note 25)	$ (21,938)	$ 12,056
Net Cost of Operations	$ (8,945)	$ 23,527

The accompanying notes are an integral part of these statements

Consolidated Statements of Changes in Net Position

For the Years Ended September 30, 2002 and 2001
($ in millions)

	2002	2001 Restated
CUMULATIVE RESULTS OF OPERATIONS:		
Beginning Balance	$ (189,219)	$ (189,000)
Prior Period Adjustments (Note 26)	-	586
Changes in Accounting Principles (Note 27)	559	-
Beginning Balance, as Restated	$ (188,660)	$ (188,414)
Budgetary Financing Sources:		
Appropriations Used	20,137	18,636
Nonexchange Revenues	35	65
Transfers - In/Out Without Reimbursement, Budgetary	(35)	(32)
Other Financing Sources:		
Transfers - In/Out Without Reimbursement, Nonbudgetary	215	1,550
Imputed Financing from Costs Absorbed by Others	33	1,670
Other	14	833
Total Financing Sources	$ 20,399	$ 22,722
Net Cost of Operations	8,945	(23,527)
Ending Balance - Cumulative Results of Operations	$ (159,316)	$ (189,219)
UNEXPENDED APPROPRIATIONS:		
Beginning Balance	$ 7,335	$ 6,179
Change in Accounting Principle (Note 27)	(161)	
Beginning Balance, as Restated	$ 7,174	$ 6,179
Budgetary Financing Sources Related to Appropriations:		
Appropriations Received	21,182	19,807
Appropriations Transferred - In/Out	39	216
Other Adjustments	(52)	(231)
Appropriations Used	(20,137)	(18,636)
Total Financing Sources Related to Appropriations	$ 1,032	$ 1,156
Ending Balance - Unexpended Appropriations	$ 8,206	$ 7,335

The accompanying notes are an integral part of these statements

Combined Statements of Budgetary Resources

For the Years Ended September 30, 2002 and 2001
($ in millions)

	2002	2001 Restated
BUDGETARY RESOURCES		
Budget Authority		
Appropriations Received	$ 22,035	$ 20,888
Borrowing and Contract Authority	642	260
Net Transfers	(115)	(98)
Unobligated Balance (Note 28)		
Beginning of Period	3,050	2,737
Net Transfers, Actual	(6)	735
Spending Authority from Offsetting Collections		
Earned		
Collected	6,653	7,156
Receivable from Federal Sources	(164)	38
Change in Unfilled Customer Orders		
Advances received	12	13
Without Advances from Federal Sources	183	(10)
Recoveries of Prior Year Obligations	28	25
Authority Temporarily Not Available	(40)	(451)
Authority Permanently Not Available	(448)	(217)
Total Budgetary Resources (Note 28)	$ 31,830	$ 31,076
STATUS OF BUDGETARY RESOURCES		
Obligations Incurred (Note 28)		
Direct	$ 25,947	$ 25,941
Reimbursable	2,731	2,452
Total Obligations Incurred	$ 28,678	$ 28,393
Unobligated Balances Available		
Apportioned	1,501	1,646
Exempt from Apportionment	9	131
Unobligated Balances Not Available (Note 28)	1,642	906
Total Status of Budgetary Resources	$ 31,830	$ 31,076
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS		
Obligated Balance, Net - Beginning of Period	$ 10,466	$ 8,619
Obligated Balance - End of Period		
Accounts Receivable	$ (537)	$ (701)
Unfilled Customer Orders from Federal Sources	(2,163)	(1,981)
Undelivered Orders	9,136	8,053
Accounts Payable	4,762	5,095
	$ 11,198	$ 10,466
Outlays (Note 28)		
Disbursements	$ 27,902	$ 26,493
Collections	(6,665)	(7,169)
Subtotal	$ 21,237	$ 19,324
Less: Offsetting Receipts	(3,207)	(2,717)
Net Outlays	$ 18,030	$ 16,607

The accompanying notes are an integral part of these statements

Consolidated Statements of Financing

For the Years Ended September 30, 2002 and 2001
($ in millions)

	2002	2001 Restated
RESOURCES USED TO FINANCE ACTIVITIES:		
Budgetary Resources Obligated:		
Obligations Incurred	$ 28,678	$ 28,393
Less: Spending Authority from Offsetting Collections and Recoveries	(6,712)	(7,222)
Obligations, Net of Offsetting Collections and Recoveries	$ 21,966	$ 21,171
Offsetting Receipts	(3,207)	(2,717)
Net Obligations	$ 18,759	$ 18,454
Other Resources:		
Imputed Financing from Costs Absorbed by Others	33	1,670
Transfers-In/Out	180	1,518
Nuclear Waste Fund Offsetting Receipts, Deferred (Note 24)	2,034	1,656
Other	(61)	(1,575)
Net Other Resources Used to Finance Activities	$ 2,186	$ 3,269
Total Resources Used to Finance Activities	$ 20,945	$ 21,723
RESOURCES USED TO FINANCE ITEMS NOT PART OF THE NET COST OF OPERATIONS:		
Change in Resources Obligated for Goods/Services/Benefits Ordered But Not Yet Provided	$ (869)	$ (1,353)
Resources that Finance the Acquisition of Assets	(3,507)	(2,711)
Resources that Fund Expenses Recognized in Prior Periods	(6,064)	(5,944)
Budgetary Offsetting Collections and Receipts that Do Not Affect the Net Cost of Operations	6	(1)
Other Resources and Adjustments	(602)	(380)
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	$ (11,036)	$ (10,389)
Total Resources Used To Finance The Net Cost of Operations	$ 9,909	$ 11,334
NET COST OF ITEMS THAT DO NOT REQUIRE OR GENERATE RESOURCES IN CURRENT PERIOD:		
Components Requiring or Generating Resources in Future Periods:		
Increases/(Decreases) in Unfunded Liability Estimates (Note 29)	$ (20,720)	$ 10,199
Increase in Exchange Revenue Receivable from the Public	(6)	(15)
Total Components Requiring or Generating Resources in Future Periods	$ (20,726)	$ 10,184
Components Not Requiring or Generating Resources:		
Depreciation and Amortization	1,494	1,520
Revaluation of Assets and Liabilities	51	(223)
Other	327	712
Total Components Not Requiring or Generating Resources	$ 1,872	$ 2,009
Total Net Cost of Items that Do Not Require or Generate Resources in Current Period	$ (18,854)	$ 12,193
NET COST OF OPERATIONS	$ (8,945)	$ 23,527

The accompanying notes are an integral part of these statements

Consolidated Statements of Custodial Activities

For the years ended September 30, 2002 and 2001
($ in millions)

	2002	2001
SOURCES OF COLLECTIONS		
Cash Collections (Note 30)		
Interest	$ 6	$ 14
Penalties and Fines	3	3
Power Marketing Administration Custodial Revenue	496	424
Other Custodial Revenue	16	14
Net Collections	$ 521	$ 455
Accrual Adjustment	26	(22)
Total Revenue	$ 547	$ 433
DISPOSITION OF REVENUE		
Transferred to Others		
Department of the Treasury	(56)	(47)
Army Corps of Engineers	(166)	(152)
Bureau of Reclamation	(289)	(187)
Others	(7)	(36)
Decrease in Amounts to be Transferred	(29)	(11)
Net Custodial Activity	$ -	$ -

The accompanying notes are an integral part of these statements

Notes to the Consolidated and Combined Financial Statements

1. Significant Accounting Policies

A. Basis of Presentation

These consolidated and combined financial statements have been prepared to report the financial position and results of operations of the U.S. Department of Energy (the Department). The statements were prepared from the books and records of the Department in accordance with generally accepted accounting principles applicable to Federal entities.

B. Description of Reporting Entity

The Department is a cabinet level agency of the Executive Branch of the U.S. Government. The Department is not subject to Federal, state, or local income taxes. The Department's headquarters organizations are located in Washington, D.C., and Germantown, Maryland, and consist of an executive management structure that includes: the Secretary, the Deputy Secretary, the Under Secretary for Energy, Science and Environment; the Under Secretary for National Nuclear Security/Administrator for National Nuclear Security Administration; Secretarial staff organizations; and program organizations that provide technical direction and support for the Department's principal programmatic missions. The Department also includes the Federal Energy Regulatory Commission, which is an independent regulatory organization responsible for setting rates and charges for the transportation and sale of natural gas and for the transmission and sale of electricity and the licensing of hydroelectric power projects.

The Department has a complex field structure comprised of operations offices, field offices, power marketing administrations (Bonneville Power Administration, Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration), laboratories, and other facilities. The majority of the Department's environmental cleanup, energy research and development, and testing and production activities are carried out by major contractors. These contractors operate, maintain, or support the Department's government-owned facilities on a day-to-day basis and provide other special work under the direction of field organizations.

These contractors have unique contractual relationships with the Department. In most cases, their charts of accounts and accounting systems are integrated with the Department's accounting system through a home office-branch office type of arrangement. Additionally, the Department is responsible for funding certain defined benefit pension plans, as well as postretirement benefits such as medical care and life insurance, for the employees of these contractors. As a result, these statements reflect not only the costs incurred by these contractors, but also include certain contractor assets (i.e., employee advances and prepaid pension costs) and liabilities (i.e., accounts payable, accrued expenses including payroll and benefits, and pension and other actuarial liabilities) that would not be reflected in the financial statements of other Federal agencies that do not have these unique contractual relationships.

C. Basis of Accounting

Transactions are recorded on an accrual accounting basis and a budgetary basis. Under the accrual method, revenues are recognized when earned and expenses are recognized when liabilities are incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of Federal funds. All material intra-agency balances and transactions have been eliminated in the *Consolidated Balance Sheets, Consolidated Statements of Net Cost, Consolidated Statements of Changes in Net Position, Consolidated Statement of Financing, and Consolidated Statements of Custodial Activities*. The *Combined Statements of Budgetary Resources* and *Financing* are prepared on a combined basis, and do not include intra-departmental eliminations.

D. Fund Balance with Treasury

Funds with the Department of the Treasury (Treasury) primarily represent appropriated and revolving funds that are available to pay current liabilities and finance authorized purchases. Disbursements and receipts are processed by Treasury, and the Department's records are reconciled with those of Treasury (see Note 3).

E. Investments, Net

All investments are reported at cost net of amortized premiums and discounts except for FY 2001 investments in Treasury securities for the Department's Nuclear Waste Fund. The Nuclear Waste Fund's Treasury securities are classified as available for sale. Prior to FY 2002 these securities were reported at fair market value in accordance with Statement of Financial Accounting Standards (SFAS) No. 115, *Accounting for Investment in Debt and Equity Securities*, with unrealized holding gains and losses reported as a component of net position. The Department changed its accounting practices in FY 2002 to value these investments at net amortized cost. Premiums and discounts are amortized using the effective interest yield method (see Notes 4 and 27).

F. Accounts Receivable, Net

The amounts due for non-intragovernmental (non-Federal) receivables are stated net of an allowance for uncollectable accounts. The estimate of the allowance is based on past experience in the collection of receivables and an analysis of the outstanding balances (see Note 5).

G. Inventory, Net

Stockpile materials are recorded at historical cost in accordance with SFAS No. 3, *Accounting for Inventory and Related Property*, except for certain nuclear materials identified as surplus or excess to the Department's needs. These nuclear materials are recorded at their net realizable value. When an operational use is found for surplus or excess stockpile materials or other inventories whose value was previously reduced to net realizable value, the inventories are classified as operating materials, and their carrying value is increased to historical cost (see Note 7).

H. General Property, Plant, and Equipment, Net

Property, plant, and equipment that are purchased, constructed, or fabricated in-house, including major modifications or improvements, are capitalized at cost. The Department's property, plant and equipment capitalization threshold is $25,000, except for the power marketing administrations, which use thresholds ranging from $5,000 to $10,000. The capitalization threshold for internal use software is $750,000, except for the power marketing administrations, which use thresholds ranging from $5,000 to $10,000 (see Note 8).

Costs of construction are capitalized as construction work in process. Upon completion or beneficial occupancy or use, the cost is transferred to the appropriate property account. Property, plant, and equipment related to environmental management facilities storing and processing the Department's environmental legacy wastes are not capitalized.

Depreciation expense is generally computed using the straight line method. The units of production method is used only in special cases where applicable, such as depreciating automotive equipment on a mileage basis and construction equipment on an hourly use basis. The ranges of service lives are generally as follows:

Structures and Facilities 25 - 50 years
ADP Software 3 - 7 years
Equipment 5 - 40 years

I. Liabilities

Liabilities represent amounts of monies or other resources likely to be paid by the Department as a result of a transaction or event that has already occurred. However, no liability can be paid by the Department absent an authorized appropriation. Liabilities for which an appropriation has not been enacted are, therefore, classified as not covered by budgetary resources (see Note 10), and there is no certainty that the appropriations will be enacted. Also, liabilities of the Department arising from other than contracts can be abrogated by the Government, acting in its sovereign capacity.

J. Accrued Annual, Sick, and Other Leave

Federal employees' annual leave is accrued as it is earned, and the accrual is reduced annually for actual leave taken. Each year, the accrued annual leave balance is adjusted to reflect the latest pay rates. To the extent that current or prior year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of nonvested leave are expensed as taken.

K. Retirement Plans

Federal Employees

There are two primary retirement systems for Federal employees. Employees hired prior to January 1, 1984, may participate in the Civil Service Retirement System (CSRS). On January 1, 1984, the Federal Employees Retirement System (FERS) went into effect pursuant to Public Law 99-335. Most employees hired after December 31, 1983, are automatically covered by FERS and Social Security. Employees hired prior to January 1, 1984, elected to either join FERS and Social Security or remain in CSRS. A primary feature of FERS is that it offers a savings plan to which the Department automatically contributes 1 percent of pay and matches any employee contribution up to an additional 4 percent of pay. For most employees hired since December 31, 1983, the Department also contributes the employer's matching share for Social Security. The Department does not report CSRS or FERS assets, accumulated plan benefits, or unfunded liabilities, if any, applicable to its employees. Reporting such amounts is the responsibility of the Office of Personnel Management and the Federal Employees Retirement System. The Department does report, as an imputed financing source and a program expense, the difference between its contributions to Federal employee pension and other retirement benefits and the estimated actuarial costs as computed by the Office of Personnel Management.

Contractor Employees

Most of the Department's contractors maintain a defined benefit pension plan under which they promise to pay employees specified benefits, such as a percentage of the final average pay for each year of service. The Department's cost under the contracts include reimbursement of annual employer contributions to the pension plans.

Each year an amount is calculated for employers to contribute to the pension plan to ensure the plan assets are sufficient to provide for the full accrued benefits of contractor employees in the event that the plan is terminated. The level of contributions is dependent on actuarial assumptions about the future, such as the interest rate, employee turnover and deaths, age of retirement, and salary progression. The Department reports assets and liabilities of these pension plans as if it were the plan sponsor (see Note 16).

L. Net Cost of Operations

Operating costs are summarized in the *Consolidated Statements of Net Cost* by program areas representing the four major elements of the Department's mission. Operating costs reflect the full costs including all direct and indirect costs consumed by a program or responsibility segment. Full costs are reduced by exchange (earned) revenues to arrive at net operating cost (see Notes 18 – 23).

M. Revenues and Other Financing Sources

The Department receives the majority of the funding needed to perform its mission through Congressional appropriations. These appropriations may be used, within statutory limits, for operating and capital expenditures. In addition to appropriations, financing sources include exchange and non-exchange revenues, imputed financing sources, and custodial revenues.

Exchange and Non-Exchange Revenues: In accordance with Federal government accounting standards, the Department classifies revenues as either exchange (earned) or non-exchange. Exchange revenues are those that derive from transactions in which both the government and the other party receive value. Major sources of the Department's exchange revenues include:

- sales of power by the power marketing administrations (see Note 21);
- Oil exchange revenues recognized from the deferral of oil deliveries to the Strategic Petroleum Reserve (see Note 21);
- fees paid by owners and generators of spent nuclear fuel, and the interest earned on the invested balance of these funds, to the extent that the Department incurs costs for developing and managing a permanent repository for spent nuclear fuel generated by civilian reactors (see Note 22);
- assessments against domestic utilities to pay the costs for decontamination and decommissioning DOE's gaseous diffusion facilities used for uranium enrichment services, and the interest earned on the invested balance of these funds (see Note 22); and
- reimbursement for work performed at the Department's facilities for other Federal agencies and non-Federal sponsors (see Note 23).

The Department's exchange revenues are reported on the *Consolidated Statements of Net Cost* to reduce the reported cost of operations borne by the taxpayer. Non-exchange revenues derive from the government's sovereign right to demand payment, including fines and penalties. These revenues are not considered to reduce the cost of the Department's operations and are reported on the *Consolidated Statements of Changes in Net Position*.

Imputed Financing Sources: In certain instances, operating costs of the Department are paid out of funds appropriated to other Federal agencies. For example, certain costs of retirement programs are paid by the Office of Personnel Management and certain legal judgments against the Department are paid from the Judgment Fund maintained by Treasury. When costs that are directly attributable to the Department's operations are paid by other agencies, the Department recognizes these amounts on the *Consolidated Statements of Net Cost*. In addition, these amounts are recognized as imputed financing sources on the *Consolidated Statements of Changes in Net Position.*

Custodial Revenues: The Department collects certain revenues on behalf of others which are designated as custodial revenues. The Department incurs no costs to generate these revenues nor can it use these revenues to finance its operations. These revenues are returned to Treasury and others and are reported on the *Consolidated Statements of Custodial Activities* (see Note 30).

N. Use of Estimates

The Department has made certain estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these consolidated financial statements. Actual results could differ from these estimates.

O. Comparative Data

Certain FY 2001 amounts have been reclassified to conform to the FY 2002 presentation. In addition, prior period adjustments identified in FY 2002 resulted in the restatement of several FY 2001 reported amounts (see Note 26).

2. Non-Entity Assets

(in millions)

	FY 2002	FY 2001
Intragovernmental		
Fund balance with Treasury		
Naval Petroleum Reserve Deposit Fund	$ 323	$ 323
Elk Hills School Land Fund (Note 14)	190	226
Other	-	1
Investments - Petroleum Pricing Violation Escrow Fund (Note 4)	277	292
Subtotal	$ 790	$ 842
Investments - Petroleum Pricing Violation Escrow Fund (Note 4)	243	222
Accounts receivable - Petroleum Pricing Violation Escrow Fund (Note 5)	16	20
Inventories - Department of Defense stockpile oil (Note 7)	106	106
Other	2	9
Total non-entity assets	$ 1,157	$ 1,199
Total entity assets	108,865	105,774
Total assets	$ 110,022	$ 106,973

Assets in the possession of the Department but are not available for its use are considered non-entity assets.

Naval Petroleum Reserve Deposit Fund

The balance in this fund represents proceeds from the sale of the Naval Petroleum Reserve at Elk Hills that are being held until final disposition in accordance with the settlement agreement. Approximately $288 million is being held for a contingency payment to Chevron, Inc., pending the outcome of equity finalization. The remaining $35 million is reserved for anticipated adjustments to Occidental's final payment and for possible reimbursement to the investment banker for an advance on its commission.

Petroleum Pricing Violation Escrow Fund

The Petroleum Pricing Violation Escrow Fund represents custodial receipts collected as a result of agreements or court orders with individuals or firms that violated petroleum pricing and allocation regulations during the 1970s. These receipts are invested in Treasury securities and certificates of deposit at minority-owned financial institutions pending determination by the Department as to how to distribute the fund balance.

3. Fund Balance With Treasury

(in millions)

FY 2001 amounts were reclassified to conform to the FY 2002 presentation. In addition, FY 2001 amounts were restated via a prior period adjustment in FY 2002 to correct an omission of certain fund balances identified as unavailable receipts (see note 26).

Fiscal Year 2002	Appropriated Funds	Revolving Funds	Special Funds	Other Funds	Total
Unobligated budgetary resources					
Available	$ 1,320	$ 94	$ 96	$ -	$ 1,510
Unavailable (Note 28)	376	1,266	-	-	1,642
Obligated balance not yet disbursed					
Undelivered orders	8,964	26	141	5	9,136
Unfilled customer orders	(2,159)	-	(4)	-	(2,163)
Receivables for reimbursements earned	(233)	(297)	(7)	-	(537)
Accounts payable and deposit fund liabilities	3,871	749	141	380	5,141
Other adjustments					
Appropriations not available pursuant to law, and contract authority	40	(252)	-	-	(212)
Unavailable receipt accounts	-	-	1,085	-	1,085
Budgetary resources invested in Treasury securities					
Nuclear Waste Fund	-	-	(82)	-	(82)
Uranium Enrichment D&D Fund	-	-	-	-	-
Uranium Facilities Maintenance and Remediation	(152)	-	-	-	(152)
U.S. Enrichment Corporation revolving fund	-	(1,259)	-	-	(1,259)
Total FY 2002 fund balance with Treasury	**$ 12,027**	**$ 327**	**$ 1,370**	**$ 385**	**$ 14,109**

Fiscal Year 2001 (Restated)					
Unobligated budgetary resources					
Available	$ 1,368	$ 346	$ 63	$ -	$ 1,777
Unavailable (Note 28)	183	714	9	-	906
Obligated balance not yet disbursed					
Undelivered orders	7,867	26	155	5	8,053
Unfilled customer orders	(1,981)	-	-	-	(1,981)
Receivables for reimbursements earned	(297)	(387)	(17)	-	(701)
Accounts payable and deposit fund liabilities	4,030	908	156	375	5,469
Other adjustments					
Appropriations not available pursuant to law	82	-	-	-	82
Unavailable receipt accounts	-	-	1,120	-	1,120
Budgetary resources invested in Treasury securities					
Nuclear Waste Fund	-	-	(94)	-	(94)
Uranium Enrichment D&D Fund			(1)		(1)
Uranium Facilities Maintenance and Remediation	(178)	-	-	-	(178)
U.S. Enrichment Corporation revolving fund	-	(872)	-	-	(872)
Total FY 2001 fund balance with Treasury	**$ 11,074**	**$ 735**	**$ 1,391**	**$ 380**	**$ 13,580**

4. Investments, Net

(in millions)

Pursuant to statutory authorizations, the Department invests monies in Treasury securities and commercial certificates of deposit that are secured by the Federal Deposit Insurance Corporation. The Department's investments primarily involve the Nuclear Waste Fund (NWF) and the Uranium Enrichment Decontamination and Decommissioning (D&D) Fund. Fees paid by owners and generators of spent nuclear fuel and high-level radioactive waste and fees collected from domestic utilities are deposited into the respective funds. Funds in excess of those needed to pay current program costs are invested in Treasury securities.

