

FY 2009



U.S. DEPARTMENT OF **ENERGY**



~~*Working to Save
the Planet*~~

ANNUAL PERFORMANCE REPORT

DOE/CF-0044

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INTRODUCTION

The Department of Energy (Department or DOE) is pleased to present its *Annual Performance Report (APR)* which outlines the Department's performance in fiscal year 2009 against the goals that were set in the President's fiscal year 2009 budget. The performance measures discussed in this report were outlined in the Department's congressional budget justifications and carried through the actual execution of the budget during the fiscal year. Because these measures were created before final congressional allocations, in some cases the actual appropriation levels did not match the Department's request and may have affected a program's ability to meet its planned performance level. Performance information is also presented for projects funded by the American Recovery and Reinvestment Act of 2009.

This report fulfills the requirements of the Government Performance and Results Act (GPRA), the Office of Management and Budget's (OMB) Circular A-136, Financial Reporting Requirements, and OMB's annual budget preparation guidance Circular A-11.

DOE's annual financial and performance reporting is comprised of three components:

- ❖ ***Agency Financial Report (AFR)*** – contains all of the required financial statements, accompanying notes, independent auditor's report, Inspector General and management challenges, and management discussion and analysis (MD&A). The MD&A section includes an analysis of the financial statements, management controls and compliance information, as well as a high-level discussion of Department performance as it relates to DOE's major priorities.
- ❖ ***Annual Performance Report (APR)*** – focuses on detailed performance information including performance targets associated with the Department's budget activities. The report discusses individual and summary performance measure results through narrative descriptions with references to supporting documentation, a concise statement on high-level program challenges and benefits, and the status of all FY 2008 unmet measures.
- ❖ ***Summary of Performance and Financial Information*** – a concise report on the Department's financial results and performance information from the *AFR* and *APR*. It addresses both recent accomplishments and challenges for the Department.

All three of these reports are accessible through the DOE website
www.energy.gov/about/budget.htm

MISSION

Discovering the solutions to power and secure America's future

The Department of Energy has been operating under a strategic plan that was formulated in 2006. Since the arrival of Secretary Chu at the Department with the new administration during FY 2009, priorities have been shifted to align with President Obama's agenda. The Department is currently working on a new strategic plan and expects to finalize it during calendar year 2010. The following table illustrates the relationship between the 2009 Secretarial Priorities and the 2006 Strategic Plan.

2009 SECRETARIAL PRIORITIES	2006 STRATEGIC THEMES
<ul style="list-style-type: none"> • <i>Science, Discovery and Innovation</i> 	<ul style="list-style-type: none"> • <i>Scientific Discovery and Innovation</i>
<ul style="list-style-type: none"> • <i>Economic Prosperity</i> • <i>Clean, Secure Energy</i> 	<ul style="list-style-type: none"> • <i>Energy Security</i>
<ul style="list-style-type: none"> • <i>National Security</i> 	<ul style="list-style-type: none"> • <i>Nuclear Security</i> • <i>Environmental Responsibility</i>
	<ul style="list-style-type: none"> • <i>Management Excellence</i>

MESSAGE FROM THE SECRETARY



I am pleased to present the Department of Energy's *Fiscal Year 2009 Annual Performance Report*. This report presents the Department's performance information for Congress and the American people. It summarizes our efforts to accomplish our mission of "Discovering the solutions to power and secure America's future." This report is one of three integrated reporting components. The other two reports, the *FY 2009 Agency Financial Report* and the *FY 2009 Summary of Performance and Financial Information*, are available on our web site at Energy.gov.

In response to this difficult economic period, the Department of Energy is making critical investments in a multi-year effort to address the interconnected challenges of economic uncertainty, U.S. dependence on oil, and the threat of a changing climate. Meeting these challenges will require both swift action in the near-term and a sustained commitment for the long-term to build a new economy powered by clean, reliable, affordable, and secure energy.

Near-term action to stimulate the economy came from the American Recovery and Reinvestment Act of 2009, which was signed into law by President Obama on February 17, 2009. It is an unprecedented effort to jumpstart our economy and create or save millions of jobs. The Recovery Act also made a down payment on our clean energy future. In fiscal year 2009, the Department of Energy received nearly \$37 billion through the Recovery Act to complement the base appropriation of \$34 billion. The base appropriation increased by over \$9 billion from the FY 2008 level due to additional funding of the Advanced Technology Vehicles Manufacturing Loan program and numerous science, energy, and national security initiatives.

The short-term impact of the Recovery Act combined with the new approaches and long-term vision of this Administration are beginning to lay the groundwork for a new clean energy economy. These investments are crucial to ensuring America can compete for the jobs of the future and lead the world in a new Industrial Revolution in clean energy.

Since assuming my new role as the Secretary of Energy this year, one of my top priorities has been to amplify the fundamental research undertaken by the Office of Science with novel approaches to solving the nation's energy problems. While the Department has made important contributions over the years, we are still confronted by the fundamental problem of energy security and the looming threat of climate change. To address these challenges, the Department is launching three initiatives designed to cover the spectrum of basic to applied science to maximize our chances of advanced energy technology breakthroughs:

- Energy Frontier Research Centers – small-scale collaborations, predominantly at universities, that focus on overcoming known hurdles in basic science that block energy breakthroughs, versus developing energy technologies themselves;

- Advanced Research Projects Agency-Energy – a highly entrepreneurial funding model that explores potentially revolutionary technologies that are too risky for industry to fund; and
- Energy Innovation Hubs – multi-disciplinary, highly collaborative teams ideally working under one roof to solve priority technology challenges, such as artificial photosynthesis (creating fuels from sunlight).

Based on our internal evaluations, I can provide reasonable assurance that the performance information contained in this report is complete and reliable and accurately describes the results achieved by the Department.

As Secretary, I assure you that Department of Energy employees take their work seriously, and I applaud their efforts. We have set ambitious goals and stand ready to meet the challenges of today and the future.



Steven Chu
February 15, 2010

PERFORMANCE BACKGROUND

Performance Framework

The Department of Energy's performance programs are designed to achieve well-defined outcome goals that support the President's national objectives and the Department's strategic priorities. The Department uses a performance framework approach in developing program performance metrics to ensure that the right data are measured and to inform program managers, senior leaders, and stakeholders on the progress being made toward the strategic goals. The performance framework is a hierarchical relationship from the Department mission to individual performance standards, as follows:

- The **Mission** of the Department of Energy is "*Discovering the solutions to power and secure America's future.*"
- To accomplish the mission, the Department focuses on four supporting **Secretarial Priorities**: Science, Discovery and Innovation; Economic Prosperity; Clean, Secure Energy; and National Security.
- The Department has established seven **High Priority Performance Goals** which represent the top priorities for the agency and the current administration and align with the secretarial priorities.
- Each program area within the Department has clearly defined **Program Goals** that also align with the secretarial priorities.
- Annual program **Performance Measures** and associated output and outcome targets support achievement of the program goals.
- Individual Employee and Contractor **Performance Standards** are linked directly to specific performance measures to ensure that individuals are held accountable for achieving results.

Performance Validation and Verification

Validation and verification of performance data support the general accuracy and reliability of performance information, reduce the risk of inaccurate performance data, and provide a sufficient level of confidence that the information presented is credible. Internal controls are used by the Department to meet these requirements, as follows:

- **Reviews/ Audits**: The program offices, the national laboratories, and the Department's contractor work force maintain source data substantiating performance results. The Department internally reviews these performance data and results, while independent auditors evaluate key internal controls related to performance reporting.
- **Budget Preparation Analysis**: Performance targets submitted at each phase of budget development are reviewed to ensure that they contribute effectively to the achievement of program goals and are aligned with the Department's strategic priorities.