Upon privatization of the United States Enrichment Corporation on July 28, 1998, OMB and Treasury designated the Department as successor to USEC for purposes of disposition of balances remaining in the United States Enrichment Corporation Fund. Funds in excess of those needed to liquidate USEC liabilities are invested in Treasury securities.

	Face	Unamortized Premium (Discount)	Investments Net	Unrealized Market Gains (Losses)	Market Value
Fiscal Year 2002					
Intragovernmental Non-Marketable					
Nuclear Waste Fund	$ 23,421	$ (10,956)	$ 12,465	$ 1,544	$ 14,009
Uranium Enrichment D&D Fund	2,987	27	3,014	177	3,191
U.S. Enrichment Corporation	1,259	43	1,302	1	1,303
Petroleum Pricing Violation Escrow Fund	278	(1)	277		277
Subtotal	$ 27,945	$ (10,887)	$ 17,058	$ 1,722	$ 18,780
Non-intragovernmental Marketable Securities					
Petroleum Pricing Violation Escrow Fund	243	-	243	-	243
Total FY 2002 Investments	**$ 28,188**	**$ (10,887)**	**$ 17,301**	**$ 1,722**	**$ 19,023**
Fiscal Year 2001					
Intragovernmental Non-Marketable					
Nuclear Waste Fund	$ 21,060	$ (10,029)	$ 11,031	$ -	$ 11,031
Net unrealized holding gains	-	-	643	-	643
Uranium Enrichment D&D Fund	2,556	34	2,590	130	2,720
U.S. Enrichment Corporation	1,242	14	1,256	(114)	1,142
Petroleum Pricing Violation Escrow Fund	294	(2)	292	1	293
Subtotal	$ 25,152	$ (9,983)	$ 15,812	$ 17	$ 15,829
Non-intragovernmental Marketable Securities					
Petroleum Pricing Violation Escrow Fund	222	-	222	-	222
Total FY 2001 Investments	**$ 25,374**	**$ (9,983)**	**$ 16,034**	**$ 17**	**$ 16,051**

5. Accounts Receivable, Net

(in millions)

	FY 2002			FY 2001		
	Receivable	Allowance	Net	Receivable	Allowance	Net
Intragovernmental	$ 470	$ -	$ 470	$ 572	$ -	$ 572
Non-intragovernmental						
Nuclear Waste Fund	2,928	-	2,928	2,835	-	2,835
Uranium Enrichment D&D Fund	894	-	894	1,054	-	1,054
Power marketing administrations	565	(73)	492	597	(15)	582
Petroleum Pricing Violation Escrow Fund	2,083	(2,067)	16	2,100	(2,080)	20
Credit programs	56	(26)	30	58	(26)	32
Other	150	(63)	87	161	(66)	95
Subtotal	$ 6,676	$ (2,229)	$ 4,447	$ 6,805	$ (2,187)	$ 4,618
Total accounts receivable	**$ 7,146**	**$ (2,229)**	**$ 4,917**	**$ 7,377**	**$ (2,187)**	**$ 5,190**

Intragovernmental accounts receivable primarily represent amounts due from other Federal agencies for reimbursable work performed pursuant to the Economy Act, Atomic Energy Act, and other statutory authority, as well as interest earned on investments held in Treasury securities.

Non-intragovernmental receivables primarily represent amounts due for NWF and D&D Fund fees. NWF receivables are supported by contracts and agreements with owners and generators of spent nuclear fuel and high-level radioactive waste that contribute resources to the fund. D&D Fund receivables from public utilities are supported by public law. Other receivables due from the public include reimbursable work billings and other amounts related to trade receivables, and other miscellaneous receivables.

The Petroleum Pricing Violation Escrow Fund receivables result from agreements or court orders with individuals or firms that violated petroleum pricing and allocation regulations during the 1970s. The majority of these receivables are with individuals or firms that are in bankruptcy, or collection action is being taken by the Department of Justice. Many cases handled by the Department of Justice will result in complete write-offs or settlement agreements for amounts significantly less than the original agreement. Allowance accounts have been established to reflect the realistic potential for recovery of amounts owed. The methodology used to calculate the allowance accounts was derived through an intensive analysis of each case. The receivables were categorized based on the status of the case, the financial condition of the debtor, the collections received to date, and any pertinent information from the Office of General Counsel related to each case. Based on this analysis and categorization, percentages for the probability of collection were determined. The allowance account as of September 30, 2002, and 2001, includes interest receivable of $1,546 million and $1,550 million, respectively.

6. Regulatory Assets

(in millions)

	FY 2002	FY 2001 Restated
Intragovernmental		
Appropriation refinancing asset	$ 4,774	$ 4,851
Non-intragovernmental		
Operating regulatory assets	$ 2,343	$ 2,442
Non-operating regulatory assets	3,932	3,874
Conservation and fish and wildlife projects	570	590
Subtotal	$ 6,845	$ 6,906
Total regulatory assets	$ 11,619	$ 11,757

The Department's power marketing administrations record certain amounts as assets in accordance with Statement of Financial Accounting Standards (SFAS) No. 71, *Accounting for the Effects of Certain Types of Regulation*. The provisions of SFAS No. 71 require that regulated enterprises reflect rate actions of the regulator in their financial statements, when appropriate. These rate actions can provide reasonable assurance of the existence of an asset, reduce or eliminate the value of an asset, or impose a liability on a regulated enterprise.

Appropriation Refinancing Asset

The Bonneville Power Administration (BPA) Appropriations Refinancing Act, 16 U.S.C. 8381, required that the outstanding balance of the Federal Columbia River Power System (FCRPS) Federal appropriations, which BPA is obligated to set rates to recover, be reset and assigned prevailing market rates of interest as of September 30, 1996. These appropriations include the unpaid balance of capital appropriations of the power generating assets of the Corps of Engineers (Corps) and Bureau of Reclamation associated with the FCRPS. BPA established a regulatory asset representing the repayment amount of the power generating assets that will be recovered in BPA rates. The Corps and the Bureau of Reclamation continue to own and operate these assets, with BPA having the responsibility to recover the costs of the assets from power ratepayers. This regulatory asset is being amortized over the same period as the assets are being depreciated by the Corps and Bureau of Reclamation (68 years). Annual amortization costs of $77 million were recognized in FY 2002 and FY 2001 (see note 26).

In accordance with SFAS No. 71, offsetting regulatory assets are recognized which represent the ability of BPA to repay this appropriated capital from the proceeds of power sales generated from the Corps and Bureau of Reclamation assets.

Operating Regulatory Assets

The BPA has acquired the generating capability of one operating nuclear power plant, as well as several hydroelectric projects. BPA pays the annual operating costs including debt service. These project costs are recovered through BPA's electric rates. Because these projects' current and future costs can be recovered through BPA's electric rates, the *Consolidated Balance Sheets* include a regulatory asset and an offsetting related debt.

Non-Operating Regulatory Assets

BPA has acquired all or part of the generating capability of four terminated nuclear power plants. The government's contracts require BPA to pay all or part of the annual projects' budgets, including debt service of the terminated plants. Because these projects' current and future costs can be recovered through BPA's electric rates, the *Consolidated Balance Sheets* include a regulatory asset and an offsetting related debt.

Conservation and Fish and Wildlife Projects

The conservation and fish and wildlife projects consist of facilities constructed by BPA for the protection of fish and wildlife, and the mitigation of losses attributed to the development and operation of hydroelectric projects on the Columbia River and its tributaries pursuant to Section 4(h) of the Northwest Power Act. BPA pays for the construction of the facilities and recovers the costs in rates but does not retain ownership of the facilities. These facilities are amortized and recovered in rates over a 15-year period.

7. Inventory, Net

Inventory includes stockpile materials, consisting of crude oil held in the Strategic Petroleum Reserve, the Northeast Home Heating Oil Reserve, nuclear materials, and other inventory consisting primarily of operating materials and supplies.

Strategic Petroleum Reserve

The Strategic Petroleum Reserve consists of crude oil stored in salt domes, terminals, and pipelines. As of September 30, 2002 and 2001, the Reserve contained 587 million and 545 million barrels of crude oil respectively with an historical cost of $15,683 million and $14,558 million. The reserve provides a deterrent to the use of oil as a political instrument and provides an effective response mechanism should a disruption occur. Oil from the reserve may be sold only with the approval of Congress and the President of the United States. Included in the Strategic Petroleum Reserve is crude oil held for future Department of Defense (DOD) use. The FY 1993 Defense Appropriations Act authorized the Department to acquire, transport, store and prepare for ultimate drawdown of crude oil for DOD. The crude oil purchased with DOD funding is commingled with the Department's stock and is valued at its historical cost of $106 million at September 30, 2002 and 2001 (see Notes 2 and 14).

Northeast Home Heating Oil Reserve

The Northeast Home Heating Oil Reserve was established in FY 2000 pursuant to the Energy Policy and Conservation Act. As of September 30, 2002 and 2001, the reserve contained 2 million barrels of petroleum distillate in the New England, New York, and New Jersey geographic area valued at historical cost of $75 million for FY 2002 and $77 million for FY 2001.

Nuclear Materials

Nuclear materials include weapons and related components, including those in the custody of the Department of Defense under Presidential Directive, and materials used for research and development purposes. Certain surplus plutonium carried at zero value (a provision for disposal is included in environmental liabilities) is instrumental to the U.S. Government in negotiations with Russia concerning the future of 34 metric tons of Russia's weapons grade plutonium. On September 1, 2000, the U.S. Government signed a United States-Russia Plutonium Disposition Agreement for irreversibly transforming excess weapons plutonium into forms unusable for weapons. This accomplishment advances the critical task of reducing stockpiles of excess weapons plutonium and contributes to key arms control and non-proliferation objectives.

The Office of Nuclear Energy, Science and Technology has inventories amounting to a total of 19,755 metric tons of uranium hexafluoride. This total is segmented into three separate stockpiles. First, the Department in 1996 received from USEC a transfer of 5,521 metric tons of uranium associated with the natural uranium component of low-enriched uranium delivered under the U.S./Russia HEU Agreement in 1995 and 1996. Only 3,293 metric tons remain in the Department's inventories because 2,228 metric tons were sold consistent with section 3112 of the USEC Privatization Act.

The second stockpile of uranium, amounting to 11,000 metric tons, was purchased from Russia for $325 million consistent with P.L. 105-277. This material is the natural uranium component of low enriched uranium delivered under the U.S./Russia HEU Agreement in 1997 and 1998. Final disposition of the material will not occur until after 2009 based upon an international agreement between the U.S. and Russia that required the Department to maintain a 22,000 metric ton stockpile, which restricts the entry of the uranium into the commercial market until 2009.

The remaining uranium inventory stockpile of 5,462 metric tons is also restricted from sale into the commercial market until 2009. A limited sample and analysis indicates that a portion of the Department's stockpile of uranium hexafluoride may have technetium exceeding nuclear fuel specifications. If confirmed, the market value of the uranium, whose carrying value exceeds $140 million, would be significantly reduced.

The nuclear materials inventory includes numerous items for which future use and disposition decisions have not been made. Decisions for most of these items will be made through analysis of the economic benefits and costs, and the environmental impacts of the various use and disposition alternatives. The carrying value of these items is not significant to the nuclear materials stockpile inventory balance. The Department will recognize disposition liabilities and record the material at net realizable value when disposal as waste is identified as the most likely alternative and disposition costs can be reasonably estimated. Inventory values are reduced by costs associated with decay or damage.

Highly Enriched Uranium

The Nuclear Weapons Council declared in December 1994, leading to the Secretary of Energy's announcement in February 1996, that 174.3 metric tons of the Department's highly enriched uranium (HEU) were excess to national security needs. Most of this material will be blended for sale as low-enriched uranium (LEU) and used over time as commercial nuclear reactor fuel to recover its value. The remaining portion of the material is already in the form of irradiated fuel or other waste forms, which require no processing prior to disposal. A provision for disposal of irradiated fuel is included in environmental liabilities. Estimates of revenues and processing costs for surplus HEU were updated during FY 2001 and FY 2002. Based upon these estimates, the carrying value of HEU for which the LEU blending product will have levels of contamination exceeding nuclear fuel specifications was reduced to zero. A disposition liability for estimated costs to process this "off-spec" material, most of which will be blended to LEU for use in Tennessee Valley Authority nuclear power reactors, is included in environmental liabilities. Net revenues from sales of the remaining surplus HEU are expected to exceed the carrying value of the surplus HEU.

8. General Property, Plant and Equipment, Net

(in millions)

	FY 2002			FY 2001		
	Acquisition Costs	Accumulated Depreciation	Net Book Value	Acquisition Costs	Accumulated Depreciation	Net Book Value
Land and land rights	$ 1,422	$ (689)	$ 733	$ 1,359	$ (599)	$ 760
Structures and facilities	31,584	(21,038)	10,546	31,008	(20,825)	10,183
Internal use software	172	(45)	127	83	(35)	48
Equipment	14,534	(10,271)	4,263	13,964	(9,593)	4,371
Natural resources	106	(9)	97	103	(8)	95
Construction work in process	4,498	-	4,498	3,970	-	3,970
Total property, plant and equipment	$ 52,316	$ (32,052)	$ 20,264	$ 50,487	$(31,060)	$ 19,427

9. Other Non-Intragovernmental Assets

(in millions)

	FY 2002	FY 2001 Restated
Prepaid pension plan costs (Note 16)	$ 2,493	$ 2,373
Oil due from others	397	1,133
Prepayments	612	418
Other	72	252
Total other non-intragovernmental assets	**$ 3,574**	**$ 4,176**

Oil Due from Others

The Department entered into a Royalty-In-Kind exchange arrangement with the Department of the Interior's Mineral Management Service (MMS) to receive 28 million barrels of crude oil from Gulf of Mexico Federal offshore leases. The oil from the MMS offshore leases was exchanged for approximately 29.3 million barrels of other crude oil (exchange oil) of differing quality to be delivered to the Strategic Petroleum Reserve through December 31, 2001. As a result of companies deferring the delivery of some of the exchange oil until FY 2002, the Department received an additional 3.4 million barrels as a premium. The value of the deferred exchange and premium barrels of oil as of September 30, 2002 and 2001 was $96 million and $271 million, respectively. The Department also released 30 million barrels from the reserve in early FY 2001 in exchange for 34.5 million barrels to be delivered back to the reserve during FY 2001 and FY 2002. As of September 30, 2002 and 2001, the value of these outstanding oil deliveries was $296 million and $858 million, respectively. In addition to oil due from exchange transactions, $5 million and $4 million, respectively, in oil was due from other lease activities at the Strategic Petroleum Reserve as of September 30, 2002 and 2001 (see also Notes 21 and 26). The Department recorded a prior period adjustment in FY 2002 to correct an error resulting in an overstatement of FY 2001 oil revenues from the exchange oil deferment at the Strategic Petroleum Reserve. The FY 2001 balance of oil due from others was reduced by $123 million as a result of this adjustment.

10. Liabilities Not Covered By Budgetary Resources

(in millions)

Intragovernmental	FY 2002	FY 2001
Appropriated Capital Owed to Treasury (Note 12)	$ 2,868	$ 2,758
Other	18	17
Total intragovernmental	$ 2,886	$ 2,775
Deferred Revenues (Note 13)		
Nuclear Waste Fund	15,743	14,376
United States Enrichment Corporation	-	1,041
Environmental Liabilities (Note 15)	207,019	236,365
Pension and Other Actuarial Liabilities (Note 16)	8,892	7,624
Other Liabilities		
Environment, Safety and Health Compliance Activities (Note 14)	736	623
Accrued Annual Leave for Federal Employees	104	93
Other	94	63
Contingencies (Note 17)	2,009	2,028
Total liabilities not covered by budgetary resources	$ 237,483	$ 264,988
Total liabilities covered by budgetary resources	23,649	23,869
Total Liabilities	$ 261,132	$ 288,857

11. Debt

(in millions)

	FY 2002			FY 2001		
	Beginning Balance	Net Borrowings	Ending Balance	Beginning Balance	Net Borrowings	Ending Balance
Intragovernmetnal						
Borrowing from Treasury	$ 2,689	$ 81	$ 2,770	$ 2,513	$ 176	$ 2,689
Refinanced Appropriations	3,524	(460)	3,064	3,786	(262)	3,524
Capitalization Adjustment	2,260	(67)	2,193	2,329	(69)	2,260
Subtotal	$ 8,473	$ (446)	$ 8,027	$ 8,628	$ (155)	$ 8,473
Non-intragovernmental						
Non-Federal Projects	6,241	34	6,275	6,488	(247)	6,241
Total debt	**$ 14,714**	**$ (412)**	**$ 14,302**	**$ 15,116**	**$ (402)**	**$ 14,714**

Borrowing from Treasury

To finance its capital programs, the BPA is authorized to issue to Treasury up to $3,750 million of interest-bearing debt with terms and conditions comparable to debt issued by U.S. government corporations. A portion ($1,250 million) is reserved for conservation and renewable resource loans and grants. As of September 30, 2002, $350 million of this reserved amount and $2,420 million of other borrowings were outstanding. U.S. Treasury borrowing maturity dates extend through 2034. The weighted average interest rates as of September 30, 2002 and 2001, were 6.01 percent and 6.5 percent, respectively. These rates exceed the rates which could be obtained currently. As a result, the fair value of BPA's long-term debt, based on discounting future cash flows using rates offered by Treasury as of September 30, 2002 and 2001, for similar maturities, exceeds carrying value by approximately $497 million and $389 million, respectively. BPA's policy is to refinance debt that is callable when associated benefits exceed costs of refinancing.

Refinanced Appropriations

The BPA Appropriations Refinancing Act of 1994 required that the unpaid balance, as of September 30, 1996, of the Federal Columbia River Power System (FCRPS) capital appropriations, which BPA is obligated to set rates to recover, be reset and assigned prevailing market rates. The weighted average interest rate for FY 2002 and FY 2001 was 6.9 percent. The majority of the refinanced appropriations represent the unpaid capital appropriations of the Corps of Engineers and the Bureau of Reclamation (see note 6). The remaining period of repayment is 34 years. Repayment amounts are determined based on the time the facility was placed in service using the weighted average service life of the associated investment, not to exceed 50 years.

Capitalization Adjustment

The amount of appropriations refinanced as a result of the BPA Appropriations Refinancing Act of 1994 was $6.6 billion. After refinancing, the appropriations outstanding were $4.1 billion. The difference between the appropriated debt before and after the refinancing was recorded as a capitalization adjustment. This adjustment is being amortized over the 34-year remaining repayment period. Amortization of the capitalization adjustment was $68 million and $69 million for FY 2002 and 2001, respectively. The weighted average interest rate was 6.9 percent in both FY 2002 and FY 2001.

Non-Federal Projects

As discussed in Note 6, the non-Federal projects debt represents the BPA's liability to pay all or part of the annual budgets, including debt service, of the generating capability of five nuclear power plants as well as several hydroelectric projects.

The following table summarizes future principal payments required for the debt described above:

(in millions)

Fiscal Year	Borrowing from Treasury	Refinanced Appropriations	Capitalization Adjustment	Non-Federal Projects
2003	$ 207	$ 26	$ 68	$ 243
2004	176	17	68	280
2005	439	8	65	239
2006	260	16	65	267
2007	111	24	65	292
2008+	1,577	2,973	1,862	4,954
Total	**$2,770**	**$ 3,064**	**$ 2,193**	**$ 6,275**

12. Appropriated Capital Owed to Treasury

Appropriated capital owed to Treasury represents the balance of appropriations provided to the Department's power marketing administrations for construction and operation of power projects which will be repaid to Treasury. The amount owed also includes accumulated interest on the net unpaid Federal investment in the power projects. The Federal investment in these facilities is to be repaid to Treasury within 50 years from the time the facilities are placed in service or are commercially operational. Replacements of Federal investments are generally to be repaid over their expected useful service lives. There is no requirement for repayment of a specific amount of Federal investment on an annual basis.

Each of the power marketing administrations, except the BPA, receives an annual appropriation to fund operation and maintenance expenses. These appropriated funds are repaid to Treasury from the revenues generated from the sale of power and transmission services. To the extent that funds are not available for payment, such unpaid annual net deficits become payable from the subsequent years' revenues prior to any repayment of Federal investment. The Department treats these appropriations as a borrowing from Treasury, and as such, the *Consolidated Statements of Changes in Net Position* do not reflect these funds as appropriated capital used.

Except for the appropriation refinancing asset described in Note 6, the Department's financial statements do not reflect the Federal investment in power generating facilities owned by the U.S. Department of Defense, Army Corps of Engineers; the U.S. Department of the Interior, Bureau of Reclamation; and the U.S. Department of State, International Boundary and Water Commission. The Department's power marketing administrations are responsible for collecting, and remitting to Treasury, revenues resulting from the sale of hydroelectric power generated by these facilities (see note 30).

13. Deferred Revenues

(in millions)

	FY 2002	FY 2001
Intragovernmental	$ 44	$ 39
Non-intragovernmental		
Nuclear Waste Fund	$ 15,743	$ 14,376
United States Enrichment Corporation (note 27)	-	1,041
Power marketing administrations	719	901
Reimbursable work advances	176	193
Other	50	22
Subtotal	$ 16,688	$ 16,533
Total deferred revenues	**$ 16,732**	**$ 16,572**

Nuclear Waste Fund

NWF revenues are accrued based on fees assessed against owners and generators of high-level radioactive waste and spent nuclear fuel and interest accrued on investments in Treasury securities. These revenues are recognized as a financing source as costs are incurred for NWF activities. Annual adjustments are made to defer revenues that exceed the NWF expenses.

Power Marketing Administrations

The power marketing administrations' deferred revenues represent primarily amounts paid to BPA from participants under various alternating current intertie capacity agreements and load diversification fees paid to BPA by various customers. These one-time payments cover the remaining term of the customer's existing contractual agreement, and are recognized as revenues as contract commitments are satisfied.

14. Other Liabilities

(in millions)

Intragovernmental	FY 2002	FY 2001
Oil held for DOD (Note 7)	$ 106	$ 106
Other	166	140
Subtotal	$ 272	$ 246
Non-intragovernmental		
Environment, safety and health compliance activities	$ 736	$ 623
Accrued payroll and benefits	893	813
Petroleum Pricing Violation Escrow Fund (Note 2)	536	534
Naval Petroleum Reserve Deposit Fund (Note 2)	323	323
Elk Hills School Land Fund (Note 2)	190	226
Other	328	246
Subtotal	$ 3,006	$ 2,765
Total other liabilities	$ 3,278	$ 3,011

The current portion of other liabilities includes accrued payroll and benefits and most of the amounts captioned as "other" above. The remaining amounts are predominantly non-current liabilities.