- **Training:** The Department provides quarterly training to employees to assist them in formulating quality performance measures that meet internal control standards.

- **Performance Measure Manager System:** The Performance Measure Manager (PMM) is a performance-management database that organizes annual performance measures into various hierarchical structures to show the relationship between individual performance targets and overall departmental performance. Departmental program and staff offices input performance measures and results directly into PMM on a quarterly basis. This system is then used to produce the “Performance Measures Details” section of this report.

HIGH PRIORITY PERFORMANCE GOALS

High Priority Performance Goals are intended to focus leadership's attention on top Administration and Departmental priorities and promote better coordination across agencies on key performance priorities. These efforts are being reviewed and monitored by the White House, Office of Management and Budget (OMB), the President's Management Council (PMC) and the Performance Improvement Council (PIC).

A "high priority performance goal" is a measurable commitment to a specific result the federal government will deliver for the American people. These goals:

- Represent high priorities for the agency and the administration and have high relevance to the public or reflect the achievement of key agency missions;
- Rely predominantly on the effectiveness of agency implementation for achievement, including program leadership, planning and design, internal and external coordination, performance and personnel management, and operational efficiency; and
- Will produce significant, measurable results during FY 2010 and FY 2011.

The Department's high priority goals were established in FY 2009, as follows:

- Double renewable energy generating capacity (excluding conventional hydropower) by 2012;
- Assist in the development and deployment of advanced battery manufacturing capacity to support 500,000 plug-in hybrid electric vehicles a year by 2015;
- Commit conditionally to loan guarantees for two nuclear power facilities to add new low-carbon emission capacity of at least 3,800 megawatts during 2010;
- DOE and the Department of Housing and Urban Development will work together to enable the cost-effective energy retrofits of a total of 1.1 million housing units through FY 2011; of this number, DOE programs will contribute to retrofits of an estimated 1 million housing units;
- Make significant progress towards securing the most vulnerable nuclear materials worldwide within 4 years;
- Maintain the U.S. nuclear weapons stockpile and dismantle excess nuclear weapons to meet national nuclear security requirements as assigned by the President through the Nuclear Posture Review; and
- Reduce the Cold War legacy waste site footprint by 40%, from 900 square miles to 540 square miles by 2011.

PERFORMANCE BY SECRETARIAL PRIORITY

The following performance discussion is aligned with the Secretary's new priorities and objectives in order to provide a bridge between the 2006 Strategic Plan and a future plan that is currently being formulated. The new priorities include: Science, Discovery and Innovation; Economic Prosperity; Clean, Secure Energy; National Security.

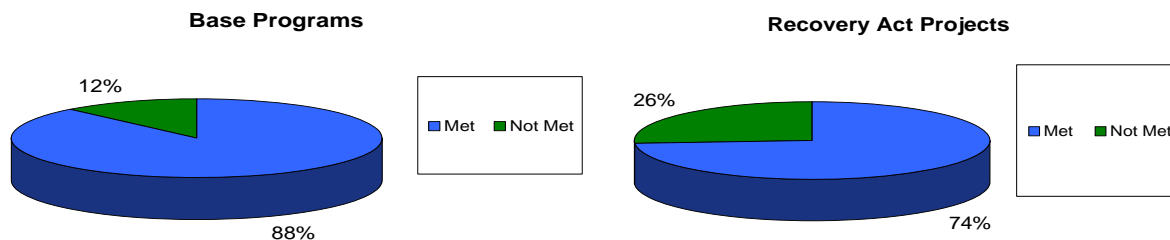
The performance measures are associated with FY 2009 budget appropriations and funding provided by the American Recovery and Reinvestment Act of 2009 (Recovery Act). Some measures are examples of current quantitative performance metrics that are trendable and link to an outcome goal—ranging from market diffusion of new technologies to timely completion of a capital or cleanup project with a defined end state. In FY 2009, the Department of Energy worked to identify ways to make program measures consistent with the Obama Administration priorities for quantitative, trendable, transparent, auditable, and outcome-oriented metrics. In FY 2010, the Department will work with the Office of Management and Budget to continue to improve the corporate performance measures.

The Department established performance measures to capture the activities of more than 100 distinct Recovery Act projects. Depending on the scope and timing of the project some output performance metrics track the Department's progress in distributing funds to worthwhile projects on schedule (see Carbon Capture and Storage). With other projects the Department developed outcome-oriented results measures (see Weatherization or Environmental Management). The central commitments from the Recovery Act were to move funds out quickly to projects with enduring value, ensure unprecedented transparency and accountability, and make a meaningful down payment on the nation's energy and environmental future.

Priority 1. Science, Discovery and Innovation: *Invest in science to achieve transformational discoveries*

The Department's science mission is the delivery of scientific discoveries and major scientific tools to transform our understanding of nature and to advance the energy, economic, and national security of the United States. This mission supports the President's plan to increase federal investment in the sciences, train students and researchers in scientific fields, invest in areas important to our clean energy future, and to make the United States a leader in climate change solutions while maintaining a role in international science and energy experiments. The Department supports more than 12,000 Ph.D. scientists who work in the 17 national labs and 25,000 visiting Ph.D.s, graduate students, undergraduates, engineers, and technicians. The progress in achieving this science goal is measured annually through detailed performance metrics; the FY 2009 results follow below.

Priority 1: Performance Summary – The Department tracked 25 performance measures for base programs (funded from FY 2009 base appropriations) with FY 2009 budgetary expenditures totaling \$3.7 billion under the Science, Discovery and Innovation priority: 22 measures were met and 3 were not met. Under Recovery Act projects within this priority area, 50 performance measures were tracked with FY 2009 budgetary expenditures totaling \$76 million: 37 measures were met and 13 were not met.



Expenditures and Performance Scores

2009 Secretarial Priority	2006 Strategic Theme	Base Program (funded from FY 2009 base appropriations)	FY 2009 Budgetary Expenditures ^a (million \$)	FY 2009 Performance Targets		
				Met	Not Met	Unknown
1. Science, Discovery and Innovation	3. Scientific Discovery and Innovation	High Energy Physics	724	4	0	0
		Nuclear Physics	515	2	3	0
		Biological & Environmental Research	551	7	0	0
		Fusion Energy Sciences	320	3	0	0
		Basic Energy Sciences	1,252	4	0	0
		Advanced Scientific Computing Research	302	2	0	0
Total			\$ 3,664	22	3	0
Recovery Act Project						
Science:						
- High Energy Physics			6.8	5	2	0
- Nuclear Physics			18.7	11	0	0
- Biological & Environmental Research			9.7	6	0	0
- Fusion Energy Sciences			1.8	4	5	0
- Basic Energy Sciences			22.1	6	0	0
- Advanced Scientific Computing Research			0.9	2	4	0
- Laboratories Infrastructure			15.0	2	2	0
Advanced Research Projects Agency-Energy			0.7	1	0	0
Total			\$ 75.7	37	13	0

^a Delivered orders of obligations including capital expenditures but excluding depreciation, changes in unfunded liability estimates, and certain other non-fund costs and allocations of Departmental Administration activities.

Priority 1: Performance Metric Highlights – The table below contains a representative sample of key indicators that summarize the performance of programs under the Science, Discovery and Innovation priority. Detailed reports of metrics are in the section titled “Performance Measures Details” at the back of this report. Trends and additional discussion of these measures are discussed in more detail following this table.