Environment, Safety and Health Compliance Activities

The Department's environment, safety and health liability represents those activities necessary to bring facilities and operations into compliance with existing environmental safety and health (ES&H) laws and regulations (e.g., Occupational Safety and Health Act; Clean Air Act; Safe Drinking Water Act). Types of activities included in the estimate relate to the following: upgrading site-wide fire and radiological programs; nuclear safety upgrades; industrial hygiene and industrial safety; safety related maintenance; emergency preparedness programs; life safety code improvements; and transportation of radioactive and hazardous materials. The estimate covers corrective actions expected to be performed in future years for programs outside the purview of the Department's Environmental Management (EM) Program. ES&H activities within the purview of the EM program are included in the environmental liability estimate. The FY 2002 change in the ES&H liability is due to (1) additional corrective actions, activities or programs that are required to improve the facilities' state of compliance and move them toward full compliance, or conformance with all applicable ES&H laws, regulations, agreements, and the Department's Orders, (2) revised cost estimates for existing ES&H activities, and (3) costs of work performed during the year.

Accrued Payroll and Benefits

Accrued payroll and benefits represent amounts owed to the Department's Federal and contractor employees.

Elk Hills School Land Fund

This balance represents the portion of the Naval Petroleum Reserve at Elk Hills sales proceeds being retained for future disbursements to the State of California pending authorization of the Congress. In FY 2002, the Department made a $36 million payment pursuant to a legislative directive.

Other Liabilities

This balance consists primarily of liabilities associated with other deposit funds, suspense accounts, receipts due to Treasury, and contract advances.

15. Environmental Liabilities

(in millions)

	FY 2002	FY 2001
Environmental Management baseline estimates	$ 161,718	$ 184,257
Active and surplus facilities - other programs	26,643	31,370
High-level waste and spent nuclear fuel disposition	14,767	14,578
Other	6,501	8,144
Total environmental liabilities	$ 209,629	$ 238,349
Amount funded by current appropriations	(2,610)	(1,984)
Total unfunded environmental liabilities	$ 207,019	$ 236,365
Changes in environmental liabilities		
Total environmental liabilities, beginning balance	$ 238,349	$ 234,273
Changes to environmental liability estimates		
Environmental Management baseline estimates	(16,142)	7,623
Active and surplus facilities - other programs	(4,662)	5,469
High-level waste and spent nuclear fuel disposition	470	506
Other	(1,643)	(3,085)
Total changes in estimates (Note 25)	$ (21,977)	$ 10,513
Operating expenditures related to remediation activities (Note 22)	(6,013)	(5,909)
Capital expenditures related to remediation activities	(730)	(528)
Total environmental liabilties	**$ 209,629**	**$ 238,349**

During World War II and the Cold War, the United States developed a massive industrial complex to research, produce, and test nuclear weapons. The nuclear weapons complex included nuclear reactors, chemical processing buildings, metal machining plants, laboratories, and maintenance facilities that manufactured tens of thousands of nuclear warheads, and conducted more than one thousand nuclear explosion tests.

At all sites where these activities took place, some environmental contamination occurred. This contamination was caused by the production, storage, and use of radioactive materials and hazardous chemicals, which resulted in contamination of soil, surface water, and groundwater. The environmental legacy of nuclear weapons production also includes thousands of contaminated buildings, and large volumes of waste and special nuclear materials requiring treatment, stabilization, and disposal. Approximately one-half million cubic meters of radioactive high-level, mixed, and low-level wastes must be stabilized, safeguarded, and dispositioned, including a quantity of plutonium sufficient to fabricate thousands of nuclear weapons.

Assumptions and Uncertainties

Estimating the Department's environmental cleanup liability requires making assumptions about future activities and is inherently uncertain. The future course of the Department's environmental management program will depend on a number of fundamental technical and policy choices, many of which have not been made. The cost and environmental implications of alternative choices can be profound. For example, many contaminated sites and facilities could be restored to a pristine condition, suitable for any desired use; they could also be restored to a point where they pose no near-term health risks to surrounding communities but are essentially surrounded by fences and left in place. Achieving pristine conditions would have a higher cost but may or may not warrant the costs and potential ecosystem disruption or be legally required. The baseline estimates reflect applicable local decisions and expectations as to the extent of cleanup and site and facility reuse, which include consideration of Congressional mandates, regulatory direction, and stakeholder input.

The environmental liability includes a contingency estimate intended to account for the uncertainties associated with the technical cleanup scope of the program. For example, the precise nature and quantities of material being addressed are not always known, and some baseline estimates, including EM's baselines for treatment of high-level wastes, are incomplete because suitable cleanup technologies are under development.

The environmental liability estimates are dependent on annual funding levels and achievement of work as scheduled. Higher funding tends to accelerate cleanup work and reduce cleanup costs; lower funding tends to delay work and increase costs. Congressional appropriations at lower than anticipated levels or unplanned delays in project completion would cause increases in life-cycle costs.

The liabilities as of September 30, 2002 and 2001, are stated in FY 2002 dollars and FY 2001 dollars, respectively, as required by generally accepted accounting standards for Federal entities. Future inflation could cause actual costs to be substantially higher than the recorded liability.

Components of the Liability

Environmental Management Baseline Estimates

The Department's Office of Environmental Management (EM) is responsible for managing the legacy of contamination from the nuclear weapons complex. As such, EM manages thousands of contaminated facilities formerly used in the nuclear weapons program and is also responsible for cleanup of contaminated soil and water. The EM life-cycle cost estimates reflect a strategic vision to clean up most of the Department's sites by 2006. This strategy provides for a site by site projection of the work required to complete all EM projects, while complying with compliance agreements, statutes, and regulations. Each project baseline estimate includes detailed projections of the technical scope, schedule, and costs at each site for the cleanup of contaminated soil, groundwater, and facilities; treating, storing, and disposing of wastes; managing nuclear materials; and post-cleanup monitoring and stewardship.

These life-cycle cost estimates, which were developed by the cognizant field offices, cover the costs of these activities to 2070. Some post-cleanup monitoring and other long-term stewardship activities are expected to continue beyond 2070, but the Department believes the costs of those activities cannot be reasonably estimated. The baseline estimates also include costs for related activities such as landlord responsibilities, program management, and legally prescribed grants for participation and oversight by native American tribes, regulatory agencies, and other stakeholders.

During FY 2002, EM completed a Top-to-Bottom Review (Review) to find efficient and cost effective ways to achieve greater real cleanup and risk reduction. The review's major observation was that EM has been oriented towards managing risks rather than actually reducing the risks to the public, workers, and the environment. Based upon the Review's recommendations, EM is implementing an accelerated cleanup approach and has reached agreement on letters of intent with Federal and state regulators. EM has also completed performance management plans for most major field locations, to define ways of increasing the rate of work scope completion at a lower cost. The accelerated cleanup approach includes additional efforts and strategies to reduce cleanup costs and increase the efficiency of operations. The changes in technical approach and scope resulting from the accelerated cleanup approach enabled EM to reduce its baseline estimates during FY 2002. Achievement of accelerated cleanup goals is largely contingent upon receipt of additional funding, yet to be approved by Congress, during FY 2003 and succeeding years. A suit filed in Federal court challenges certain aspects of the accelerated cleanup approach. If the plaintiffs prevail, cleanup costs would increase; however, the outcome of the litigation is uncertain and no provision for potential increases in cleanup costs is recorded in the consolidated financial statements.

In addition to the assumptions and uncertainties discussed above, the following key assumptions and uncertainties relate to the EM baseline estimates:

- The Department has identified approximately 10,500 potential release sites from which contaminants could migrate into the environment. Although virtually all of these sites have been at least partially characterized, final remedial action and/or regulatory decisions have not been made for most sites. Site specific assumptions regarding the amount and type of contamination and the remediation technologies that will be utilized were used in estimating the environmental liability related to these sites.

- The first geologic repository for high-level radioactive waste is scheduled to open in 2010. At that time, it will accept spent nuclear fuel from commercial utilities and the Department's high-level waste and spent nuclear fuel. Delays in opening the repository could increase settlement costs with civilian nuclear utilities and cause EM project costs to increase.

- Only existing technologies, such as pumping and treating groundwater, are assumed to be available for estimating cleanup costs where applicable. Estimates were based on remedies considered technically and environmentally reasonable and achievable by local project managers and appropriate regulatory authorities.

- Estimated cleanup costs at sites for which there is no current feasible remediation approach are excluded from the baseline estimates, although applicable stewardship and monitoring costs for these sites are included. The cost estimate would be higher if some remediation were assumed for these areas. However, because the Department has not identified effective remedial technologies for these sites, no basis for estimating costs is available. Significant sites for which cleanup costs are excluded include nuclear explosion test areas such as the Nevada Test Site; large surface water bodies including the Clinch and Columbia rivers; and most contaminated ground water for which, even with treatment, future use will remain restricted.

- The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned responsibility to the Department for the disposal of certain low-level wastes, generated by the Department and others, that are not suitable for near-surface disposal. The Department has not determined a disposal path and has therefore included only storage and monitoring costs for these wastes in the liability. The disposal costs for these wastes are not expected to be material in relation to the Department's environmental liabilities.

Changes to the EM baseline estimates during FY 2002 and 2001 resulted from inflation adjustments to reflect constant dollars for the current year; additions for facilities transferred from the active and surplus category discussed below; improved and updated estimates for the same scope of work; revisions in technical approach or scope; regulatory changes; and cleanup activities performed.

Active and Surplus Facilities – Other Programs

This liability includes anticipated remediation costs for active and surplus facilities managed by the Department's ongoing program operations and which will ultimately require stabilization, deactivation, and decommissioning. The estimate is largely based upon a cost-estimating model which extrapolates stabilization, deactivation, and decommissioning costs from facilities included in the EM baseline estimates to those active and surplus facilities with similar characteristics. Site-specific estimates are used when available. Cost estimates for active and surplus facilities are updated each year to reflect current year constant dollars; the transfer of cleanup and management responsibilities for these facilities by other programs to EM as discussed above; changes in facility size or contamination assessments; and estimated cleanup costs for newly contaminated facilities. About $2.6 billion of the decrease in the FY 2002 environmental liability for active and surplus facilities is due to the transfer of the Portsmouth Gaseous Diffusion Plant to the EM baseline estimates.

High-Level Waste and Spent Nuclear Fuel Disposition

The Nuclear Waste Policy Act of 1982 established the Department's responsibility to provide for permanent disposal of the Nation's high-level radioactive waste and spent nuclear fuel. The Act requires all owners and generators of high-level nuclear waste and spent nuclear fuel, including the Department, to pay their respective shares of the full cost of the program. To that end, the Act establishes a fee on owners and generators that the Department must collect and annually assess to determine its adequacy. The Department's liability reflects its share of the estimated future costs of the program based on its inventory of high-level waste and spent nuclear fuel, plus the unfunded portion of actual costs incurred to date and the accrued interest on the unfunded costs. The Department's liability does not include the portion of the cost attributable to other owners and generators.

Changes to the high-level waste and spent nuclear fuel disposition liability during FY 2002 and 2001 resulted from inflation adjustments to reflect current year constant dollars; revisions in technical approach or scope; changes in the Department's allocable percentage share of future costs; and actual costs incurred by the Department that were allocated to the Department's share of the liability.

Other Environmental Liabilities

In FY 2002 the Department selected a contractor to design, build, and operate facilities to convert its inventory of depleted uranium hexafluoride for disposal and/or reuse. The contract includes operation of the facilities for five years after construction is completed. One or more additional contracts will be awarded to cover the remaining years of operation and the decommissioning of the facilities. The FY 2002 liability includes the estimated cost of the new contract plus an estimate for completion of the project.

16. Pension and Other Actuarial Liabilities (in millions)

	FY 2002	FY 2001
Contractor pension plans	$ 1,387	$ 543
Contractor postretirement benefits other than pensions	7,387	6,964
Contractor disability and life insurance plans	22	21
Federal Employees' Compensation Act	96	96
Total pension and other actuarial liabilities	**$ 8,892**	**$ 7,624**

Most of the Department's contractors have defined benefit pension plans under which they promise to pay specified benefits to their employees, such as a percentage of the final average pay for each year of service. The Department's cost under the contracts includes reimbursement of annual contractor contributions to these pension plans. The Department's contractors also sponsor postretirement benefits other than pensions (PRB) consisting of predominantly postretirement health care benefits. Since the Department approves the contractors' pension and postretirement benefit plans and is ultimately responsible for funding the plans, the responsibility for any related liabilities rests with the Department.

The Department reimburses its major contractors for employee disability insurance plans, and estimates are recorded as unfunded liabilities for these plans.

Contractor Pension Plans

The Department follows SFAS No. 87, *Employers' Accounting for Pensions*, for contractor employees for whom the Department has a continuing pension obligation. As of September 30, 2002, the Department has prepaid pension costs of $2,572 million before minimum liability adjustment and $2,490 after minimum liability adjustment; accrued pension costs of $567 million before minimum liability adjustment and $1,387 million after minimum liability adjustment. The Department has a continuing obligation for a variety of contractor-sponsored pension plans (40 qualified and 7 nonqualified). In this regard, benefit formulas consist of final average pay (32 plans), career average pay (8 plans), dollar per month of service (6 plans), and one defined contribution plan with future contributions for retired employees. Eighteen of the plans cover nonunion employees only, 11 cover union employees only, and 18 cover both union and nonunion employees.

For qualified plans, the Department's current funding policy is for contributions made to a trust during a plan year for a separate defined benefit pension plan to not exceed the greater of: (1) the minimum contribution required by Section 302 of the Employee Retirement Income Security Act (ERISA) or (2) the amount estimated to eliminate the unfunded current liability as projected to the end of the plan year. The term "unfunded current liability" refers to the unfunded current liability as defined in Section 302(d)(8) of ERISA. For nonqualified plans, the funding policy is pay-as-you-go.

Plan assets generally include cash and equivalents, stocks, corporate bonds, government bonds, real estate, venture capital, international investments, and insurance contracts.

Assumptions and Methods - In order to provide consistency among the Department's various contractors, certain standardized actuarial assumptions were used. These standardized assumptions include the discount rates, mortality assumptions, and an expected long-term rate of return on plan assets, salary scale, and any other economic assumption consistent with an expected long-term inflation rate of 3.0 percent for the entire U.S. economy with adjustments to reflect regional or industry rates as appropriate. In most cases, ERISA valuation actuarial assumptions for demographic assumptions were used.

The following specific assumptions and methods were used in determining the pension estimates. The weighted average discount rates of 7.25 percent for FY 2002 and 8.0 percent for FY 2001 were used, the average long-term rate of return on assets was 8.16 percent in FY 2002 and 8.40 percent in FY 2001, and the average rate of compensation increase was 4.5 percent in FY 2002 and 4.8 percent in FY 2001 in determining the net periodic pension cost.

The weighted average discount rates used to determine the benefit obligations as of September 30, 2002 and 2001 were 6.5 percent and 7.25 percent, respectively.

Straight line amortization of unrecognized prior service cost over the average remaining years of service of the active plan participants and the minimum amortization of unrecognized gains and losses were used. The transition obligation was amortized over the greater of 15 years or the average remaining service.

Contractor Postretirement Benefits Other Than Pensions

The Department follows SFAS No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions,* for contractor employees for whom the Department has a continuing obligation. SFAS No. 106 requires that the cost of PRB be accrued during the years that the employees render service. As of September 30, 2002 and 2001, the Department has an accrued PRB liability of $7,387 million and $6,964 million, respectively. Generally, the PRB plans are unfunded, and the Department's funding policy is to fund on a pay-as-you-go basis. There are 6 contractors, however, that are prefunding benefits in part as permitted by law. The Department's contractors sponsor a variety of postretirement benefits other than pensions. Benefits consist of medical (39 contractors), dental (17 contractors), life insurance (25 contractors), and Medicare Part B premium reimbursement (4 contractors). Thirty-six of the contractors sponsor a traditional indemnity plan, a PPO, an HMO, or similar plan. Twenty of these also have a point of service plan, an HMO, or similar plan. Three additional contractors have only a point of service plan, an HMO, or similar plan.

Assumptions and Methods - In order to provide consistency among the Department's various contractors, certain standardized actuarial assumptions were used. These standardized assumptions include medical and dental trend rates, discount rates, and mortality assumptions.

The following specific assumptions and methods were used in determining the PRB estimates. The medical trend rates for under age 65 for a point of service plan, an HMO, or similar plan, grade from 9.0 percent in 2001 down to 5.5 percent in 2010 and later, and the medical trend rates for over age 64 grade from 11.0 percent in 2001 down to 5.5 percent in 2010 and later. The medical trend rates for under age 65 for a PPO, a traditional indemnity plan, or similar plan, grade from 10.0 percent in 2001 down to 5.5 percent in 2010 and later, and the medical trend rates for over age 64 grade from 12.0 percent in 2001 down to 5.5 percent in 2010 and later. The dental trend rates at all ages grade down from 8.0 percent in 2001 to 4.5 percent in 2010 and later.

The weighted average discount rates of 7.25 percent for FY 2002 and 8.0 percent for FY 2001 were used, and the average long-term rate of return on assets was 7.63 percent in both FY 2002 and FY 2001 in determining the net periodic postretirement benefit cost. The rate of compensation increase was the same rate as each contractor used to determine pension contributions.

The weighted average discount rates used to determine the benefit obligation as of September 30, 2002 and 2001 were 6.5 percent and 7.25 percent, respectively.

Straight line amortization of unrecognized prior service cost over the average remaining years of service to full eligibility for benefits of the active plan participants and the minimum amortization of unrecognized gains and losses were used. The Department chose immediate recognition of the transition obligation existing at the beginning of FY 1994.

	Pension Benefits		Other Postretirement Benefits	
(in millions)	2002	2001	2002	2001
Reconciliation of funded status				
Accumulated benefit obligation	$17,244	$14,152		
Effect of future compensation increases	2,650	2,193		
Benefit obligation	$19,894	$16,345	$8,449	$6,897
Plan assets	18,924	21,482	123	122
Funded status	$ (970)	$5,137	($8,326)	($6,775)
Unrecognized net (asset)/obligation at transition	(987)	(1,099)		
Unrecognized prior service cost	1,042	384	(171)	(69)
Unrecognized actuarial (gain)/loss	2,920	(2,463)	1,113	(118)
Net amount recognized	$2,005	$1,959	($7,384)	($6,962)
Minimum liability adjustment	(902)	(131)	–	–
Prepaid/(accrued) benefit cost after minimum liability	$1,103	$1,828	($7,384)	($6,962)
Total prepaid benefit cost after minimum liability	2,490	2,371	3	2
Total (accrued) benefit cost after minimum liability	($1,387)	($543)	($7,387)	($6,964)
Components of net periodic costs				
Service costs	$ 509	$ 415	$184	$152
Interest costs	1,207	1,091	504	454
Actual return on plan assets	(1,612)	(1,729)	(8)	(9)
Net amortization and deferral	(93)	(461)	(16)	(65)
Impact of curtailment or special termination benefits	23	29	0	(5)
Total net periodic costs	$ 34	($655)	$664	$527
Contributions and benefit payments				
Employer contributions	$75	$43	$243	$226
Participant contributions	4	4	42	37
Benefit payments	810	751	295*	272*

*Includes $10 million and $9 million paid from plan assets for 2002 and 2001, respectively.

17. Contingencies (in millions)

	FY 2002	FY 2001
Spent nuclear fuel litigation	$ 2,000	$ 2,000
Other	9	28
Total contingencies	**$ 2,009**	**$ 2,028**

The Department is a party in various administrative proceedings, legal actions and tort claims which may ultimately result in settlements or decisions adverse to the Federal government. The Department has accrued contingent liabilities where losses are determined to be probable and the amounts can be estimated. Other significant contingencies exist where a loss is reasonably possible, or where a loss is probable and an estimate cannot be determined. In some cases, a portion of any loss that may occur may be paid from Treasury's Judgment Fund (Judgment Fund). The Judgment Fund is a permanent, indefinite appropriation available to pay judgments against the government for which the Department, unless required by law, is not required to reimburse from its appropriated funds. The following are significant contingencies:

- *Spent Nuclear Fuel Litigation* - In accordance with the Nuclear Waste Policy Act of 1982 (NWPA), the Department entered into contracts with more than 45 utilities, in which, in return for payment of fees into the Nuclear Waste Fund, the Department agreed to begin disposal of spent nuclear fuel (SNF) by January 31, 1998. Because the Department has no facility available to receive SNF under the NWPA, and does not anticipate there will be such a facility until at least 2010, the Department has been unable to begin disposal of the utilities' SNF as required by the contracts. Significant litigation has ensued as a result of this delay.

  To date, that litigation has conclusively established that the Department's obligation to begin disposal of SNF is legally binding notwithstanding the lack of a facility to receive SNF. Currently, 23 utilities have filed suits in the Court of Federal Claims for breach of contract, in which they collectively seek $5.95 billion. The industry is reported to estimate that damages for all utilities with which the Department has contracts will be at least $50 billion. The Department, however, believes that the industry estimate is highly inflated and that, if the Department prevails on some key disputed issues, the actual total damages suffered by all utilities as a result of the delay in beginning SNF disposal is more likely to be in the range of between $2 billion and $3 billion, and has recorded a liability for the low end of that range.

  Liability is certain, and in most of the cases orders have been entered affirming the Government's liability. Other than ascertaining the actual amount of damages, the only outstanding issue is how that liability is to be satisfied. At this time, it is uncertain whether damages would be paid from the Judgment Fund, the Nuclear Waste Fund, or some other source.

- *Alleged Exposures to Radioactive and/or Toxic Substances* - A number of class action and/or multiple plaintiff tort suits have been filed against the Department's current and former contractors, and in some cases against individual managers and supervisors of the Department and its contractors, in which the plaintiffs seek damages for alleged exposures to radioactive and/or toxic substances as a result of the historic operations of the Department's nuclear facilities. The most significant of these cases arise out of past operations of the facilities at Rocky Flats, Colorado; Hanford, Washington; Paducah, Kentucky; Portsmouth (Piketon) and Mound, Ohio; and Brookhaven, New York. Collectively, damages sought in these cases exceed $133 billion.

These cases are being vigorously defended, and while in some cases proceedings are not far enough advanced to evaluate their likely outcome, in some of these cases substantially all of the plaintiffs' claims have been dismissed by the courts, and the likelihood of an unfavorable outcome is remote. Accordingly, the Department believes that, to the extent that there is a reasonable possibility of an unfavorable outcome in any of these cases, any liability that might ultimately be imposed would be significantly less than what the plaintiffs seek. No related liabilities are recorded in the Department's consolidated financial statements for these cases.

- *Uranium Enrichment Services Pricing* - In Florida Power & Light Co. et al. v. United States, No. 96-644C, (Fed. Cl.), the court recently found that remedial action and depleted uranium costs at the gaseous diffusion plants that the Department had taken into consideration in May 1992 in projecting it would recover the Government's cost over a twelve year period if it charged a selected price for fiscal year 1993 enrichment services, were to be paid from the Decontamination and Decommissioning Fund following the passage of the Energy Policy Act of 1992 and thus were no longer appropriate Government costs for recovery after EPACT's effective date of October 23, 1992. The Court determined that the utilities should receive a retroactive price reduction despite the Government's failure to recover all of its other costs as of July 1, 1993 (when the enrichment contracts were transferred to the United States Enrichment Corporation). Following the Court's decision, the nine FP&L plaintiffs filed another complaint seeking additional amounts back to 1986. Three additional complaints were also filed involving another twenty-five plaintiffs. In aggregate, the five cases pending to date seek approximately $804 million. The Government has filed an appeal from the adverse decision in FP&L and intends to continue vigorously contesting the cases. No related liabilities are recorded in the Department's consolidated financial statements.

- The State of New Mexico in 1999 filed a claim it values at $260 million for injuries to ground water resources at a third party site, South Valley near Albuquerque. The Department's liability, while reasonably possible, would be less than the amount claimed as remediation is already underway pursuant to a prior settlement agreement. Any such liability would be paid from the Judgment Fund.

- A sex discrimination suit under California Fair Employment and Housing Act has recently been filed by six females that worked at Lawrence Livermore National Laboratory alleging that they were paid less than similarly situated male employees. The judge has ruled that the case will be certified as a class action. The complaint seeks various forms of relief, but does not state a sum certain. However, given the potential size of the class, any adverse ruling could result in large costs. The plaintiffs' attorneys at a "town hall" meeting gave an estimate of $250 million; however, it is believed that any recovery will be significantly less. No related liabilities are recorded in the Department's consolidated financial statements for these claims.

18. Gross Cost and Earned Revenue by Budget Functional Classification (in millions)

Budget Functional Classification	Intragovermental Gross Cost	Intragovermental Earned Revenues	Intragovermental Net Cost	Total Gross Cost	Total Earned Revenues	Total Net Cost
FY 2002						
Atomic Energy Defense	$ 409	$ (1,233)	$ (824)	$ (13,037)	$ (1,518)	$ (14,555)
Energy Supply	678	(1,501)	(823)	7,244	(5,140)	2,104
General Science	32		32	2,502		2,502
Energy Conservation	16	(1)	15	756	(1)	755
Energy Information	113	(77)	36	520	(317)	203
Emergency Energy Preparedness	-		-	153	(107)	46
Total	$ 1,248	$ (2,812)	$ (1,564)	$ (1,862)	$ (7,083)	$ (8,945)
FY 2001 (Restated)						
Atomic Energy Defense	$ 1,900	$ (1,085)	$ 815	$ 19,366	$ (1,289)	$ 18,077
Energy Supply	684	(1,265)	(581)	7,614	(5,689)	1,925
General Science	42		42	2,475		2,475
Energy Conservation	20	(3)	17	765	(3)	762
Energy Information	303	(69)	234	512	(299)	213
Emergency Energy Preparedness	1		1	139	(64)	75
Total	$ 2,950	$ (2,422)	$ 528	$ 30,871	$ (7,344)	$ 23,527

FY 2001 amounts have been restated to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

Gross cost and earned revenues are reported by budget functional classification codes to Treasury for inclusion in the Consolidated Financial Statements of the Federal government. These classification codes are established by the Office of Management and Budget and Treasury for government-wide reporting purposes and differ from the classifications used for the Department's financial statements.

19. Supporting Schedule of Net Cost for National Nuclear Security Activities (in millions)

	FY 2002	FY 2001
Directed stockpile work	$ 1,064	$ 1,007
Campaigns	1,858	1,621
Readiness in technical base and facilities	1,620	1,402
Secure transportation asset	152	117
Nonproliferation and verification research and develoment	314	233
Arms control	124	117
Nuclear safeguards and security	134	157
Fissle materials disposition	171	165
International nuclear safety	86	93
International material protection, control and accounting	231	130
Naval reactors	765	700
Emergency management	15	23
Emergency response	116	108
Cerro Grande fire activities	49	43
Facilities and infrastructure recapitalization	64	1
Total net costs for national nuclear security activities	**$ 6,763**	**$ 5,917**

FY 2001 amounts have been reclassified to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

NATIONAL NUCLEAR SECURITY ACTIVITIES - effectively support and maintain a safe and reliable enduring nuclear weapons stockpile without underground nuclear testing; safely dismantle and dispose of excess weapons; and provide technical leadership for national and global nonproliferation activities.

Directed Stockpile Work - Supports the National Nuclear Security Administration's mission to maintain the safety, security, reliability, and performance of the nuclear stockpile without underground nuclear testing, and is designed to ensure that stockpiled weapons meet military requirements. Encompasses the broad range of activities that directly support weapons in the enduring nuclear stockpile, as directed by the Presidentially approved Nuclear Weapons Stockpile Plan, including current maintenance and day-to-day care; research, development, engineering, and certification activities; procurement of materials (exclusive of nuclear materials); fabrication and assembly of nuclear weapons and weapon components; lifetime surety, maintenance and reliability assessments; and weapon dismantlement and disposal.

Campaigns - Focused scientific and engineering efforts across the nuclear weapons complex that develop and maintain special capabilities and tools needed for continued certification of the stockpile, now and in the future, in the absence of underground nuclear testing. Addresses current or future questions concerning the stockpile through multi-year, multi-functional efforts by employing the best available scientists and engineers and applying the most advanced sciences and technologies.

Readiness in Technical Base and Facilities – Ensures that the right facilities and infrastructure are in place to manufacture and certify the nuclear weapons stockpile; and also ensures that all sites within the nuclear weapons complex are implementing the technologies and methods to make construction, operation, and maintenance of the facilities safe, secure, reliable, and cost effective. Provides the physical and operational infrastructure required to conduct the scientific, technical, and manufacturing activities of the Stockpile Stewardship Program with the goal of a constant readiness level.

Secure Transportation Asset - provide safe, secure movement of nuclear weapons, special nuclear materials, selected non-nuclear weapons components, limited-life components, and any other Department materials requiring safe, secure transport to and from military locations, between nuclear weapons complex facilities and to other government locations within the continental United States.

Nonproliferation and Verification R&D – conduct research and development to provide the science and technology required for treaty monitoring, material control, and early detection and characterization of the proliferation of weapons of mass destruction and special nuclear materials, including arms control treaty verification; intelligence collecting and processing supporting Presidential arms control and nonproliferation initiatives; and providing intelligence support in assessing nuclear threats.

Arms Control – advance U.S. nonproliferation export control objectives to halt the spread of weapons of mass destruction, and support the implementation of bilateral and multilateral arms control and nonproliferation initiatives.

Nuclear Safeguards and Security - provide direction and training for protection of nuclear weapons, nuclear materials, classified information, and facilities, including related technology development, and directing classification and declassification activities.

Fissile Materials Disposition - dispose of surplus HEU and plutonium, and provide technical support for U.S. initiatives to reduce foreign surplus of weapons-usable plutonium. Provide safe, secure, environmentally sound, and inspectable long-term storage of weapons-usable fissile materials.

International Nuclear Safety - enhance the safety of Soviet-designed nuclear power plants, help host countries upgrade their nuclear safety cultures and supporting infrastructures, reduce the proliferation threats posed by plutonium and HEU materials available in Russia and other states of the Former Soviet Union, and cooperate and coordinate with other Departmental Offices and Government Agencies in the implementation of U.S. Non-Proliferation Policy by increasing confidence that Russian LEU sold to the USEC is derived from HEU removed from dismantled Russian nuclear weapons.

International Material Protection, Control, and Accounting. Upgrade the security of Russian weapons-usable nuclear material at Russian Navy, commercial and weapons complex sites, and support the Russian Nuclear Cities Initiative.

Naval Reactors - design, development, testing, and production of safe, long-lived, militarily-effective nuclear power plants for U.S. Navy ships and submarines, including over 100 operating reactors in nine different operational classes.

Emergency Management - provide control and direction to ensure comprehensive and integrated planning, preparedness, and response capability for emergencies involving the Department's operations or facilities.

Emergency Response - administer and direct the programs of the Department's emergency response operations to ensure their availability and viability in responding to nuclear and radiological emergencies within the U.S. and abroad.

Cerro Grande Fire Activities - supplemental appropriation to meet the emergency requirements for recovery activities necessitated by the fire near the Los Alamos National Laboratory in New Mexico. Fire recovery activities include the following: physical damage and destruction repair and risk mitigation; restoring services for utilities, electrical infrastructure and communications; emergency response costs including overtime pay, fire risk reduction and mitigation, and fire fighting equipment; and resumption of normal laboratory support and programmatic operations.

Facilities and Infrastructure Recapitalization – restores, rebuilds, and revitalizes the physical infrastructure of the nuclear weapons complex. The program applies new direct appropriations to address an integrated, prioritized series of deferred maintenance and infrastructure projects that will significantly increase operational efficiency and effectiveness. Accomplishes the capital renewal and sustainability of NNSA's facilities and infrastructure to arrest deterioration and reduce deferred maintenance and repairs; reduces the complex footprint by disposing of excess facilities; and ensures disciplined planning for next-year recapitalization and disposition projects. Institutionalizes responsible and accountable corporate facility management and best business practices within NNSA.

20. Supporting Schedule of Net Cost for Science

(in millions)

	FY 2002	FY 2001
Biological and environmental research	$ 442	$ 425
Fusion energy sciences	256	263
Basic energy sciences	696	685
High energy physics	727	700
Nuclear physics	430	391
Advanced scientific computing research	159	122
Small business innovative research / technology transfer	81	94
Technical information management	10	10
Science facilities and infrastructure	10	1
Other science activities	1	2
Total net cost for science	**$ 2,812**	**$ 2,693**

FY 2001 amounts have been reclassified to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

SCIENCE ACTIVITIES - provide science and tools needed to develop energy technology options, to understand the health and environmental implications of energy activities, and to understand the fundamental nature of energy and matter; provide large scale facilities required in natural sciences to ensure U.S. leadership in the search for knowledge; and apply research and development competencies to help ensure the availability of scientific talent.

Biological and Environmental Research – research to advance environmental and biomedical knowledge that promotes national security through improved energy production, development, and use; international scientific leadership that underpins our Nation's technological advances; and research that improves the quality of life for all Americans. Supports research in climate change, environmental remediation, genomics, proteomics, radiation biology, and medical sciences; and supports leading edge research facilities.

Fusion Energy Sciences – research effort to advance plasma science, fusion science, and fusion technology – the knowledge base needed for an economically and environmentally attractive fusion energy source.

Basic Energy Sciences – fundamental research to expand the scientific foundations for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use; and planning, constructing, and operating major scientific user facilities to serve researchers at universities, national laboratories, and industrial laboratories.

High Energy Physics – basic research to understand the universe at a more basic level by investigating the elementary particles that are the fundamental constituents of matter and the forces between them, thereby underpinning and advancing DOE missions and objectives through the development of key cutting-edge technologies and trained manpower that provide unique support to these missions.

Nuclear Physics – basic research to provide new insights and advance our knowledge on the nature of matter and energy and develop the scientific knowledge, technologies, and trained manpower that are needed to underpin the DOE missions for nuclear-related national security, energy, and environmental quality.

Advanced Scientific Computing Research – research in applied mathematics, computer science, and high-performance networks to guarantee DOE's world leadership in scientific computation; provide the high-performance computational and networking resources that are required for world leadership in science; and technology transfer research.

Small Business Innovative Research/Small Business Technology Transfer – research and development support for energy-related technology that will significantly benefit U.S. businesses, including technology transfer programs.

Technical Information Management – activities to direct, coordinate, and implement the management and dissemination of scientific and technical information resulting from the Department's research and development programs.

Science and Facilities Infrastructure – cleanup of excess facilities at the SC laboratories to reduce long-term costs and liabilities in support of programmatic initiatives; and cleanup facilities for reuse where such reuse is economical and can provide needed functionality.

21. Supporting Schedule of Net Cost for Energy Resources (in millions)

	FY 2002		FY 2001 (Restated)	
Power technologies		$ 400		$ 328
Building technology, state and community programs		258		307
Federal energy management program				
Program costs	$ 32		$ 29	
Less earned revenues, intragovernmental	(1)		(3)	
		31		26
Industrial technology		181		196
Transportation technology		322		288
Coal research and development		264		249
Petroleum research and development		65		63
Natural gas research and development		46		35
Clean coal technology		44		115
Strategic Petroleum Reserve				
Program costs	$ 264		$ 228	
Less earned revenues, public	(107)		(62)	
		157		166
Naval petroleum reserves				
Program costs	$ 22		$ 24	
Less earned revenues, public	(7)		(12)	
		15		12
Power marketing administrations				
Program costs	$ 4,143		$ 5,036	
Less earned revenues, public	(4,107)		(4,615)	
Less earned revenues, intragovernmental	(100)		(66)	
		(64)		355
Nuclear energy research initiative		29		25
Nuclear energy plant optimization		6		5
Nuclear energy technologies		10		7
Advanced accelerator applications		56		30
Energy Information Administration		80		78
Fast flux test facility		65		41
ANL-West operations		42		45
Nuclear facilities management		37		45
Advanced radioisotope power systems		33		30
Isotope production and distribution program				
Program Costs	$ 26		$ 27	
Less earned revenues	(8)		(8)	
		18		19
University nuclear science and reactor support		19		15
Other energy resources activities		37		32
Total net costs for energy resources		**$ 2,151**		**$ 2,512**

FY 2001 amounts have been restated to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

ENERGY RESOURCES ACTIVITIES - encourage energy efficiency; advance alternative and renewable energy technologies; increase energy choices for all consumers; assure adequate supplies of clean, conventional energy; and reduce U.S. vulnerability to external energy supply disruptions.

Power Technologies - research and development programs that contribute to strengthening the Nation's energy security, providing a cleaner environment, enhancing global sales of U.S. energy products, and increasing industrial competitiveness and Federal technology transfer. Activities range from basic cost-shared research in universities and national laboratories to applied research, development, and field validations in full partnership with private sector manufacturers.

Building Technology, State and Community Programs - research and development to improve the energy efficiency of appliances, building equipment, and the building envelope complemented by programs designed to move advanced technologies into the marketplace and produce near-term energy savings with associated economic and environmental benefits.

Federal Energy Management Program - reduction in the cost of government by advancing energy efficiency and water conservation, and the use of solar and other renewable energy as a means to reduce energy costs. Major emphasis is placed on using private sector investments to retrofit Federal facilities using energy savings performance contracting, thus stretching Federal leveraging to the maximum.

Industrial Technology - cost shared research in critical technology areas identified by industry, with focus on high-risk but promising technologies that decrease industry's use of raw materials and depletable energy and reduce generation of wastes and pollutants.

Transportation Technology - development and commercialization of transportation technologies which can radically alter current projections of U.S. and world demand for energy, particularly oil, and reduce the associated environmental impacts such as greenhouse gas emissions.

Coal Research and Development - research and development of clean coal technologies to meet future national energy needs and environmental demands and to promote our national energy security while positioning the U.S. coal industry to respond to growing export market opportunities.

Petroleum Research and Development - research and development of increased domestic oil exploration and production technology, environmental technologies, and reservoir life extension.

Natural Gas Research and Development - research and development of natural gas exploration, production, hydrates, processing, storage, and delivery technologies.

Clean Coal Technology - joint Federal and private industry development of earlier advances in coal-based technologies and demonstration of commercial marketplace potential.

Strategic Petroleum Reserve - operation and maintenance of the Nation's emergency stored oil supply at four sites in Texas and Louisiana. Also included in this line are costs incurred by the Northeast Home Heating Oil Reserve. The Secretary severed responsibility for managing this two million barrel reserve located at four geographic locations in New York Harbor and New England from the SPR effective March 2001. The Department recorded a prior period adjustment in FY 2002 to correct an error resulting in an overstatement of FY 2001 oil revenues from the exchange oil deferment at the Strategic Petroleum Reserve. FY 2001 revenues were reduced by $123 million as a result of this adjustment.

Naval Petroleum Reserves –The Naval Petroleum and Oil Shale Reserves program operates a Government-owned oil field in Wyoming (Naval Petroleum Reserve Number 3), and administers leases and monitors environmental compliance on Reserve land in California (Naval Petroleum Reserve Number 2). All proceeds from sales and royalties from leased acreage were returned to Treasury.

Power Marketing Administrations - market electricity generated primarily by Federal hydropower projects. Preference for the sale of power is given to public bodies and cooperatives. Revenues from selling power and transmission services are used to repay Treasury annual appropriations and maintenance costs, repay the capital investments with interest, and assist capital repayment of other features and certain projects.

Nuclear Energy Research Initiative - supports R&D to address the key issues affecting the future use of nuclear power. Through competitively selected, peer reviewed projects by university, laboratory, and industry participants, research focuses on the development of advanced nuclear technologies including advanced (Generation IV) reactor systems, and power conversion cycles, proliferation resistance reactor and fuel concepts, advanced nuclear fuels and fuel cycles, amelioration of nuclear waste production of hydrogen using nuclear power, and fundamental science.

Nuclear Energy Plant Optimization Program (NEPO) - supports R&D to ensure that the current fleet of 103 operating nuclear power plants operate with improved efficiency and are available for electricity production beyond the 2020-2025 time frame, as recommended by the President's Committee of Advisors on Science and Technology. NEPO R&D activities are identified based on input from electric utilities, national laboratories, the Nuclear Regulatory Commission, universities, and other stakeholders, and are cost shared with industry.

Nuclear Energy Technologies – encompasses two major programs – Nuclear Power 2010, and the Generation IV Nuclear Energy Systems Initiative.

The Nuclear Power 2010 Program (NP2010) conducts development and demonstration activities that achieve a goal for an industry decision by 2005 to deploy new advanced nuclear power plants in the United States in the 2010 timeframe. Activities include evaluation of potential sites for new nuclear power plants, demonstration of the untested Nuclear Regulatory Commission licensing process for the siting, construction, and operation of new nuclear power plants and the development and certification of advanced reactor designs. The Nuclear Power 2010 program implements the recommendations of the Nuclear Energy Research Advisory Committee report *"A Roadmap to Deploy New Nuclear Power Plants in the United States by 2010,"* dated October 31, 2001.

The Generation IV Nuclear Energy Systems Initiative conducts research and development, in cooperation with international partners, to develop a next generation nuclear system for deployment by 2020 that provides significant improvements in proliferation and terror resistance, safety and reliability, and economics. *A Technology Roadmap for Generation IV Nuclear Energy Systems: Technical Roadmap Report*, available in draft in September 2002, and to be submitted to Congress by March 2003, defines the research and development to bring candidates concepts to maturity for potential commercialization.

Advanced Accelerator Applications – conducts scientific, engineering research, development, and demonstration on (1) transmutation of spent nuclear fuel and waste; (2) materials science; and (3) advanced fuel cycle applications. Research and development conducted from the beginning of the program through FY 2002, combined with the advice and guidance of Nobel Laureate Dr. Burton Richter, supported a redirection of program focus toward the third of these missions. Major activities include the development, design, and construction of new facilities to support U.S. advanced nuclear technology research in the 21st century. This research has the capability of economically enhancing the spent nuclear fuel repository at Yucca Mountain and offers the potential to permanently avoid the technical need for a second repository.

Energy Information Administration - functions as an independent statistical/analytical agency, develops and maintains a comprehensive energy database, publishes a wide variety of energy reports and analysis as required by law, and responds to energy information inquiries from the Department's decision and policymakers, the Congress, other government entities, and the general public. Information disseminated includes data on energy reserves, production, distribution, consumption, prices, technology, and related international economic and financial market information.

Fast Flux Test Facility – is a U.S. Government-owned 400 megawatt, sodium-cooled research reactor located on the Hanford Site near Richland, Washington. In December 2001, after a review of possible missions and future commercial uses for the Fast Flux Test Facility (FFTF), the Department determined that restart of the FFTF is impracticable. Accordingly, activities to permanently deactivate the facility are underway.

Argonne National Laboratory – West (ANL-W) Operations – maintains and operates essential facilities at ANL-W, safely and securely managing all special nuclear materials at ANL-W, and deactivating unneeded facilities.

Nuclear Facilities Management - shutdown and deactivate the Experimental Breeder Reactor-II at ANL-W and carry out the long-term treatment and management of DOE's sodium-bonded spent nuclear fuel.

Advanced Radioisotope Power Systems - development, demonstration, testing, and delivery of radioisotope power systems for special national security applications and NASA's space exploration missions.

Isotope Production and Distribution - serves the national need for a reliable supply of isotope products and services for medicine, industry, and research by developing new or improved isotope products and services that enable medical diagnoses and therapy, and other applications that are in the national interest.

University Nuclear Science and Reactor Support - provides assistance to the Nation's university nuclear engineering programs including regional partnerships between universities, national laboratories, and industry; reactor fuel assistance; and instrumentation and equipment upgrades for university research reactors.

22. Supporting Schedule of Net Cost for Environmental Quality (in millions)

	FY 2002		FY 2001	
Uranium enrichment decontamination and decommissioning				
Program costs	$ 372		$ 370	
Less earned revenues				
Public	(17)		(30)	
Intragovernmental	(140)		(142)	
		$ 215		$ 198
Civilian radioactive waste management				
Program costs	$ 382		$ 401	
Less earned revenues				
Gross revenues, public	(725)		(803)	
Gross revenues, intragovernmental	(897)		(738)	
Deferred revenue adjustment	1,325		1,230	
		85		90
Uranium programs		139		29
EM privatization		97		55
Site project completion		1,511		1,141
Defense facilities closure projects		1,400		1,386
Post 2006 completion		3,143		2,782
Excess facilities		3		
Technology development		248		280
Facility safety		30		52
Health studies		111		89
Worker and community transition		28		36
Legacy waste cleanup adjustment		(6,013)		(5,909)
Total net cost for environmental quality		**$ 997**		**$ 229**

FY 2001 amounts have been reclassified to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

ENVIRONMENTAL QUALITY ACTIVITIES - understand and reduce environmental, safety, and health risks and threats and develop the technologies and institutions required for solving domestic and global environmental problems.