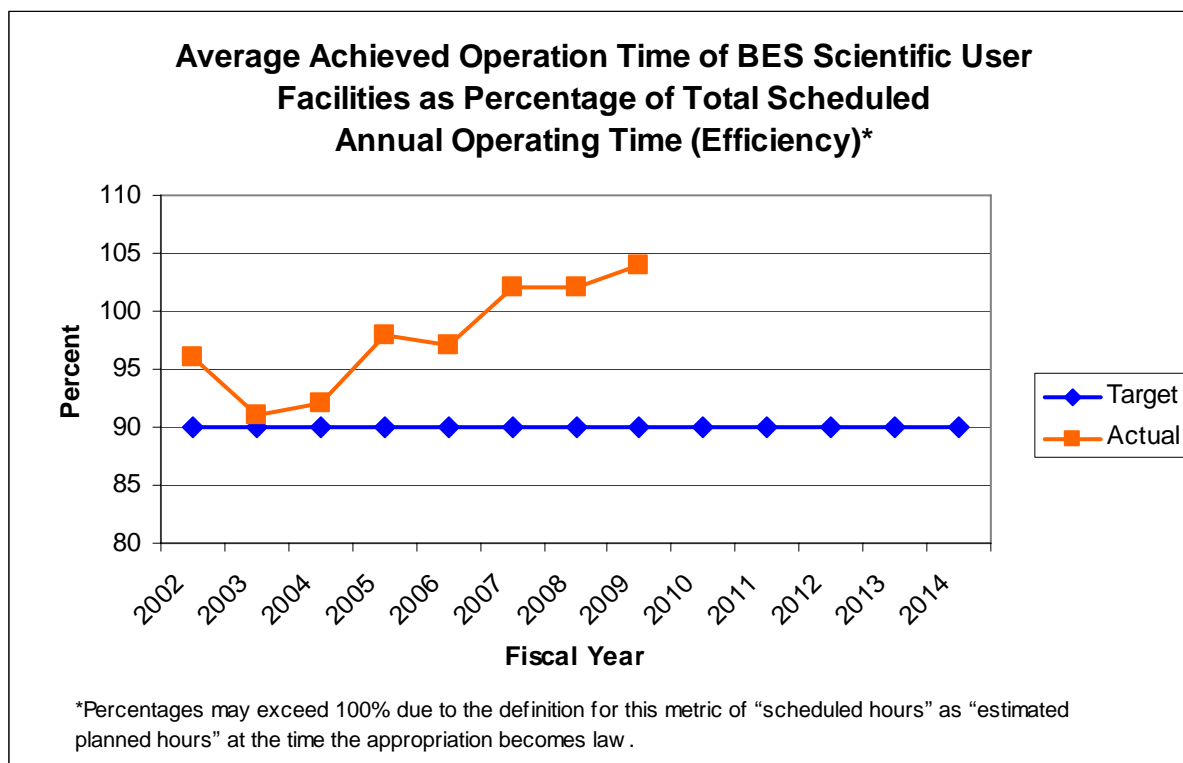
Key Performance Indicators

Program	Base Program Metric	FY 2009 Target	FY 2009 Result
Science – High Energy Physics/ Scientific Facilities	Achieved average operation time of scientific user facilities (Fermilab Tevatron) as a percentage of the total scheduled annual operating time	80%	Met
Science – Nuclear Physics/ Scientific Facilities	Achieved average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time	80%	Met
Science – Biological & Environmental Research/ Scientific Facilities	Achieved operation time of (climate change) scientific user facility as a percentage of the total scheduled annual operating	98%	Met
Science – Biological & Environmental Research/ Scientific Facilities	Achieved operation time of (environment) scientific user facility as a percentage of the total scheduled annual operating time	98%	Met
Science – Advanced Scientific Computing Research/ NERSC Capability Computing	Usage of primary supercomputer at National Energy Research Scientific Computing Center (NERSC) for computations that require at least 1/8 of this resource (2,040 processors)	40%	Met
Science – Basic Energy Science/ Scientific Facilities	Achieved average operation time of scientific user facilities as a percentage of the total scheduled annual operating time	90%	Met
Recovery Act Metric			
Science – Research Centers	Selected recipients for the Energy Frontier Research Centers funded under Recovery Act	16	Met
Science – Construction	Revised civil construction baseline schedule and procurements of NSLS-II conventional construction work begun	1 contract	Met
Science – Computing	Upgrade to Leadership Computing resources at Oak Ridge National Laboratory to increase the capability available to the scientific community	Funds distributed	Met
Advanced Research Projects Agency–Energy (ARPA-E)	Number of Funding Opportunity Announcements issued that will focus on transformational energy technology projects	1	Met