Uranium Enrichment Decontamination and Decommissioning - consists of facility decommissioning and related environmental cleanup activities at the uranium enrichment plants in Kentucky, Ohio, and Tennessee, and, additionally, provides for partial reimbursement of remediation costs attributable to other uranium and thorium purchased by the Federal government. Revenue from assessments against domestic utilities is recognized when such assessments are authorized by legislation. Revenue recognized includes known adjustments for transfers between utilities and other reconciliation adjustments. Increases in current and future assessments due to changes in the Consumer Price Index are recognized in each fiscal year as such changes occur. Interest earned on accumulated funds in excess of those needed to pay current program costs totaled $141 million and $142 million for FY 2002 and 2001, respectively.

Civilian Radioactive Waste Management - development and management of a permanent Federal repository for spent nuclear fuel and high-level radioactive waste in a manner that assures public and worker safety and protects the environment. The Nuclear Waste Policy Act of 1982 requires the Department to assess fees against owners and generators of high-level radioactive waste and spent nuclear fuel to fund the costs associated with management and disposal activities under the Act. Fees of $716 million were assessed in both FY 2002 and FY 2001. Interest earned on fees owed and on accumulated funds in excess of those needed to pay current program costs totaled $907 million and $824 million for FY 2002 and FY 2001, respectively. Adjustments are made annually to defer the recognition of revenues until earned (i.e., as costs are incurred for the Civilian Radioactive Waste Management program).

Uranium Programs - manage the Department's excess uranium and depleted uranium hexafluoride inventories, pre-existing contractual liabilities, and maintain nonleased facilities in a safe and environmentally sound condition.

EM Privatization - provides for the privatization of projects at the Oak Ridge and Idaho Operations Offices and allows the Department to reimburse contractors in the event the Government incurs liabilities for termination of privatization contracts.

Site/Project Completion - provides for cleanup for sites and/or projects that will be completed by FY 2006 at national laboratories and other facilities where the Department will continue to conduct missions beyond 2006.

Defense Facilities Closure Projects - provides for cleanup of designated sites for accelerated closure. EM's goal is to cleanup these sites by 2006. After the cleanup mission is complete at these sites, no further Departmental mission is envisioned, except for long-term surveillance and maintenance and the sites will be available for alternative uses.

Post 2006 Completion - provides for cleanup projects that are projected to continue well beyond 2006. As cleanup is completed, it will be necessary for EM to maintain a presence at most sites to monitor, maintain, and provide information on the contained residual contamination. These activities will be necessary to ensure that the reduction in risk to human health is maintained.

Excess Facilities – the Excess Facilities account provides for a collaborative effort between the Office of Environmental Management and the transferring Department of Energy program to manage the transfer for final disposition of excess contaminated physical facilities leading to significant risk and cost reduction.

Technology Development - research and development of new more effective and less expensive technological remedies to the environmental and safety problems of the Environmental Management Program. The new technologies are necessary to reduce risks to humans and the environment, reduce cleanup cost, and resolve significant related problems for which no solutions currently exist. Operating expenditures related to legacy waste cleanup activities represent a reduction of the Department's environmental liabilities and are therefore reflected as a legacy waste cleanup adjustment. These costs are excluded from current year program expenses since the expense was accrued in prior years when the Department recorded the environmental liabilities.

Facility Safety - The Office of Environment, Safety and Health serves as a corporate asset to the Department and its stakeholders in facilitating, achieving, and assuring excellence and continued improvement in safety management and performance in the conduct of its mission and activities. Activities include assuring the effective integration of safety into major DOE projects and nuclear materials management, analysis of operational experience and dissemination of lessons learned, and management and implementation of the Department's accident investigation program.

Health Studies - The Office of Environmental Safety and Health Evaluation conducts health studies which include Occupational Medicine which is medical surveillance of current and former workers, Epidemiologic Studies which is surveillance of worker injury and illnesses, Public Health Activities which encompasses health studies, health education, and other health related activities at the Department's sites, International Health Programs which provide health related studies and activities in the Marshall Islands, the former Soviet Union, and Japan through the Radiation Effects Research Foundation.

Worker and Community Transition - mitigate adverse impact on workers and communities resulting from restructuring, including local economic assistance for job-based conversion.

Legacy Waste Cleanup Adjustment – current year operating expenditures for the remediation of contaminated facilities and wastes generated from past operations represent a reduction of the Department's environmental liabilities. These expenditures are excluded from current year program expenses since the expense was accrued in prior years when the Department recorded the environmental liabilities.

23. Supporting Schedule of Net Cost for Other Programs (in millions)

	FY 2002		FY 2001	
Inspector General		$ 36		$ 34
Independent oversight and performance assurance		24		13
Federal Energy Regulatory Commission				
Program costs	$ 195		$ 191	
Less earned revenues with the public	(192)		(188)	
		3		3
Reimbursable and cooperative work programs				
Intragovernmental gross costs	$ 1,732		$ 1,436	
Less intragovernmental revenues	(1,624)		(1,430)	
Intragovernmental net costs	$ 108		$ 6	
Gross costs with the public	330		312	
Less earned revenues from the public	(316)		(309)	
Net costs with the public	$ 14		$ 3	
Total reimbursable work program net costs		122		9
Technology transfer activities				
Program costs	$ 63		$ 70	
Less earned revenues with the public	(59)		(72)	
		4		(2)
Other revenues and costs of services provided				
Intragovernmental gross costs	$ 16		$ 11	
Less intragovernmental revenues	(48)		(43)	
Intragovernmental net revenues	$ (32)		$ (32)	
Gross costs with the public	72		65	
Less earned revenues from the public	(60)		(53)	
Net revenues with the public	$ 12		$ 12	
Total other net revenues		(20)		(20)
Intelligence		40		40
Counterintelligence		54		48
Other programs		7		(5)
Total net costs for other programs		**$ 270**		**$ 120**

FY 2001 amounts have been reclassified to conform with the FY 2002 presentation, in order to reflect changes in the Department's budget structure.

Inspector General - The Office of Inspector General conducts investigations, audits, and inspections to detect and prevent fraud, abuse, and violations of law, and promotes economy, efficiency, and effectiveness of the Department's operations.

Independent Oversight and Performance Assurance. The Office of Independent Oversight and Performance Assurance is the Department's exclusive focal point for independent evaluations of nuclear safeguards and security;

environment, safety, and health; cyber security; and emergency management. The Office provides information needed to ensure that the Secretary of Energy, the National Nuclear Security Administration Administrator, and Congress have an accurate, comprehensive understanding of the effectiveness of the Department's safeguards and security; environment, safety, and health; cyber security; and emergency management policies and programs, as well as the vulnerabilities and trends associated with these programs to preserve and effectively protect critical national security and environment, safety, and health interests.

Federal Energy Regulatory Commission - The Federal Energy Regulatory Commission (FERC) is an independent regulatory organization within the Department of Energy that regulates essential aspects of electric, natural gas and oil pipeline, and non-Federal hydropower industries. It ensures that the rates, terms and conditions of service for segments of the electric and natural gas and oil pipeline industries are just and reasonable, it authorizes the construction of natural gas pipeline facilities, and it ensures that hydropower licensing, administration, and safety actions are consistent with the public interest. FERC assesses most of its administrative program costs as an annual charge to each regulated entity. These revenues are returned to the Department of Treasury when collected.

Reimbursable and Cooperative Work Programs – The Department performs work for other Federal agencies and private companies on a reimbursable work basis and on a cooperative work basis. Whereas reimbursable work is generally not the Department's direct mission, but part of the customer's mission, cooperative work is part of the Department's direct mission. Reimbursable work is financed by funds of Federal agencies ordering the work or by cash advances from non-Federal customers, and the Department receives no appropriated funds for such work or services. Cooperative work, however, is financed by funds appropriated to the Department that may be used in a cooperative effort with one or more Federal or non-Federal participants. Authorities for the Department to perform reimbursable work include the Economy Act of 1932, the Atomic Energy Act of 1954, Intergovernmental Cooperation Act of 1968, Intergovernmental Personnel Act of 1970, and Department of Energy Organization Act of 1977. Authorities for performance of cooperative work include Public Law 98-438, the Energy Reorganization Act of 1974, section 107(a), and Public Law 95-224, the Federal Grant and Cooperative Agreements Act of 1977.

The Department's policy is to establish prices for materials and services provided to public entities at the Department's full cost and to other Federal agencies at the Department's full cost less depreciation. In some cases, the full cost information reported by the Department in accordance with SFFAS 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*, exceeds revenues. This results from implementation of provisions contained in the Economy Act of 1932, as amended, the Atomic Energy Act of 1954, as amended, and the National Defense Authorization Act for Fiscal Year 1999 which provide the Department with the authority to charge customers an amount less than the full cost of the product or service.

SSFAS 7, *Accounting for Revenue and Other Financing Sources*, requires that when goods and services are provided to the public or another Federal agency, reporting entities should disclose practices where revenue received is less than the full cost of the goods and services provided, as well as an estimate, if practicable, of the amount of revenue foregone. The amount for reimbursable and cooperative work was estimated by computing the difference between the full cost reported for financial statement purposes, including appropriate allocations of costs, and the revenue reported for financial statement purposes, including collections of the Federal administrative charge. Accordingly, the Department estimates revenue foregone for reimbursable and cooperative work activities for FY 2002 and FY 2001 amounted to $122 million and $9 million, respectively. This change was due to a large fluctuation in the allocated contractor pension plan expense for reimbursable work with other federal agencies.

Technology Transfer Activities – The Department has entered into cooperative research and development agreements to increase the transfer of Federally funded technologies to the private sector for the benefit of the U.S. economy. This program is primarily implemented through Cooperative Research and Development Agreements between the Department's laboratories and the private sector (may include industry, non-profits, universities, state or local governments, or individuals). The non-Federal party may provide funds, personnel, services, facilities, equipment or other resources to conduct specific research and development work consistent with the mission of the laboratory.

Intelligence - provides the Department, other U.S. Government policy makers, and the Intelligence Community with timely, accurate, high impact foreign intelligence analyses and provides quick-turnaround, specialized technology applications and operational support to the intelligence, special operations, and law enforcement communities. Ensures that the Department's technical, analytical, and research expertise is made available to the Intelligence Community in accordance with Executive Order 12333, "United States Intelligence Activities."

Counterintelligence - enhances the protection of sensitive technologies, information, and expertise against foreign intelligence and terrorist attempts to acquire nuclear weapons information or advanced technologies from the Department's National Laboratories, production plants, and other operating facilities.

24. Nuclear Waste Fund Offsetting Receipts, Deferred

(in millions)

The Department defers the recognition of revenues related to the fees paid by owners and generators of spent nuclear fuel, and the interest earned on the invested balance of these funds, to the extent that the receipts exceed current year costs for developing and managing a permanent repository for spent nuclear fuel generated by civilian reactors. In addition, market value adjustments for Treasury securities of the Nuclear Waste Fund are not recognized as revenues in the current period, unless redeemed by the Department. The gross amount of receipts, interest collected, and the unrealized market value adjustments for investments are reported as offsetting receipts on the *Consolidated Statements of Financing*. Therefore, a reconciling amount is reported for that portion of the offsetting receipts for which revenues are not recognized in the current period.

25. Costs Not Assigned to Programs

(in millions)

	FY 2002	FY 2001
Change in unfunded environmental liability estimates (Note 15)	$ (21,977)	$ 10,513
Change in unfunded safety and health liabilities (Note 14)	113	(59)
Change in compensation program for occupational illnesses	(42)	1,600
Other	(32)	2
Total costs not assigned to programs	**$ (21,938)**	**$ 12,056**

Compensation Program for Occupational Illnesses

Public Law 106-398, the Energy Employees Occupational Illness Compensation Program Act of 2000, authorized compensation for certain illnesses suffered by employees of the Department, its predecessor agencies, and contractors who performed work for the nuclear weapons program. Covered illnesses include cancers resulting from exposure to radiation; chronic beryllium disease; silicosis; and other illnesses arising from exposure to toxic substances during employment at atomic weapons facilities. In general, each employee and survivors of deceased employees eligible for compensation will receive compensation for the costs of medical care related to covered illness(es) and a choice of either lost wages or a lump sum payment of $200,000.

26. Prior Period Adjustments

(in millions)

	Effect on Equity Accounts as of October 1, 2000	Effect on FY 2001 Net Costs	Total Effect on Equity as of September 30, 2001
Cumulative Results of Operations			
Unavailable receipt accounts	$ 894	$ -	$ 894
Appropriation refinancing asset amortization	(308)	(77)	(385)
Strategic Petroleum Reserve exchange oil revenues	-	(123)	(123)
Total prior period adjustments	**$ 586**	**$ (200)**	**$ 386**

Beginning in FY 2002, prior period adjustments are recorded and prior period balances are restated in accordance with SFFAS 21, *Reporting Corrections of Errors and Changes in Accounting Principles.*

Unavailable receipt accounts

The Department recorded an adjustment in FY 2002 to correct the omission of certain fund balances identified by the U.S. Treasury as unavailable receipts attributable to the Department. The adjustment totaled $894 million, resulting in an increase to both fund balance with Treasury and cumulative results of operations as of October 1, 2000 (Note 3). This transaction had no effect on the Department's FY 2001 or FY 2002 *Consolidated Statements of Net Cost*.

Strategic Petroleum Reserve Exchange Oil Revenues

The Department recorded an adjustment in FY 2002 to correct an error in valuing the September 30, 2001 oil receivables, resulting in an overstatement of FY 2001 oil revenues of the Strategic Petroleum Reserve. FY 2001 earned revenues were reduced by $123 million as a result of this adjustment. This reduced the earned revenue and increased the net cost of the Energy Resources Program included on the FY 2001 *Consolidated Statement of Net Cost*, as well as increased the total net cost of operations for FY 2001. In addition, other non-intragovernmental assets, total assets, and cumulative results of operations, as of September 30, 2001, were reduced by $123 million. This transaction had no effect on the Department's FY 2002 consolidated financial statements.

Appropriation Refinancing Asset Amortization

The Department recorded an adjustment in FY 2002 to correct the omission of prior year amortization costs associated with the appropriation refinancing asset of the Bonneville Power Administration. The intragovernmental regulatory asset on the FY 2001 *Consolidated Balance Sheet* was reduced by $385 million as a result of this adjustment. FY 2001 amortization costs were restated to recognize $77 million of amortization costs, which increased the program costs and total cost of the Energy Resources Program, as well as total net cost of operations on the FY 2001 *Consolidated Statement of Net Cost*. The October 1, 2000 cumulative results of operations balance was reduced by $308 million for the cumulative amortization costs from FY 1997 through FY 2000 that were previously not recorded.

27. Cumulative Effect of Changes in Accounting Principles

	FY 2002	FY 2001
Cumulative Results of Operations		
Nuclear Waste Fund	$ (643)	$ -
United States Enrichment Corporation	1,202	-
Subtotal	$ 559	$ -
Unexpended Appropriations		
United States Enrichment Corporation	(161)	-
Total changes in accounting principles	**$ 398**	**$ -**

Nuclear Waste Fund

In FY 2002, the Department changed from reporting Nuclear Waste Fund investments at market value to reporting them at cost net of amortized premiums and discounts. Federal accounting standards for securities that are classified as "available for sale" have not been finalized, and both reporting methods are acceptable. Prior to FY 2002, the Department's Nuclear Waste Fund investments were valued in accordance with commercial accounting principles because that guidance had historically been used in the absence of federally specific principles. The Department changed its investment accounting practices to be consistent with Treasury's valuation of these investments at amortized cost. As a result, the FY 2002 balance of cumulative results of operations was reduced by the $643 million unrealized holding gain on investment balance reported in FY 2001 (see Note 4).

United States Enrichment Corporation

Upon privatization of the United States Enrichment Corporation on July 28, 1998, OMB and Treasury designated the Department as successor to USEC for purposes of disposition of the balances remaining in the United States Enrichment Corporation Fund. At that time, the Department recorded a deferred revenue as an offset to the balance in the USEC fund, as the Department had no authority to use the fund, other than liquidate several existing small outstanding accounts payable of the Corporation. In FY 2002, the Treasury provided guidance on accounting for these funds, including identifying specific standard general ledger accounts for recoding these balances. As a result of this new guidance, the Department reclassified this deferred revenue totaling $1,041 million to cumulative results of operations as of October 1, 2000. In addition, the Department reclassified $161 million of unexpended appropriations to cumulative results of operations, representing the apportioned balance of the USEC funds.

28. Statement of Budgetary Resources (in millions)

The Statement of Budgetary Resources is presented on a combined, rather than a consolidated, basis in accordance with recent OMB guidance. As a result, the FY 2001 amounts have been restated to be consistent with the FY 2002 combined basis presentation, as well as other format changes required by OMB.

Details of Obligations Incurred:

	FY 2002	FY 2001
Direct, subject to apportionment	$ 21,997	$ 21,027
Direct, not subject to apportionment	3,950	4,914
Reimbursable, subject to apportionment	2,731	2,452
Total obligations incurred	**$ 28,678**	**$ 28,393**

Adjustments to Beginning Balances of Budgetary Resources:

	FY 2002	FY 2001
Prior year unobligated balance, net - end of period		
Available, apportioned	$ 1,646	$ 1,461
Exempt from apportionment	131	438
Not available	906	753
Total	$ 2,683	$ 2,652
Other Adjustments	(84)	(186)
Prior year balance temporarily not available pursuant to public law	451	271
Current year unobligated balance, beginning of period, net of transfers	**$ 3,050**	**$ 2,737**

Unobligated Balances Not Available:

	FY 2002	FY 2001
United States Enrichment Corportation Fund	$ 1,258	$ 710
Reimbursable work/collections in excess of amount anticipated	371	175
Prior year deobligations in excess of apportioned amount	10	13
Expired appropriations and other amounts not apportioned	3	8
Total unobligated balances not available	**$ 1,642**	**$ 906**

Unobligated balances not available represent budgetary resources that have not been apportioned to the Department.

Reconciliation to the Budget:

	FY 2002			FY 2001		
	Budgetary Resources	Obligations Incurred	Outlays	Budgetary Resources	Obligations Incurred	Outlays
Combined Statement of Budgetary Resources	$ 31,830	$ 28,678	$ 21,237	$ 31,076	$ 28,393	$ 19,324
Budgetary resources temporarily not available for obligation but included as resources in the U.S. Budget				451		
Other BPA adjustments	53	53		248	(365)	
OMB adjustments made to include full funding for Federal retiree costs	82	82	82	71	71	71
Expired Accounts	(9)	2				
Other	4	2	(1)	29	8	(2)
Budget of the United States Government	$ 31,960	$ 28,817	$ 21,318	$ 31,875	$ 28,107	$ 19,393

The FY 2002 Statement of Budgetary Resources is reconciled to the Department's input for the President's Budget that will be finalized by OMB and published in February 2003. Other BPA adjustments consist primarily of adjustments made to bring BPA original budget execution data submission into agreement with the President's Budget.

29. Increases/(Decreases) in Unfunded Liabilities

(in millions)

	FY 2002	FY 2001
Change in unfunded environmental liability estimates (Note 15)	$ (21,977)	$ 10,513
Change in unfunded safety and health liabilities (Note 14)	113	(59)
Change in unfunded actuarial liabilities and prepaid pension plan liabilities (Notes 9 and 16)	1,148	(262)
Change in other unfunded liabilities	(4)	7
Total increases/(decreases) in unfunded liabilities	**$ (20,720)**	**$ 10,199**

30. Custodial Activities

(in millions)

	FY 2002	FY 2001
Cash Collections		
Power marketing administrations	$ 496	$ 424
Petroleum Pricing Violation Escrow Fund	9	16
Other	16	15
Total cash collections for custodial activities	**$ 521**	**$ 455**

Power Marketing Administrations

The Southeastern, Southwestern, and Western Area power marketing administrations are responsible for collecting and remitting to the Department of Treasury revenues attributable to the hydroelectric power projects owned and operated by the U.S. Department of Defense, Army Corps of Engineers; the U.S. Department of Interior, Bureau of Reclamation, and the U.S. Department of State, International Boundary and Water Commission. These revenues are reported as custodial activities of the Department.

Petroleum Pricing Violation Escrow Fund

Custodial revenues for the Petroleum Pricing Violation Escrow Fund result primarily from interest earned from investment of the fund balance, which is invested in U.S. Treasury Bills and Certificates of Deposit with minority owned financial institutions, pending determination of the disposition of the funds. Funds are disbursed to individuals and groups who are able to provide proof of financial injury related to the violations of Petroleum Pricing Regulations during the 1970's and early 1980's. The Department also distributes funds to the U.S. Treasury and to the States, Possessions and Territories of the United States.

Consolidating Schedules

Consolidating Schedules - Balance Sheets

As of September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
ASSETS			
Intragovernmental			
Fund Balance with Treasury	$ 94	$ 551	13,464
Investments, Net	-	-	17,058
Accounts Receivable, Net	21	13	1,685
Regulatory Assets	-	4,774	-
Other	-	9	25
Total Intragovernmental	$ 115	$ 5,347	$ 32,233
Investments, Net			243
Accounts Receivable, Net	15	479	3,953
Inventory, Net			
Strategic Petroleum & Northeast Home Heating Oil Reserves	-	-	15,758
Nuclear Materials	-	-	22,027
Other	-	99	352
General Property, Plant, and Equipment, Net	14	5,205	15,045
Regulatory Assets		6,845	-
Other	-	615	2,959
Total Assets	$ 144	$ 18,590	$ 92,570
LIABILITIES			
Intragovernmental			
Accounts Payable	1	36	99
Debt	-	8,027	-
Appropriated Capital Owed to Treasury	-	2,868	-
Deferred Revenues	-	9	1,281
Other	59	60	175
Total Intragovernmental	$ 60	$ 11,000	$ 1,555
Accounts Payable	11	250	3,039
Debt	-	6,275	-
Deferred Revenues	-	719	15,969
Environmental Liabilities	-	-	209,629
Pension and Other Actuarial Liabilities	-	52	8,840
Other	46	65	2,895
Contingencies	-	-	2,009
Total Liabilities	$ 117	$ 18,361	$ 243,936
NET POSITION			
Unexpended Appropriations	-	11	8,195
Cumulative Results of Operations	27	218	(159,561)
Total Net Position	$ 27	$ 229	$ (151,366)
Total Liabilities and Net Position	$ 144	$ 18,590	$ 92,570

See accompanying auditors' report.

			FY 2001 (Restated)				
Eliminations	Consolidated		Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Eliminations	Consolidated
$ -	14,109		$ 59	$ 985	$ 12,536	$ -	$ 13,580
-	17,058		-	-	15,812	-	15,812
(1,249)	470		-	22	1,923	(1,373)	572
-	4,774		-	5,236	(385)	-	4,851
(32)	2		-	(374)	402	(25)	3
$ (1,282)	$ 36,413		$ 59	$ 5,869	$ 30,288	$ (1,398)	$ 34,818
-	243				222	-	222
-	4,447		24	560	4,034	-	4,618
-	15,758		-	-	14,635	-	14,635
-	22,027		-	-	21,693	-	21,693
-	451		-	93	385	-	478
-	20,264		15	5,056	14,356	-	19,427
-	6,845		-	6,906	-	-	6,906
-	3,574		-	599	3,577	-	4,176
$ (1,282)	$ 110,022		$ 98	$ 19,083	$ 89,190	$ (1,398)	$ 106,973
(14)	122		1	45	86	(13)	119
-	8,027		-	8,473	-	-	8,473
-	2,868		-	2,758	-	-	2,758
(1,246)	44		-	13	1,411	(1,385)	39
(22)	272		25	38	183	-	246
$ (1,282)	$ 11,333		$ 26	$ 11,327	$ 1,680	$ (1,398)	$ 11,635
-	3,300		12	368	3,302	-	3,682
-	6,275		-	6,241	-	-	6,241
-	16,688		-	901	15,632	-	16,533
-	209,629		-	-	238,349	-	238,349
-	8,892		-	50	7,574	-	7,624
-	3,006		33	50	2,682	-	2,765
-	2,009		-	-	2,028	-	2,028
$ (1,282)	$ 261,132		$ 71	$ 18,937	$ 271,247	$ (1,398)	$ 288,857
-	8,206		15	11	7,309	-	7,335
-	(159,316)		12	135	(189,366)	-	(189,219)
$ -	$ (151,110)		$ 27	$ 146	$ (182,057)	$ -	$ (181,884)
$ (1,282)	$ 110,022		$ 98	$ 19,083	$ 89,190	$ (1,398)	$ 106,973

See accompanying auditors' report.

Consolidating Schedules of Net Cost

For the Years Ended September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
Costs			
National Nuclear Security Activities			
Program Costs	$ -	$ -	$ 6,780
Earned Revenues	-	-	-
Net Cost of National Nuclear Security Activities	$ -	$ -	$ 6,780
Science			
Program Costs	$ -	$ -	$ 2,825
Earned Revenues	-		-
Net Cost of Science Programs	$ -	$ -	$ 2,825
Energy Resources			
Program Costs	$ -	$ 4,143	$ 2,355
Earned Revenues	-	(4,237)	(123)
Net Cost of Energy Resources Programs	$ -	$ (94)	$ 2,232
Environmental Quality			
Program Costs	$ -	$ -	$ 1,872
Earned Revenues	-	-	(285)
Net Cost of Environmental Quality Programs	$ -	$ -	$ 1,587
Other Programs			
Program Costs	$ 193	$ -	$ 2,464
Earned Revenues	(192)	-	(2,195)
Net Cost of Other Programs	$ 1	$ -	$ 269
Costs Not Assigned to Programs	$ -	$ -	$ (22,107)
Net Cost of Operations	$ 1	$ (94)	$ (8,414)

See accompanying auditors' report.

			FY 2001 (Restated)				
Eliminations		Consolidated	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Eliminations	Consolidated
$ (17)		$ 6,763	$ -	$ -	$ 5,926	$ (9)	$ 5,917
-		-	-	-	-	-	-
$ (17)		$ 6,763	$ -	$ -	$ 5,926	$ (9)	$ 5,917
$ (13)		$ 2,812	$ -	$ -	$ 2,703	$ (10)	$ 2,693
-		-	-	-	-	-	-
$ (13)		$ 2,812	$ -	$ -	$ 2,703	$ (10)	$ 2,693
$ (17)		$ 6,481	$ -	$ 5,036	$ 2,257	$ (15)	$ 7,278
30		(4,330)	-	(4,699)	(85)	18	(4,766)
$ 13		$ 2,151	$ -	$ 337	$ 2,172	$ 3	$ 2,512
$ (421)		$ 1,451	$ -	$ -	$ 1,131	$ (419)	$ 712
(169)		(454)	-	-	(387)	(96)	(483)
$ (590)		$ 997	$ -	$ -	$ 744	$ (515)	$ 229
$ (88)		$ 2,569	$ 192	$ -	$ 2,106	$ (83)	$ 2,215
88		(2,299)	(189)	-	(1,989)	83	(2,095)
$ -		$ 270	$ 3	$ -	$ 117	$ -	$ 120
$ 169		$ (21,938)	$ -	$ -	$ 11,963	$ 93	$ 12,056
$ (438)		$ (8,945)	$ 3	$ 337	$ 23,625	$ (438)	$ 23,527

See accompanying auditors' report.

Consolidating Schedules of Changes in Net Position

For the Years Ended September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
CUMULATIVE RESULTS OF OPERATIONS:			
Beginning Balance	$ 12	$ 135	$ (189,366)
Prior Period Adjustments	-	-	-
Change in Accounting Principle	-	-	559
Beginning Balance, as Restated	$ 12	$ 135	$ (188,807)
Budgetary Financing Sources:			
Appropriations Used	-	-	20,137
Nonexchange Revenues	-	-	35
Transfers - In/Out Without Reimbursement, Budgetary	(9)	-	(26)
Other Financing Sources:			
Transfers - In/Out Without Reimbursement, Nonbudgetary	-	(19)	234
Imputed Financing from Costs Absorbed by Others	10	1	22
Other	15	7	430
Total Financing Sources	$ 16	$ (11)	$ 20,832
Net Cost of Operations	(1)	94	8,414
Ending Balance - Cumulative Results of Operations	$ 27	$ 218	$ (159,561)
UNEXPENDED APPROPRIATIONS:			
Beginning Balance	$ 15	$ 11	$ 7,309
Change in Accounting Principle	-	-	(161)
Beginning Balance, as Restated	$ 15	$ 11	$ 7,148
Budgetary Financing Sources Related to Appropriations:			
Appropriations Received	-	-	21,182
Appropriations Transferred - In/Out	-	-	39
Other Adjustments	(15)	-	(37)
Appropriations Used	-	-	(20,137)
Total Financing Sources Related to Appropriations	$ (15)	$ -	$ 1,047
Ending Balance - Unexpended Appropriations	$ -	$ 11	$ 8,195

See accompanying auditors' report.

			FY 2001 (Restated)				
Eliminations		Consolidated	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Eliminations	Consolidated
$ -		$ (189,219)	$ 9	$ 1,383	(190,392)	$ -	$ (189,000)
-		-	-	(910)	1,496	-	586
		559					
$ -		$ (188,660)	$ 9	$ 473	$ (188,896)	$ -	$ (188,414)
					-		
-		20,137	-	(1)	18,637	-	18,636
-		35	-	-	65	-	65
-		(35)	(8)	-	(24)	-	(32)
-		215	-	(10)	1,560	-	1,550
-		33	8	1	1,661	-	1,670
(438)		14	6	9	1,256	(438)	833
$ (438)		$ 20,399	$ 6	$ (1)	$ 23,155	$ (438)	$ 22,722
438		8,945	(3)	(337)	(23,625)	438	(23,527)
$ -		$ (159,316)	$ 12	$ 135	$ (189,366)	$ -	$ (189,219)
$ -		$ 7,335	$ 14	$ 10	$ 6,155	$ -	$ 6,179
-		(161)	-	-	-	-	-
$ -		$ 7,174	$ 14	$ 10	$ 6,155	$ -	$ 6,179
-		21,182	-	-	19,807	-	19,807
-		39	-	-	216	-	216
-		(52)	1	-	(232)	-	(231)
-		(20,137)	-	1	(18,637)	-	(18,636)
$ -		$ 1,032	$ 1	$ 1	$ 1,154	$ -	$ 1,156
$ -		$ 8,206	$ 15	$ 11	$ 7,309	$ -	$ 7,335

See accompanying auditors' report.

Combining Schedules of Budgetary Resources

For the Years Ended September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
BUDGETARY RESOURCES			
Budget Authority			
Appropriations Received	$ 3	$ 212	$ 21,820
Borrowing and Contract Authority	$ -	642	-
Net Transfers	$ -	(122)	7
Unobligated Balance			
Beginning of Period	8	231	2,811
Net Transfers, Actual	-	(7)	1
Spending Authority from Offsetting Collections			
Earned			
Collected	184	4,174	2,295
Receivable from Federal Sources	-	(100)	(64)
Change in Unfilled Customer Orders			
Advances received	-	19	(7)
Without Advances from Federal Sources	-	4	179
Recoveries of Prior Year Obligations	-	7	21
Authority Temporarily Not Available	-	-	(40)
Authority Permanently Not Available	-	(308)	(140)
Total Budgetary Resources	$ 195	$ 4,752	$ 26,883
STATUS OF BUDGETARY RESOURCES			
Obligations Incurred			
Direct	$ 194	$ 4,106	$ 21,647
Reimbursable		490	2,241
Total Obligations Incurred	$ 194	$ 4,596	$ 23,888
Unobligated Balances Available			
Apportioned	1	156	1,344
Exempt from Apportionment	-	-	9
Unobligated Balances Not Available	-	-	1,642
Total Status of Budgetary Resources	$ 195	$ 4,752	$ 26,883
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS			
Obligated Balance, Net - Beginning of Period	$ 29	$ 714	$ 9,723
Obligated Balance - End of Period			
Accounts Receivable	$ -	$ (304)	$ (233)
Unfilled Customer Orders from Federal Sources	-	(7)	(2,156)
Undelivered Orders	10	108	9,018
Accounts Payable	24	840	3,898
	$ 34	$ 637	$ 10,527
Outlays			
Disbursements	$ 188	$ 4,762	$ 22,952
Collections	(184)	(4,193)	(2,288)
Subtotal	$ 4	$ 569	$ 20,664
Less: Offsetting Receipts	-	(317)	(2,890)
Net Outlays	$ 4	$ 252	$ 17,774

See accompanying auditors' report.

	FY 2001 (Restated)			
Combined	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Combined
$ 22,035	$ 3	$ 256	$ 20,629	$ 20,888
642	-	260	-	260
(115)	-	(105)	7	(98)
3,050	4	473	2,260	2,737
(6)	-	-	735	735
6,653	175	4,896	2,085	7,156
(164)		45	(7)	38
12	-	29	(16)	13
183	-	(1)	(9)	(10)
28	-	1	24	25
(40)	-	-	(451)	(451)
(448)	-	-	(217)	(217)
$ 31,830	$ 182	$ 5,854	$ 25,040	$ 31,076
$ 25,947	$ 173	$ 5,027	$ 20,741	$ 25,941
2,731		595	1,857	2,452
$ 28,678	$ 173	$ 5,622	$ 22,598	$ 28,393
1,501	9	102	1,535	1,646
9	-	121	10	131
1,642	-	9	897	906
$ 31,830	$ 182	$ 5,854	$ 25,040	$ 31,076
$ 10,466	$ 28	$ 561	$ 8,030	$ 8,619
$ (537)	$ -	$ (405)	$ (296)	(701)
(2,163)	-	(3)	(1,978)	(1,981)
9,136	7	115	7,931	8,053
4,762	22	1,007	4,066	5,095
$ 11,198	$ 29	$ 714	$ 9,723	$ 10,466
$ 27,902	$ 173	$ 5,426	$ 20,894	$ 26,493
(6,665)	(175)	(4,925)	(2,069)	(7,169)
$ 21,237	$ (2)	$ 501	$ 18,825	$ 19,324
(3,207)	-	(228)	(2,489)	(2,717)
$ 18,030	$ (2)	$ 273	$ 16,336	$ 16,607

See accompanying auditors' report.

Consolidating Schedules of Financing

For the Years Ended September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
RESOURCES USED TO FINANCE ACTIVITIES:			
Budgetary Resources Obligated:			
Obligations Incurred	$ 194	$ 4,596	$ 23,888
Less: Spending Authority from Offsetting Collections and Recoveries	(184)	(4,104)	(2,424)
Obligations, Net of Offsetting Collections and Recoveries	$ 10	$ 492	$ 21,464
Offsetting Receipts	-	(317)	(2,890)
Net Obligations	$ 10	$ 175	$ 18,574
Other Resources:			
Imputed Financing from Costs Absorbed by Others	9	1	23
Transfers-In/Out	(9)	(19)	208
NWF Offsetting Receipts, Deferred	-	-	2,034
Other	1	35	510
Net Other Resources Used to Finance Activities	$ 1	$ 17	$ 2,775
Total Resources Used to Finance Activities	$ 11	$ 192	$ 21,349
RESOURCES USED TO FINANCE ITEMS NOT PART OF THE NET COST OF OPERATIONS:			
Change in Resources Obligated for Goods/Services/Benefits Ordered But Not Yet Provided	$ (3)	$ 32	$ (898)
Resources that Finance the Acquisition of Assets	(3)	(354)	(3,150)
Resources that Fund Expenses Recognized in Prior Periods	-	-	(6,064)
Budgetary Offsetting Collections and Receipts that Do Not Affect the Net Cost of Operations	-	-	6
Other Resources and Adjustments	-	(602)	-
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	$ (6)	$ (924)	$ (10,106)
Total Resources Used To Finance The Net Cost of Operations	$ 5	$ (732)	$ 11,243
NET COST OF ITEMS THAT DO NOT REQUIRE OR GENERATE RESOURCES IN CURRENT PERIOD:			
Components Requiring or Generating Resources in Future Periods:			
Increases/(Decreases) in Unfunded Liability Estimates	$ -	$ 2	$ (20,891)
Increase in Exchange Revenue Receivable from the Public	(3)	(9)	6
Total Components Requiring or Generating Resources in Future Periods	$ (3)	$ (7)	$ (20,885)
Components Not Requiring or Generating Resources:			
Depreciation and Amortization	$ 3	$ 433	$ 1,058
Revaluation of Assets and Liabilities	-	-	51
Other	(4)	212	119
Total Components Not Requiring or Generating Resources	$ (1)	$ 645	$ 1,228
Total Net Cost of Items that Do Not Require or Generate Resources in Current Period	$ (4)	$ 638	$ (19,657)
NET COST OF OPERATIONS	$ 1	$ (94)	$ (8,414)

See accompanying auditors' report.

			FY 2001 (Restated)				
Eliminations		Consolidated	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Eliminations	Consolidated
$ -		$ 28,678	$ 173	$ 5,622	$ 22,598	$ -	$ 28,393
-		(6,712)	(175)	(4,970)	(2,077)	-	(7,222)
$ -		$ 21,966	$ (2)	$ 652	$ 20,521	$ -	$ 21,171
-		(3,207)	(1)	(228)	(2,488)	-	(2,717)
$ -		$ 18,759	$ (3)	$ 424	$ 18,033	$ -	$ 18,454
-		33	8	1	1,661	-	1,670
-		180	(8)	(10)	1,536	-	1,518
-		2,034	-	-	1,656	-	1,656
(607)		(61)	(3)	84	(1,122)	(534)	(1,575)
$ (607)		$ 2,186	$ (3)	$ 75	$ 3,731	$ (534)	$ 3,269
$ (607)		$ 20,945	$ (6)	$ 499	$ 21,764	$ (534)	$ 21,723
$ -		$ (869)	$ (2)	$ 11	$ (1,362)	$ -	$ (1,353)
-		(3,507)	-	(344)	(2,370)	3	(2,711)
-		(6,064)	1	1	(5,946)	-	(5,944)
-		6	-	-	(1)	-	(1)
-		(602)	-	(380)	-	-	(380)
$ -		$ (11,036)	$ (1)	$ (712)	$ (9,679)	$ 3	$ (10,389)
$ (607)		$ 9,909	$ (7)	$ (213)	$ 12,085	$ (531)	$ 11,334
$ 169		$ (20,720)	$ -	$ 3	$ 10,100	$ 96	$ 10,199
-		(6)	-	(5)	(10)	-	(15)
$ 169		$ (20,726)	$ -	$ (2)	$ 10,090	$ 96	$ 10,184
$ -		$ 1,494	3	415	1,102	-	1,520
-		51	-	-	(223)	-	(223)
-		327	7	137	571	(3)	712
$ -		$ 1,872	$ 10	$ 552	$ 1,450	$ (3)	$ 2,009
$ 169		$ (18,854)	$ 10	$ 550	$ 11,540	$ 93	$ 12,193
$ (438)		$ (8,945)	$ 3	$ 337	$ 23,625	$ (438)	$ 23,527

See accompanying auditors' report.

Consolidating Schedules of Custodial Activities

For the years ended September 30, 2002 and 2001
($ in millions)

	FY 2002		
	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs
SOURCES OF COLLECTIONS			
Cash Collections			
Interest	$ -	$ -	$ 6
Penalties and Fines	-	-	3
Power Marketing Administration Custodial Revenue	-	496	-
Other Custodial Revenue	16	-	-
Net Collections	$ 16	$ 496	$ 9
Accrual Adjustment	-	23	3
Total Revenue	$ 16	$ 519	$ 12
DISPOSITION OF REVENUE			
Transferred to Others			
Department of the Treasury	$ -	$ (48)	$ (8)
Army Corps of Engineers	(6)	(160)	-
Bureau of Reclamation	(6)	(283)	-
Others	(3)	-	(4)
Increase (Decrease) in Amounts to be Transferred	(1)	(28)	-
Net Custodial Activity	$ -	$ -	$ -

See accompanying auditors' report.

			FY 2001				
Eliminations	Consolidated	Federal Energy Regulatory Commission	Power Marketing Administrations	All Other DOE Programs	Eliminations	Consolidated
$ -	$ 6	$ -	$ -	$ 14	$ -	$ 14
-	3	-	-	3	-	3
-	496	-	424	-	-	424
-	16	15	-	(1)	-	14
$ -	$ 521	$ 15	$ 424	$ 16	$ -	$ 455
-	26	-	(32)	10	-	(22)
$ -	$ 547	$ 15	$ 392	$ 26	$ -	$ 433
$ -	$ (56)	$ (1)	$ (37)	$ (9)	$ -	$ (47)
-	(166)	-	(152)	-	-	(152)
-	(289)	(11)	(175)	(1)	-	(187)
-	(7)	(3)	(2)	(31)	-	(36)
-	(29)	-	(26)	15	-	(11)
$ -	$ -	$ -	$ -	$ -	$ -	$ -

See accompanying auditors' report.

Required Supplementary Stewardship Information

Statement of Federal Financial Accounting Standard Number 8 – "Supplementary Stewardship Reporting Chapter 7 – Research and Development," requires the Department to report expenses for research and development programs that are intended to increase or maintain national economic productive capacity or yield other future benefits in its supplementary stewardship information accompanying the financial statements. Investment in research and development refers to those expenses incurred to support the search for new or refined knowledge and ideas and for the application or use of such knowledge and ideas for the development of new or improved products or processes with the expectation of maintaining or increasing national economic productive capacity or yielding other future benefits.

Supplementary Stewardship Reporting on Research and Development Costs for Fiscal Year ending 9/30/02 (in Millions)

	FY 2002	FY2001	FY2000	FY1999	FY1998
BASIC					
National Nuclear Security Business Line					
Nonproliferation and Verification Research & Development	8	16	13	2	10
Total National Nuclear Security Business Line	$8	$16	$13	$2	$10
Science Business Line					
Advanced Scientific Computing Research	143	115	124	50	122
Basic Energy Sciences	685	593	610	585	572
Biological & Environmental Research	438	321	317	314	304
Fusion Energy Science	236	233	213	197	203
High Energy Physics	672	553	528	549	494
Nuclear Physics	347	301	303	265	206
Other Science Activities	1	1	1	2	---
Small Business Innovative Research/Technology Transfer	76	89	---	84	90
Superconducting Super Collider	---	---	---	---	4
Total Science Business Line	$2,598	$2,206	$2,096	$2,046	$1,995
Energy Resources Business Line					
Building, Technology, State and Community Programs	---	---	3	3	3
Coal Research & Development	4	6	3	3	2
Industrial Technology	---	---	---	---	---
Other Fossil Energy Activities	1	1	---	---	---
Power Marketing Administrations	3	3	1	1	3
Power Technologies	30	26	27	17	27
Transportation Technology	---	---	---	---	---
Total Energy Resources Business Line	$38	$36	$34	$24	$35
Environmental Quality Business Line					
Technology Development	---	34	39	60	57
Total Environmental Quality Business Line	---	$34	$39	$60	$57
TOTAL BASIC	**$2,644**	**$2,292**	**$2,182**	**$2,132**	**$2,097**

Supplementary Stewardship Reporting on Research and Development Costs for Fiscal Year ending 9/30/02 (in Millions)

APPLIED	FY 2002	FY 2001	FY 2000	FY 1999	FY 1998
National Nuclear Security Business Line					
Campaigns	1,346	1,138	---	---	---
Directed Stockpile Work	353	277	---	---	---
Nonproliferation and Verification Research & Development	72	76	66	63	114
Readiness in Technical Base & Facilities	1	1	---	---	---
Stockpile Management	---	---	87	56	37
Stockpile Stewardship	---	---	1,126	1,086	986
Total National Nuclear Security Business Line	$1,772	$1,492	$1,279	$1,205	$1,137
Science Business Line					
Advanced Scientific Computing Research	5	9	13	1	---
Biological & Environmental Research	---	72	62	52	---
Isotope Production and Distribution	---	2	---	---	---
University and Science Education	---	---	---	---	3
Total Science Business Line	$5	$83	$75	$53	$3
Energy Resources Business Line					
Building, Technology, State & Community Programs	20	24	18	25	4
Coal Research & Development	112	96	50	47	49
Gas Research & Development	15	12	48	43	44
Industrial Technology	37	47	27	---	29
Nuclear Energy Plant Optimization Program	5	4	---	---	---
Nuclear Energy Research Initiative	25	23	---	---	---
Nuclear Energy Technologies	3	---	---	---	---
Other Energy Resource Activities	---	---	4	5	5
Other Fossil Energy Activities	5	5	---	---	---
Petroleum Research & Development	21	21	18	13	23
Power Marketing Administrations	11	11	10	10	10
Power Technologies	81	117	97	140	112
Transportation Technologies	42	43	65	59	52
Total Energy Resources Business Line	$377	$403	$337	$342	$328
Environmental Quality Business Line					
Civilian Radioactive Waste Management	63	60	59	59	62
Technology Development	90	78	72	61	115
Total Environmental Quality Business Line	$153	$138	$131	$120	$177
TOTAL APPLIED	**$2,307**	**$2,116**	**$1,822**	**$1,720**	**$1,645**

Supplementary Stewardship Reporting on Research and Development Costs for Fiscal Year ending 9/30/02 (in Millions)

	FY 2002	FY 2001	FY 2000	FY 1999	FY1998
DEVELOPMENT					
National Nuclear Security Business Line					
Fissile Materials Disposition	15	6	50	44	50
Intelligence	4	9	6	4	---
Naval Reactors	653	604	634	589	589
Nonproliferation and Verification Research & Development	69	73	89	95	86
Nuclear Safeguards and Security	---	21	---	---	---
Readiness in Technical Base & Facilities	727	643	---	---	---
Stockpile Stewardship	---	---	498	463	410
Total National Nuclear Security Business Line	$1,468	$1,356	$1,277	$1,195	$1,135
Science Business Line					
Advanced Radioisotope Power System	---	5	30	40	28
Total Science Business Line	---	$5	$30	$40	$28
Energy Resources Business Line					
Building, Technology, State & Community Programs	37	45	36	23	16
Coal Research & Development	107	90	47	44	47
Gas Research & Development	23	17	69	61	66
Industrial Technology	94	115	109	131	92
Nuclear Energy Plant Optimization Program	---	---	1	---	---
Nuclear Energy Research Initiative	---	---	18	6	---
Other Energy Resource Activities	---	---	6	7	9
Other Fossile Energy Activities	6	6	---	---	---
Petroleum Research & Development	32	34	29	22	34
Power Marketing Administrations	9	9	10	12	17
Power Technologies	88	113	77	132	102
Transportation Technology	184	194	193	146	150
Total Energy Resources Business Line	$580	$623	$595	$584	$533
Environmental Quality Business Line					
Civilian Research & Development	---	---	8	---	---
Technology Development	135	117	108	92	57
Termination Costs	---	---	---	82	---
Uranium Programs	---	---	---	1	6
Total Environmental Quality Business Line	$135	$117	$116	$175	$63
TOTAL DEVELOPMENT	**$2,183**	**$2,101**	**$2,012**	**$1,987**	**$1,759**
TOTAL RESEARCH & DEVELOPMENT	**$7,134**	**$6,509**	**$6,016**	**$5,839**	**$5,511**

*** In accordance with SFFAS Number 8 Chapter 7, the Department applied the requirements of SFFAS Number 4 and the full amount invested in research and development was $8,553 in FY 2002, $7,578 in FY 2001, $6,810 in FY2000, $6,701 in FY 1999, and $6,469 in FY 1998.