The discussion that follows describes some of the performance indicators in the table above:

Scientific Facilities. The Department measures progress in maximizing potential discoveries at the forefront of science through tracking the efficient operations of unique scientific user facilities and physical experiment tools. This metric is calculated as the average achieved operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. The chart below shows the results for the Basic Energy Sciences facilities, where each year the ratio of actual average operation time to planned operational hours has been

greater than the target of 90%. These results demonstrate efficient use of funding for leading research in intense x-ray sources, neutron scattering centers, electron beam characterization capabilities, and nanoscale science.



Research Centers. DOE laid the groundwork to achieve urgent energy and security challenges by emulating mission-oriented, cross-disciplinary approaches. In FY 2009, 46 Energy Frontier Research Centers were funded (16 funded by the Recovery Act). These virtual centers, composed of self-assembled teams of investigators, will address fundamental science questions that must be solved in order to remove roadblocks to transformational energy technologies. Each center will tackle a specific problem, such as energy storage, photoconversion, and carbon dioxide sequestration.

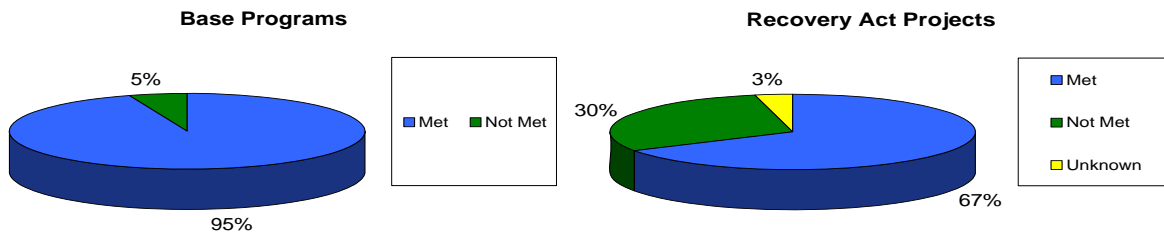
Recovery Act Metrics. The Department received \$1.6 billion in Recovery Act funding for investments in national laboratory infrastructure, unique user facilities, energy-related and basic research, and fellowships for early-career scientists. In FY 2009, the Department used process measures for the successful selection of awards and distribution of funds.

ARPA-E. The Advanced Research Projects Agency (ARPA-E) was established within DOE through \$400 million in Recovery Act funding. It supports transformational energy research in high-risk, high-reward technologies to advance energy efficiency, reduce oil consumption, and mitigate greenhouse gas emissions. In FY 2009, the ARPA-E successfully processed 3,678 concept papers (with each paper receiving at least two reviews) and organized and coordinated 382 merit reviews. In FY 2010, the ARPA-E expects to announce new awards for the programmatic themes: electrofuels – or new ways to make liquid transportation fuels, advanced carbon capture materials and processes, and batteries for electrical energy storage in transportation.

Priority 2. Economic Prosperity: *Drive the revolution to create clean energy jobs and increase competitiveness*

The Department is working to help communities across the nation become more prosperous by providing the means to produce a clean energy infrastructure and use energy more effectively. Through additional funding from the Recovery Act, DOE is providing grants and incentives for efficient energy; promoting the development of an efficient, “smart” electricity transmission and distribution network; and funding the production of low-carbon energy sources, batteries, fuels, and electric transportation infrastructure domestically – programs that will help create and save jobs. The progress in achieving this economic prosperity goal is measured annually through detailed performance metrics; the FY 2009 results follow below.

Priority 2: Performance Summary – The Department tracked 37 performance measures for base programs (funded from FY 2009 base appropriations) with FY 2009 budgetary expenditures totaling \$5.4 billion under the Economic Prosperity priority: 35 measures were met and 2 were not met. Under Recovery Act projects within this priority area, 30 performance measures were tracked with FY 2009 budgetary expenditures totaling \$327 million: 20 measures were met, 9 were not met, and 1 was unknown (performance measurement was not complete by the end of September 2009). The metric not met was because of weatherization projects not reported completed as planned (state reporting was incomplete at the end of September 2009).



Expenditures and Performance Scores

2009 Secretarial Priority	2006 Strategic Theme	Base Program (funded from FY 2009 base appropriations)	FY 2009 Budgetary Expenditures ^a (million \$)	FY 2009 Performance Targets		
				Met	Not Met	Unknown
2. Economic Prosperity	1. Energy Security	Electricity Delivery & Energy Reliability	139	7	1	0
		Western Area Power Administration	678	3	0	0
		Bonneville Power Administration	3,001	3	0	0
		Southeastern Power Administration	69	2	0	0
		Southwestern Power Administration	42	4	0	0
		Building Technologies	125	5	0	0
		Industrial Technologies	57	3	0	0
		Federal Energy Management Program	22	2	0	0
		Weatherization	522	1	1	0
		State Energy Programs	7	2	0	0
		Petroleum Reserves	776	3	0	0
Total			\$ 5,438	35	2	0

Recovery Act Project				
Energy Efficiency and Renewable Energy:				
- Community Renewable Energy Deployment	0.01	1	0	0
- Energy Efficiency & Conservation Block Grants	3.7	1	0	0
- Building Technologies	0.7	3	2	0
- Industrial Technologies	0.4	3	1	0
- State Energy Programs	28.2	1	0	0
- Federal Energy Management Program	0.2	2	0	0
- Facilities & Infrastructure	0.01	0	3	0
- Appliance Rebates	0.02	1	0	0
- Weatherization	263	0	1	0
Electricity Delivery & Energy Reliability	1.9	6	1	0
Western Area Power Administration	1.8	0	0	1
Loan Guarantees	27.1	2	1	0
Total	\$ 327.05	20	9	1

^a Delivered orders of obligations including capital expenditures but excluding depreciation, changes in unfunded liability estimates, and certain other non-fund costs and allocations of Departmental Administration activities.

Priority 2: Performance Metric Highlights – The table below contains a representative sample of key indicators that summarize the performance of programs under the Economic Prosperity priority. Detailed reports of metrics are in the section titled “Performance Measures Details” at the back of this report. Trends and additional discussion of these measures are discussed in more detail following this table.