Required Supplementary Stewardship Information for Research and Development

National Nuclear Security

Campaigns *Applied* - Activities providing the scientific understanding of the nuclear package of the weapons systems in our to sustain our ability to certify the nuclear weapons stockpile, support stockpile refurbishment and life extensions and to provide the capabilities necessary to support maintenance and refurbishment in the absence of nuclear testing.

Directed Stockpile Work *Applied* - Activities providing the scientific understanding and engineering development capabilities necessary to support near-term and long-term requirements of the nuclear stockpile.

Fissile Materials Disposition *Development* - Activities included the development and demonstration of technologies that enable the Department and the world to dispose of surplus weapons effectively.

Intelligence *Development* - Activities associated with assessing science and technologies and accomplishing the Intelligence Program.

Naval Reactors *Development* - Activities included development, demonstration, improvement, and safe operation of nuclear propulsion plants and reactor cores for application to submarines and surface ships.

Nonproliferation & Verification R&D *Basic, Applied & Development* - Activities conducted to provide the science and technology required for treaty monitoring and material control, as well as the early detection and characterization of the proliferation of weapons of mass destruction and special nuclear materials and improving the technologies leading to major improvements in responding to chemical and biological attacks.

Nuclear Safeguards and Security *Development* - activities related to systems development that may be used or shared with other federal agencies and private industry.

Readiness in Technical Base and Facilities *Applied & Development* - Activities ensuring that the weapons complex and its facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile.

Science

Advanced Scientific Computing *Basic & Applied* - Fundamental research was conducted in advanced computing research relevant to complex problems of the Department. Provided world class supercomputer and networking facilities for scientists working on problems important to the Department. Conducted activities to establish the feasibility of novel, energy related concepts spanning the Department's mission. *Applied* - Research activities supported high risk, energy-related research to advance science and technology to enable applications impacting energy economy.

Basic Energy Sciences *Basic* - Research activities carried out in nuclear sciences, materials sciences, chemical sciences, engineering geosciences, energy biosciences, advanced energy projects and advanced mathematical sciences.

Biological and Environmental Research *Basic* - Research activities developed knowledge needed to identify, understand, and anticipate the long term health and environmental consequences of energy production, development, and use.

Fusion Energy Sciences *Basic* - Broad-based, fundamental research efforts aimed at producing knowledge on fusion.

High Energy Physics *Basic* - Fundamental research activities directed at understanding the nature of matter and energy.

Nuclear Physics *Basic* - Research activities were directed at understanding the fundamental forces and particles of nature as manifested in nuclear matter.

Other Science Activities *Basic* - The Energy Research Analyses program evaluated the quality and impact of DOE research programs and projects.

Small Business Innovative Research/Technology Transfer *Basic* - R&D support for energy related technologies that will significantly benefit US businesses, a technology transfer initiative.

Energy Resources

Building Technology, State & Community Programs *Applied & Development* - Activities related to energy conservation for the building sector, including residential building, commercial building and retrofit technologies.

Coal R&D *Basic, Applied & Development* - Activities related to improving acceptable technology for converting coal to liquid and gaseous fuels, improving methods for the direct combustion of coal, and advancing power conversion systems for generating electricity from coal.

Gas R&D *Applied & Development* - Activities carried out in

support of natural gas recovery methods.

Industrial Technology *Applied & Development* - Activities conducted to support energy conservation and energy supply for the industry sector.

Nuclear Energy Plant Optimization *Applied* - Activities carried out to address technical and regulatory barriers to continued safe and economic operation of existing nuclear power plants. Specifically, aging and plant efficiency improvements.

Nuclear Energy Research Initiative *Applied* - Activities carried out to address key issues affecting the future of Nuclear Energy.

Nuclear Energy Technologies *Applied* – Activities carried out to address deployment of the next generation nuclear energy system, changes needed to existing advanced light water reactor designs, initiatives in support of commercialization of advanced gas reactors, deployment of small modular reactors, advanced reactor development and advanced reactor fuel development.

Other Fossil Energy Activities *Basic, Applied & Development* - Cooperative research activities carried out as a result of awards from competitive solicitations initiated under the Fossil Energy Federal/State Program and other research activities relating to mining research.

Petroleum R&D *Applied* & *Development* - Activities conducted to support advanced technologies for the petroleum and oil from oil shale recovery of oil and natural gas, technologies and development in drilling, offshore oil production and refining, and characterization and utilization research.

Power Marketing Administrations *Basic, Applied & Development* - Research activities primarily supported the Fish and Wildlife programs at Bonneville Power Administration.

Power Technologies *Basic, Applied & Development* Research was conducted in solar technologies and other renewable energy programs, including electric energy, geothermal, photovoltaic, hydrogen and hydropower.

Transportation Technology *Applied* & *Development* - Activities conducted in support of energy conservation for the transportation sector, including automotive alternative fuels and electric vehicles.

Environmental Quality

Civilian Radioactive Waste Management *Applied* - Research activities were carried out on the long-term storage of high- level nuclear waste in a permanent underground repository.

Technology Development *Applied & Development* - Activities related to environmental cleanup, waste management and related technologies, technology integration and international technology exchange activities.

Required Supplementary Information

This section of the report provides required supplementary information for the Department on deferred maintenance, budgetary resources by major budget account and intra-governmental balances.

Deferred Maintenance

Deferred maintenance information is a requirement under the Office of Management and Budget's Statement of Federal Financial Accounting Standards Number 6, Accounting for Property, Plant and Equipment and Statement of Federal Financial Accounting Standards Number 14, Amendments to Deferred Maintenance which requires deferred maintenance to be disclosed as of the end of each fiscal year. Deferred maintenance is defined in Standard No. 6 as "maintenance that was not performed when it should have been or was scheduled to be and which therefore, is put off or delayed for a future period." Estimates were developed for:

Buildings and Other Structures and Facilities	$3,062 million
Capital Equipment	$ 11 million
Total	$3,073 million

Buildings, and Other Structures and Facilities

The condition assessment survey (periodic inspections) method was used in measuring a deferred maintenance estimate for buildings and other structures and facilities except for some structures and facilities where a physical barrier was present (e.g., underground pipe systems). In those cases, where a deficiency is identified during normal operations and correction of the deficiency is past due, a deferred maintenance estimate would be applicable. Also, where appropriate, results from previous condition assessments have been adjusted to estimate current plant conditions. Deferred maintenance for excess property was reported only in situations where maintenance is needed for worker and public health and safety concerns.

In accordance with standards identified in the National Association of College and University Business Officers, in "Managing the Facilities Portfolio", the acceptable operation condition standard is equal to a Facility Condition Index (FCI) of ≤ 5 percent.

As of September 30, 2002, an amount of $3,062 million of deferred maintenance was estimated to be required to return the facilities to acceptable operating condition. The percentage of active buildings above acceptable operating condition is estimated at 70 percent.

Capital Equipment

Pursuant to the cost/benefit considerations provided in Statement of Federal Financial Accounting Standards Number 6, the Department has determined that the requirements for deferred maintenance reporting on personal property (capital equipment) is not applicable to property items with an acquisition cost of less than $100,000, except in situations where maintenance is needed to address worker and public health and safety concerns.

Various methods were used for measuring deferred maintenance and determining acceptable operating condition for the Department's capital equipment including periodic condition assessments, physical inspections, review of work orders, manufacturer and engineering specifications, and other methods, as appropriate.

An amount of $11 million of deferred maintenance was estimated to be needed as of September 30, 2002, to return capital equipment assets to acceptable operating condition.

Budgetary Resources by Major Account
For the Year Ended September 30, 2002
($ in millions)

	Fossil Energy R&D 89-0213	Energy Conservation 89-0215	Science 89X0222	Energy Supply 89-0224	Weapons Activities 89-0240
BUDGETARY RESOURCES					
Budgetary Authority	$ 578	$ 897	$ 3,293	$ 663	$ 5,580
Unobligated Balance, Net - Beginning of Period	158	24	9	73	600
Spending Authority from Offsetting Collections		1		668	1,461
Recoveries of Prior Year Obligations	2	4	2	1	1
Authority Temporarily Not Available					
Authority Permanently Not Available			(25)		(18)
Total Budgetary Resources	$ 738	$ 926	$ 3,279	$ 1,405	$ 7,624
STATUS OF BUDGETARY RESOURCES					
Obligations Incurred	$ 478	$ 898	$ 3,270	$ 1,321	$ 6,985
Unobligated Balances Available	260	28	9	75	276
Unobligated Balances Not Available				9	363
Total Status of Budgetary Resources	$ 738	$ 926	$ 3,279	$ 1,405	$ 7,624
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS					
Obligated Balance, Net - Beginning of Period	$ 415	$ 665	$ 1,741	$ 442	$ 1,469
Obligated Balance, Net - End of Period	470	680	1,824	456	1,710
Outlays	421	878	3,185	638	5,281
Less: Offsetting Receipts					
Net Outlays	$ 421	$ 878	$ 3,185	$ 638	$ 5,281

	Defense Environmental Restoration 89-0242	Other Defense Activities 89-0243	Defense Facilities Closure Projects 89-0251	Defense Nuclear Nonproliferation 89-0309	Naval Reactors 89X314
BUDGETARY RESOURCES					
Budgetary Authority	$ 5,295	$ 555	$ 1,107	$ 1,161	$ 688
Unobligated Balance, Net - Beginning of Period	36	41	2	211	1
Spending Authority from Offsetting Collections	4		2		
Recoveries of Prior Year Obligations	3	3		1	
Authority Temporarily Not Available					
Authority Permanently Not Available	(75)		(15)	(1)	
Total Budgetary Resources	$ 5,263	$ 599	$ 1,096	$ 1,372	$ 689
STATUS OF BUDGETARY RESOURCES					
Obligations Incurred	$ 5,236	$ 570	$ 1,094	$ 1,155	$ 688
Unobligated Balances Available	25	28	2	217	1
Unobligated Balances Not Available	2	1			
Total Status of Budgetary Resources	$ 5,263	$ 599	$ 1,096	$ 1,372	$ 689
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS					
Obligated Balance, Net - Beginning of Period	$ 1,836	$ 278	$ 379	$ 483	$ 206
Obligated Balance, Net - End of Period	1,972	299	364	774	200
Outlays	5,093	545	1,107	863	694
Less: Offsetting Receipts					
Net Outlays	$ 5,093	$ 545	$ 1,107	$ 863	$ 694

	Bonneville Power Administration 89X4045	Western Area Power Administration 89X5068	United States Enrichment Corporation Fund 95X4054	All Other Appropriations	Combined Statement of Budgetary Resources
BUDGETARY RESOURCES					
Budgetary Authority	$ 515	$ 172	$ -	$ 2,058	$ 22,562
Unobligated Balance, Net Beginning of Period	121	55	1,239	474	3,044
Spending Authority from Offsetting Collections	3,525	290	19	714	6,684
Recoveries of Prior Year Obligations				11	28
Authority Temporarily Not Available				(40)	(40)
Authority Permanently Not Available	(308)			(6)	(448)
Total Budgetary Resources	$ 3,853	$ 517	$ 1,258	$ 3,211	$ 31,830
STATUS OF BUDGETARY RESOURCES					
Obligations Incurred	$ 3,853	$ 438	$ -	$ 2,692	$ 28,678
Unobligated Balances Available	-	79		510	1,510
Unobligated Balances Not Available			1,258	9	1,642
Total Status of Budgetary Resources	$ 3,853	$ 517	$ 1,258	$ 3,211	$ 31,830
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS					
Obligated Balance, Net - Beginning of Period	$ 487	$ 180	$ 1	$ 1,884	$ 10,466
Obligated Balance, Net - End of Period	414	173	1	1,861	11,198
Outlays	402	154	(19)	1,995	21,237
Less: Offsetting Receipts	(62)			(3,145)	(3,207)
Net Outlays	$ 340	$ 154	$ (19)	$ (1,150)	$ 18,030

Schedule of Intragovernmental Amounts
For Fiscal Year 2002
($ in millions)

Intragovernmental Assets:

Agency	Fund Balance with Treasury	Investments	Accounts Receivable	Regulatory Assets	Other
U.S. Treasury	$ 14,109	$ 17,058	$ 133	$ 4,774	$ -
Defense Agencies	-	-	191	-	-
Tennessee Valley Authority	-	-	9	-	-
General Services Administration	-	-	8	-	-
Other	-	-	129	-	2
Total intragovernmental assets	$ 14,109	$ 17,058	$ 470	$ 4,774	$ 2

Intragovernmental Liabilities:

Agency	Accounts Payable	Debt	Appropriated Capital Owed to Treasury	Deferred Revenues	Other
U.S. Treasury	$ 34	$ 8,027	$ 2,868	$ -	$ 84
Defense Agencies	1	-	-	7	106
Department of Agriculture	16	-	-	-	-
Department of Interior	16	-	-	6	48
Department of State	10	-	-	13	-
General Services Administration	3	-	-	2	-
Office of Personnel Management	2	-	-	-	18
National Aeronautics and Space Administration	12	-	-	5	-
Other	28	-	-	11	16
Total intragovernmental liabilities	$ 122	$ 8,027	$ 2,868	$ 44	$ 272

Intragovernmental Earned Revenue and Related Costs, Transfers, and Non-Exchange Revenues:

Agency	Earned Revenues	Transfers (Out)-Custodial	Transfers In/(Out) - Other	Non-Exchange Revenues
Defense Agencies	$ 1,255	$ (166)	$ (14)	$ -
U.S. Treasury	1,000	(56)	(246)	41
Department of Health & Human Services	117	-	-	-
National Aeronautics and Space Administration	59	-	-	-
Nuclear Regulatory Commission	55	-	(24)	-
Department of the Interior	43	(289)	281	-
Tennessee Valley Authority	42	-	-	-
Other	241	-	(3)	-
Total	$ 2,812	$ (511)	$ (6)	$ 41

Budget Functional Classification	Gross Costs to Generate Revenues
Atomic Energy Defense	$ 1,366
Energy Supply	467
Energy Informatior	13
General Science	5
Total	$ 1,851

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Audit Reports

Department of Energy
Washington, DC 20585

January 21, 2003

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Report on the Department of Energy's Consolidated Financial Statements

This is to inform you that the Department's consolidated financial statements for Fiscal Year 2002 have received an unqualified audit opinion. This is the fourth year in a row that the opinion was unqualified. The audit of the Department's statements was conducted pursuant to the Government Management and Reform Act of 1994. The objective of the Act is to improve financial practices in the Federal Government by issuing audited financial statements for each agency. The preparation of the statements is the responsibility of the Department, and the Office of Inspector General (OIG) is responsible for the audit.

This year, the OIG again contracted with the accounting firm of KPMG LLP to conduct the audit. KPMG is responsible for expressing an opinion on the Department of Energy's consolidated financial statements and reporting on applicable internal controls, and compliance with laws and regulations. In connection with the contract, the OIG monitored audit progress and reviewed the audit report and related documentation. This review disclosed no instances where KPMG LLP did not comply, in all material respects, with generally accepted Government auditing standards. The OIG did not express an independent opinion on the Department's financial statements.

KPMG concluded that the consolidated financial statements present fairly, in all material respects, the Department's financial position as of September 30, 2002, and its net costs, changes in net position, budgetary resources, reconciliation of net costs to budgetary obligations, and custodial activities for the year then ended in conformity with accounting principles generally accepted in the United States of America.

As part of KPMG's determination, the auditors considered internal controls over financial reporting and tested the Department's compliance with certain provisions of applicable laws and regulations that could have a direct and material effect on the consolidated financial statements. The examination revealed two reportable conditions in the Department's system of internal controls. These conditions were:

- The Department has certain network vulnerabilities and general access control weaknesses that could affect unclassified information system security. Without adequate access and computer security controls, the integrity of financial system data may be threatened. As previously reported, full implementation of the Department's Cyber Security Program should help ensure that Federal information standards are met, and that information systems are adequately protected against unauthorized access.

- The Department has made progress improving its performance measurement reporting, but more remains to be done to satisfy the Office of Management and Budget's requirements. Specifically, performance goals, in many cases, were not meaningful or relevant; and, some were not stated in objective or quantifiable terms. Additionally, costs were not clearly related to outcomes. These weaknesses limit the casual reader's ability to properly assess the Department's performance.

Management officials generally concurred with the audit findings and initiated or agreed to initiate specific corrective actions. It should be noted that these conditions represent findings that were also reported in last year's audit report.

I would like to thank all elements of the Department for their courtesy and cooperation during the conduct of the audit.

Attachment

cc: Deputy Secretary
Under Secretary for Energy, Science and Environment
Acting Administrator, National Nuclear Security Administration
Director, Office of Management, Budget and Evaluation/Chief Financial Officer

Audit Report: DOE/IG-FS-03-01

KPMG

2001 M Street, NW
Washington, DC 20036

INDEPENDENT AUDITORS' REPORT

The Inspector General, U.S. Department of Energy:

We have audited the accompanying consolidated balance sheets of the U.S. Department of Energy (Department) as of September 30, 2002 and 2001, and the related consolidated statements of net cost, changes in net position, financing, and custodial activities, and the related combined statements of budgetary resources (hereinafter referred to as "consolidated financial statements"), for the years then ended. The objective of our audits was to express an opinion on the fair presentation of these consolidated financial statements. In connection with our audits, we also considered the Department's internal control over financial reporting and performance reporting and tested the Department's compliance with certain provisions of applicable laws and regulations that could have a direct and material effect on its consolidated financial statements.

Summary

As stated in our opinion on the consolidated financial statements, we concluded that the Department's consolidated financial statements as of and for the years ended September 30, 2002 and 2001 are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America.

Our opinion makes reference to a restatement of the fiscal year 2001 consolidated financial statements, as well as changes in accounting principles implemented in fiscal year 2002. In addition, we note that the cost estimates supporting the Department's environmental remediation liabilities are based upon assumptions regarding future actions and decisions, many of which are beyond the Department's control.

Our consideration of internal control over financial and performance reporting identified reportable conditions with respect to unclassified network and information systems security and performance measurement reporting. However, these reportable conditions are not believed to be material weaknesses.

Our tests of compliance with laws and regulations disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards*, issued by the Comptroller General of the United States, or Office of Management and Budget (OMB) Bulletin No. 01-02, *Audit Requirements for Federal Financial Statements*.

The following sections discuss our opinion on the Department's consolidated financial statements, our consideration of the Department's internal control over financial and performance reporting, our tests of the Department's compliance with certain provisions of applicable laws and regulations, management's responsibilities, and our responsibilities.

KPMG LLP KPMG LLP, a U.S. limited liability partnership, is a member of KPMG International, a Swiss association.

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Independent Auditors' Report, Continued

Opinion on Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of the U.S. Department of Energy as of September 30, 2002 and 2001, and the related consolidated statements of net cost, changes in net position, financing, and custodial activities, and the related combined statements of budgetary resources, for the years then ended.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the U.S. Department of Energy as of September 30, 2002 and 2001, and its net costs, changes in net position, budgetary resources, reconciliation of net costs to budgetary obligations, and custodial activities for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 26 to the consolidated financial statements, the fiscal year 2001 consolidated financial statements have been restated. In addition, as discussed in Note 27 to the consolidated financial statements, during fiscal year 2002 the Department changed its accounting methods for Nuclear Waste Fund investments and the unexpended balance of the United States Enrichment Corporation Fund.

As discussed in Note 15 to the consolidated financial statements, the cost estimates supporting the Department's environmental remediation liabilities of $210 billion and $238 billion, as of September 30, 2002 and 2001, respectively, are based upon assumptions regarding future actions and decisions, many of which are beyond the Department's control. The Department reduced its environmental remediation liabilities during the year ended September 30, 2002, by implementing an accelerated cleanup approach.

The information in the Overview, Required Supplementary Stewardship Information, and Required Supplementary Information sections of the Department's *Fiscal Year 2002 Performance and Accountability Report* is not a required part of the consolidated financial statements, but is supplementary information required by accounting principles generally accepted in the United States of America or OMB Bulletin No. 01-09, *Form and Content of Agency Financial Statements*. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of this information. However, we did not audit this information and, accordingly, we express no opinion on it.

Our audits were conducted for the purpose of forming an opinion on the consolidated financial statements taken as a whole. The information in the Consolidating Schedules section is presented for purposes of additional analysis of the fiscal year 2002 and fiscal year 2001 consolidated financial statements, rather than to present the financial position, net cost, changes in net position, budgetary resources, reconciliation of net costs to budgetary obligations, and custodial activities of the Department's components individually. The information in the Consolidating Schedules section has been subjected to the auditing procedures applied in the audits of the fiscal year 2002 and fiscal year 2001 consolidated financial statements and, in our opinion, is fairly stated in all material respects in relation to the consolidated financial statements taken as a whole.

Internal Control over Financial and Performance Reporting

Our consideration of internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be reportable conditions. Under standards issued by the American Institute of Certified Public Accountants, reportable conditions are matters coming to our attention relating to significant deficiencies in the design or operation of the internal control over financial reporting that, in our judgment, could adversely affect the Department's ability to record, process, summarize, and report financial data consistent with the assertions by management in the consolidated financial statements.

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Independent Auditors' Report, Continued

Material weaknesses are reportable conditions in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements, in amounts that would be material in relation to the financial statements being audited, may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

With respect to the design of internal controls relating to the existence and completeness assertions for the performance measures reported in the Overview, a reportable condition in internal control over performance reporting is a matter that, in our judgment, could adversely affect the Department's ability to collect, process, record, summarize, and report performance information in accordance with management's criteria.

In our fiscal year 2002 audit, we noted certain matters, described below and in more detail in Exhibit I, involving internal control over financial reporting and its operation and internal control over performance reporting that we consider to be reportable conditions. However, these reportable conditions are not believed to be material weaknesses.

Unclassified Network and Information Systems Security – We noted network vulnerabilities and weaknesses in access and other security controls in the Department's unclassified computer information systems. Without adequate access and computer security controls, the integrity of essential financial management system data may be threatened. The Department should continue to improve network and information systems security.

Performance Measurement Reporting – The Department's performance reporting for fiscal year 2002 contains certain deficiencies, most of which were noted in previous audits, that limit the reader's ability to properly assess the Department's performance. The Department plans to continue improving its performance measurement reporting in response to feedback from OMB, the U.S. General Accounting Office, the Department's Office of Inspector General, and the U.S. Congress.

A summary of the status of prior year reportable conditions is included as Exhibit II.

We also noted other matters involving internal control over financial reporting and its operation that we will report to Departmental management in separate letters addressing financial and information technology matters.

Compliance with Laws and Regulations

Our tests of compliance with certain provisions of laws and regulations, as described in the Responsibilities section of this report, exclusive of the *Federal Financial Management Improvement Act of 1996* (FFMIA), disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards* and OMB Bulletin No. 01-02.

Our tests of FFMIA disclosed no instances in which the Department's financial management systems did not substantially comply with the three requirements discussed in the Responsibilities section of this report.

Responsibilities

Management's Responsibilities. The *Government Management Reform Act of 1994* (GMRA) requires each Federal agency to report annually to Congress on its financial status and any other information needed to fairly present its financial position and results of operations. To meet the GMRA reporting requirements, the Department prepares annual consolidated financial statements.

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Independent Auditors' Report, Continued

Management is responsible for:

- Preparing the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America;
- Establishing and maintaining internal control over financial reporting, and preparation of the Overview (including the performance measures), the Required Supplementary Stewardship Information, and the Required Supplementary Information; and
- Complying with laws and regulations, including FFMIA.

In fulfilling these responsibilities, estimates and judgments by management are required to assess the expected benefits and related costs of internal control policies. Because of inherent limitations in internal control, misstatements due to error or fraud may nevertheless occur and not be detected.

Auditors' Responsibilities. Our responsibility is to express an opinion on the fiscal year 2002 and fiscal year 2001 consolidated financial statements of the Department based upon our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, and OMB Bulletin No. 01-02. Those standards and OMB Bulletin No. 01-02 require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement.

An audit includes:

- Examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements;
- Assessing the accounting principles used and significant estimates made by management; and
- Evaluating the overall consolidated financial statement presentation.

We believe that our audits provide a reasonable basis for our opinion.

In planning and performing our fiscal year 2002 audit, we considered the Department's internal control over financial reporting by obtaining an understanding of the Department's internal control, determining whether internal controls had been placed in operation, assessing control risk, and performing tests of controls to determine our auditing procedures for the purpose of expressing our opinion on the consolidated financial statements. We limited our internal control testing to those controls necessary to achieve the objectives described in OMB Bulletin No. 01-02 and *Government Auditing Standards*. We did not test all internal controls relevant to operating objectives as broadly defined by the *Federal Managers' Financial Integrity Act of 1982*. The objective of our audit was not to provide assurance on internal control over financial reporting and, accordingly, we do not provide an opinion thereon.

As required by OMB Bulletin No. 01-02, we considered the Department's internal control over the Required Supplementary Stewardship Information by obtaining an understanding of the Department's internal control, determining whether controls had been placed in operation, assessing control risk, and performing tests of controls. Our procedures were not designed to provide assurance on internal control over the Required Supplementary Stewardship Information and, accordingly, we do not provide an opinion thereon.

As further required by OMB Bulletin No. 01-02, with respect to internal control related to performance measures reported in the Overview, we obtained an understanding of the design of significant internal controls relating to the existence and completeness assertions. Our procedures were not designed to provide

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Independent Auditors' Report, Continued

assurance on internal control over performance reporting and, accordingly, we do not provide an opinion thereon.

As part of obtaining reasonable assurance about whether the Department's fiscal year 2002 financial statements are free of material misstatement, we performed tests of the Department's compliance with certain provisions of laws and regulations, noncompliance with which could have a direct and material effect on the determination of financial statement amounts, and certain provisions of other laws and regulations specified in OMB Bulletin No. 01-02, including certain provisions referred to in FFMIA. We limited our tests of compliance to the provisions described in the preceding sentence, and we did not test compliance with all laws and regulations applicable to the Department. Providing an opinion on compliance with laws and regulations was not an objective of our audit and, accordingly, we do not express such an opinion.

Under OMB Bulletin No. 01-02 and FFMIA, we are required to report whether the Department's financial management systems substantially comply with (1) Federal financial management systems requirements, (2) applicable Federal accounting standards, and (3) the United States Government Standard General Ledger at the transaction level. To meet this requirement, we performed tests of compliance with FFMIA section 803(a) requirements.

Distribution

This report is intended for the information and use of the Department's management, the Department's Office of Inspector General, OMB, and the U.S. Congress, and is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

December 31, 2002

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Independent Auditors' Report
Exhibit I – Reportable Conditions

Unclassified Network and Information Systems Security

We noted network vulnerabilities and weaknesses in access and other security controls in unclassified information systems.

Finding 1: Network Security

The Department maintains a series of interconnected unclassified networks and information systems. Federal and Departmental directives require the establishment and maintenance of security over unclassified information systems, including financial management systems. Past audits identified significant weaknesses in selected systems and devices attached to the computer networks at some Department sites. The Department has implemented certain corrective actions to improve network security at the sites we reviewed in prior years. However, we identified significant weaknesses at all four sites we reviewed in fiscal year 2002. At all of these sites, we identified network vulnerabilities similar to those found at other sites in previous years, including poor password management, weak configuration management, and outdated software with known security problems. In addition, many previously identified weaknesses have not been resolved.

The identified weaknesses and vulnerabilities increase the risk that malicious destruction or alteration of data or unauthorized processing could occur. Because of our concerns, we performed supplemental procedures and identified compensating controls that mitigate their potential effect on the integrity of the Department's financial systems.

Recommendation:

We recommend that the Department's Chief Information Officer take actions to improve network security throughout the Department. Detailed recommendations to address the issues discussed above will be included in a separate report to the Chief Information Officer.

Finding 2: Information Systems Access and Other Security Controls

The Department has mandated compliance with several Federal information security directives and public laws in DOE Notice 205.1, *Unclassified Computer Security Program*, dated July 26, 1999. The Notice also establishes policies for the protection of unclassified information and information systems. Within this security framework, the Department operates the financial management systems that form the basis for preparing its consolidated financial statements.

Our audit disclosed weaknesses in access and other security controls at several sites. These weaknesses included ineffective physical access controls, inadequate monitoring of networks for questionable activity, deficiencies in restriction and review of user privileges, insufficient segregation of incompatible privileges, and shortcomings in password security. We also identified weaknesses in security planning, including inadequate identification of critical and sensitive systems and applications, and outdated or nonexistent risk assessments and security certifications for support systems and major applications. Finally, we noted inadequate planning for re-establishment of computer operations following a disruption. For example, some sites had arranged for backup processing facilities but had not tested those facilities, and others had not finalized or tested disaster recovery plans. The Department's Office of Inspector General also reported deficiencies in the Department's network and information system risk management, contingency planning, configuration management, and access controls in its evaluation report on *The Department's Unclassified Cyber Security Program*, dated September 9, 2002.

KPMG

Independent Auditors' Report
Exhibit I – Reportable Conditions, Continued

Without adequate access and computer security controls, the integrity of essential financial management system data may be threatened. Because of our concerns, we performed supplementary audit procedures and identified compensating controls that mitigate the potential effect of these security weaknesses on the integrity of the Department's financial systems. However, we did not address the potential effect of the security weaknesses on the integrity of the Department's non-financial systems.

Recommendation:

As recommended in the prior year, the Department's Chief Information Officer should follow up on the implementation of its Cyber Security Program throughout the Department to ensure that the Federal information security standards are met and that its networks and information systems are adequately protected against unauthorized access. Detailed recommendations to address the issues discussed above will be included in a separate report to the Chief Information Officer.

KPMG

Independent Auditors' Report
Exhibit I – Reportable Conditions, Continued

Performance Measurement Reporting

Statement of Federal Financial Accounting Standards (SFFAS) No. 15, *Management's Discussion and Analysis*, requires Federal agencies to include, in documents presenting their financial statements, discussion and analysis of the financial statements and related information. This discussion should provide a clear and concise description of the reporting entity, its mission, activities, accomplishments, and overall financial condition and results. It should also include information on whether and how the mission of the reporting entity is being accomplished.

The Department presents performance measurement data and other information required by SFFAS No. 15 for each of its principal programs in the Overview section of its *Fiscal Year 2002 Performance and Accountability Report*. This performance measurement data is based primarily upon information from the Department's *Strategic Plan* and the revised final goals for fiscal year 2002 published in the *Fiscal Year 2003 Annual Performance Plan*, which were prepared under the requirements of the *Government Performance and Results Act of 1993*.

Prior audits of the Department's consolidated financial statements have reported that the usefulness of many programmatic performance measures presented in the Overview was limited. Management has generally concurred with our recommendations and has agreed to improve the utility of performance information and its presentation. The Department has made progress in resolving performance reporting issues, but more remains to be done.

Finding 3: Performance Measurement Reporting

The OMB requires that management's discussion and analysis, which the Department calls the Overview, include explicit measures of program performance, including outputs and outcomes that are linked to the programs presented in the consolidated statement of net cost. To be useful, performance measures should be output or outcome oriented, meaningful and relevant, objective and quantifiable, and consistent with the measures developed in the strategic planning process. Performance measures should also be described in terms understandable to a non-technical audience.

The Department's performance reporting for fiscal year 2002 contains the following deficiencies, most of which were noted in previous audits:

- We identified problems with some of the Department's performance measures, called annual performance targets. Specifically, many of the performance targets were not stated in objective terms or quantified so that the level of output or the outcome could be determined. Several performance targets were not written in understandable terms.

- Program performance was not linked to financial results beyond aggregate business line cost, full-time equivalents, and net budget authority. Although the notes to the consolidated financial statements provide net costs for significant subprograms and offices within each business line, these net costs, in many cases, cover more than one performance target. Accordingly, the Department does not provide cost information in sufficient detail to allow the reader to determine the cost effectiveness of the Department's efforts to achieve its performance targets.

These deficiencies limit the reader's ability to properly assess the Department's performance.

The Department has made progress in providing a balanced collection of performance targets to help the reader obtain a complete understanding of how the reported programs performed, and has made organizational changes and implemented processes to address its performance reporting deficiencies in future

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Independent Auditors' Report
Exhibit I – Reportable Conditions, Continued

years. For example, in fiscal year 2002, the Department: (1) established the Office of Program Analysis and Evaluation to provide independent analytical advice regarding the planning, execution, evaluation, and measurement of the effectiveness of Energy missions and programs by developing, implementing, and managing the Department-wide Strategic Management System; (2) issued a new Departmental policy on performance measures, designed to provide clear terminology and criteria for developing performance measures; (3) implemented a training program for managers to improve performance reporting; and (4) is developing a new business management system that will provide the foundation for capturing and reporting integrated budget, cost, and performance data. However, the Department has not yet revised all of its performance targets to fully meet OMB's requirements.

Management has indicated that its planned fiscal year 2003 changes to the performance measurement reporting process will be responsive to our recommendations and will be more responsive to feedback the Department has received from OMB, the U.S. General Accounting Office, and the U.S. Congress.

Recommendation:

We recommend that the Department's Chief Financial Officer continue to improve the development, presentation, and systems for reporting of performance measures consistent with the *Government Performance and Results Act*, applicable OMB guidance, and Federal accounting standards. Making these improvements will require cooperation from all areas within the Department.

Department of Energy
Washington, DC 20585
January 21, 2003

KPMG LLP
2001 M Street, NW
Washington, DC 20036

I am providing this letter in connection with your audit of the United States Department of Energy's (the Department) consolidated balance sheet as of September 30, 2002, and the related consolidated statements of net costs, changes in net position, financing, and custodial activities, and the related combined statement of budgetary resources, for the year then ended. We have reviewed your Independent Auditors' Report and provide the following responses to your recommendations.

Finding 1: Network Security

Auditors' Recommendation:

The Department's Chief Information Officer take actions to improve network security throughout the Department.

Management Response:

The Chief Information Officer (CIO) concurs with this recommendation. The CIO is committed to ensuring that the Department's cyber assets are adequately protected commensurate with the risk and is aggressively pursuing Department-wide solutions to enhance network security. The CIO Office of Cyber Security has been restructuring its cyber security program and developing and promulgating new policies, orders, manuals, and other guidance to support the integrated Cyber Security Management Program, to establish roles and responsibilities for cyber security, and to provide a common series of cyber security processes for use across the Department. This guidance provides a common framework for the Department sites to tailor their cyber security programs to the unique mission and technology environments at each site. Each organization is required to manage risk by assessing impacts to business operations and implementing effective controls consistent with the cyber security directives and commensurate with the assessed level of risk. The appropriateness and effectiveness of these risk management controls will be reflected in the individual certification and accreditation documentation and the Office of Cyber Security's performance metrics program. The directives identifying these processes are currently in management review and should be published by the 4th Quarter of FY 2003. Once in place, the processes established by these directives are designed to systematically integrate cyber security into management and work practices at all levels. This is predicated on a formal documented risk management process designed to ensure that missions are accomplished while appropriately protecting electronic information and information systems.

Finding 2: Information Systems Access and Other Security Controls

Auditors' Recommendation:

The Department's Chief Information Officer should follow up on the implementation of its Cyber Security Program throughout the Department, to ensure that the Federal information security standards are met and that its information and information systems are adequately protected against unauthorized access.

Management Response:

The CIO concurs with this recommendation. The CIO has an ambitious program in place to identify and correct cyber security shortfalls on an enterprise-wide basis. In December 2001, the CIO developed a Cyber Security Performance Improvement Plan Database to track the progress of actions taken to correct cyber security weaknesses across the Department down to the site level. This information is used to develop the Department's quarterly Program of Action and Milestones submission to the Office of Management and Budget as required by the Government Information Security Reform Act and to provide regular updates to Program Offices and senior Departmental management on the status of corrective actions. In addition, to assure that Cyber Security Program processes are being integrated correctly, the CIO Office of Cyber Security is implementing an Independent Verification and Validation (IV&V) Program and an updated metrics program to improve performance measurement. The IV&V program will be implemented after implementation of the cyber security program processes described in the new directives.

Finding 3: Performance Measurement Reporting

Auditors' Recommendation:

The Department's Chief Financial Officer should continue to improve the development, presentation, and systems for reporting of performance measures consistent with the *Government Performance and Results Act*, applicable OMB guidance, and Federal accounting standards.

Management Response:

While we have taken significant actions, which are summarized below, to improve performance measures in the Department, the Chief Financial Officer (CFO) concurs with the auditors' recommendation that we continue to make improvements in the development and reporting of performance measures. In November 2001, the CFO established the Office of Program Analysis and Evaluation (PA&E) to provide corporate leadership over Departmental performance measurement efforts.

Major accomplishments in FY 2002 include issuance of new Departmental performance measurement policy to provide consistent application of sound performance measurement principles and practices; establishment of a formal training program to facilitate the development and reporting of clear and quantifiable performance goals and measures in

conjunction with the budget process; implementation of new performance tracking software to improve reporting and analysis capabilities and facilitate the collection of more useful information for management decision-making; integration of performance plans with the FY 2003 and FY 2004 budgets; use of performance information to support budget decision-making; and submission of the initial FY 2004 Annual Performance Plan to OMB with improved performance targets linked to the Department's budget submission.

Critical to continuous improvement in the area of performance measurement reporting in FY 2003 and the outyears will be a multi-year, multi-faceted, comprehensive upgrade of the Department's business management systems. Known as I-MANAGE (for Integrated Management Navigation System), this initiative will consolidate and streamline Department-wide efforts to integrate financial, budgetary, procurement, personnel, program, and performance information. When the system is fully functional, each manager within the Department will use the system's central data warehouse as a "knowledge bank" of information about portfolios, programs, or projects including budget execution, accumulated costs, performance achieved, and critical milestones met.

Finally, in addition to the actions described above, the CFO has taken a proactive leadership role in communicating to the Department program offices an urgent sense of purpose for improving the quality of performance measures to support the President's Management Agenda Initiative on Budget and Performance Integration.

Sincerely,

Bruce M. Carnes
Chief Financial Officer

Inspector General's Report on Management Challenges

The Reports Consolidation Act of 2000 requires that the Office of Inspector General identify what it considers to be the most serious management and performance challenges facing the Department. As in the past, the methodology employed by the office relies on recent and ongoing audit, inspection, and investigation work. The process places great emphasis on identifying those programs and operations with demonstrated performance problems and those that are, in our judgment, inherently the most difficult to manage. In FY 2002, the *President's Management Agenda* was developed and included five government-wide initiatives for improving the management and performance of the federal government. In addition, the Department was responsible for the agency-specific reform initiative of Better Research and Development Investment Criteria. This year's report identifies the relationship between the OIG's list of management challenges and the initiatives in the *President's Management Agenda*.

The OIG believes the most serious challenge areas that the Department will need to address in 2003 and beyond are:

- Contract Administration,
- Electronic Commerce,
- Environmental Stewardship,
- National Security,
- Performance Management,
- Stockpile Stewardship, and
- Worker/Community Safety.

This list of challenges parallels the list of years past with a few exceptions. Some challenges have shifted focus due to the changing situations worldwide. In the wake of September 11, 2001, the Department has increasingly focused on its overarching mission of national security. Virtually every program office within the Department, therefore, is active in one way or another to ensure the national security and the Department now faces a complex set of challenges related to defending against worldwide threats.

The Department has taken steps to address a number of the *President's Management Agenda* initiatives and previously reported Office of Inspector General management challenges. Through its efforts, we have noted progress in the areas of Human Capital, Better Research and Development Investment Criteria, and Energy Supply. Management reports that several initiatives have been implemented, including the development of a comprehensive human capital management strategy to serve as a baseline for workforce demographics for future change; development of applied research and development investment criteria; and a shift toward high-risk, longer-range activities with the potential for large payoffs in energy science research. Because of the improvements made in these areas, they have been excluded from the OIG's current list of challenges for

FY 2003. We recognize, however, that these areas will continue to challenge the Department for many years to come and plan to revisit them in the future. The Department also develops its own inventory of the most serious problems in accordance with the Federal Managers' Financial Integrity Act. This has resulted in a list of challenges that is similar to the list developed by the Office of the Inspector General.

The Office of Inspector General looks forward to continuing its work with the Department's senior staff in an effort to improve Department programs and operations, particularly as they relate to the management challenge areas.

Management's Response to Audit Reports

The Department responds to audit reports by evaluating the recommendations they contain, formally responding to the Inspector General (IG), and implementing agreed-upon corrective actions. In some instances, we are able to take corrective action immediately and in others, action plans with long-term milestones are developed and implemented. This audit resolution and follow-up process is an integral part of the Department's effort to deliver its priorities more effectively and at the least cost. Actions taken by management on audit recommendations increase both the efficiency and effectiveness of our operations and strengthen our standards of accountability. The Inspector General Act, as amended, requires that we report on the status of our progress in implementing these corrective actions semiannually. We are fulfilling that requirement by providing that information for the entire fiscal year in this section.

During Fiscal Year 2002, the Department took final action on 51 IG reports with the agreed-upon actions that were open after one year and had taken final action on eight IG operational, financial, and pre-award audit reports. At the end of the period, 97 reports awaited final action. Some of these reports contain recommendations to change our operations in order to save funds that could be reapplied elsewhere in the future.

Also during this period, there were no management decisions made on three IG contract audit reports. At the end of the fiscal year, there were four contract audit reports pending final action.

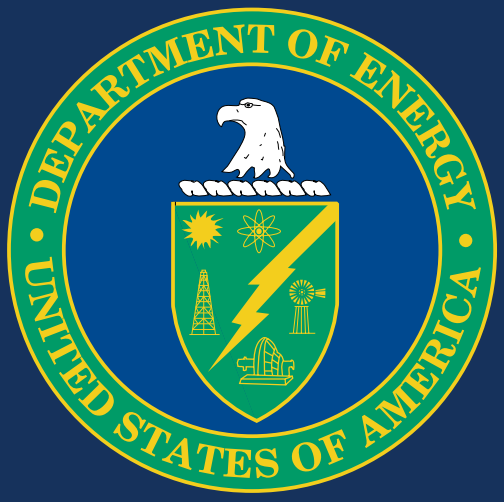
General Accounting Office Audit Reports

The U.S. General Accounting Office (GAO) audits are a major component of the Department's audit follow-up program. During FY 2002, we received 55 audit start notifications and were issued three drafts and 21 final GAO audit reports. Of the 21 final reports, 12 required tracking of corrective actions and nine did not because the reports did not include actions to be taken by the Department. In addition, we completed agreed-upon corrective actions on 11 audit reports. At the end of FY 2002, there were 13 GAO reports with agreed upon actions open after one year.

Status of Final Action on IG Audit Reports for FY 2002

The table below provides more detail on the audits reports with open actions and the dollar value of recommendations that funds "be put to better use" that were agreed to by management.

Audit Reports	Number of Reports	Agreed-Upon Funds Put to Better Use ($ in Millions)
Pending final action at the beginning of the period	96	$178
With actions agreed upon during the period	59	$ 66
Total pending final action	155	$ 244
Achieving final action during the period	58	$173
Requiring final action at the end of the period	97	$ 70


DEPARTMENT OF ENERGY
UNITED STATES OF AMERICA