Key Performance Indicators

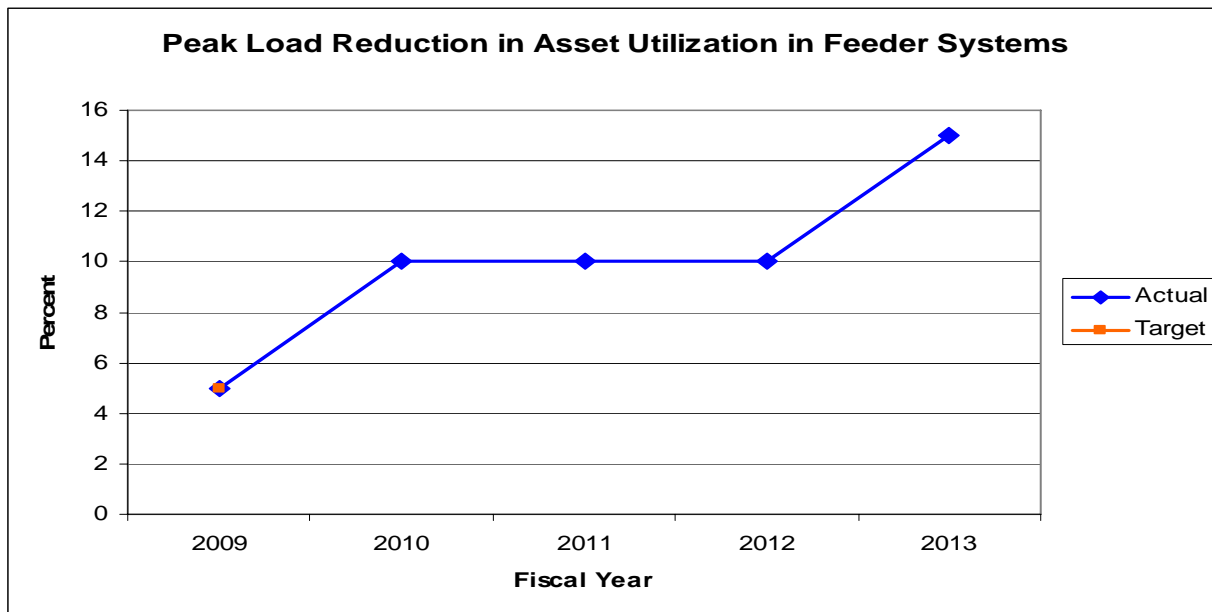
Program	Base Program Metric	FY 2009 Target	FY 2009 Result
Electricity Delivery & Energy Reliability – Smart Grid	Demonstrated peak load reduction on distribution feeders with the implementation of Distributed Energy and Smart Grid technologies	5%	Met
EERE – Building Technologies	Completed proposals to update appliance standards and test procedures published in the Federal Register	14-16	Met
EERE – Building Technologies	Achieved market penetration for: Energy Star® appliances Compact fluorescent lights Energy-efficient windows	39%, 12%, 56%	Met Met Met
EERE – Federal Energy Management	Estimated life-cycle energy savings in federal agencies’ facilities as a result of FEMP activities	34.4 trillion Btu	Met
EERE – Weatherization Assistance	Low-income family homes weatherized annually with DOE funds (based on appropriation amount of \$450 million)	95,949	Not Met (95,821 at year end)
EERE – State Energy Program	Average annual energy savings	6-7 trillion Btu	Met

Recovery Act Metric			
Electricity Delivery & Energy Reliability – Smart Grid Investment Grants	Develop and post draft Notice of Intent (NOI) and final Federal Opportunity Announcement (FOA), receive initial round of grant applications, and complete first round of reviews and selections	NOI and FOA posted	Met
Electricity Delivery & Energy Reliability – Smart Grid Regional & Energy Storage Demonstrations	Develop and post Federal Opportunity Announcement (FOA), receive grant applications, and begin reviews	FOA posted	Met
Electricity Delivery & Energy Reliability – Workforce Training for Electric Power Sector	Create and finalize strategy for project and develop and post Federal Opportunity Announcement (FOA)	FOA posted	Not Met
EERE – Energy Efficiency and Conservation Block Grants	Obligation of funds to states, local governments, and Indian Tribes	5%	Exceeded (51%)
EERE – State Energy Program	Obligation of allocated funds (contingent upon states’ cooperation in resolving issues, including NEPA, raised during plan review)	20%	Exceeded (100%)
EERE – Weatherization Assistance	Low-income homes weatherized	12,500 - 45,000	Not Met
Loan Guarantees	Commitment of credit subsidy budget	\$197 million (5%)	Not Met

The discussion that follows describes some of the performance indicators in the table above:

Smart Grid. The Department seeks to develop technologies and tools for greater efficiency and reliability in the U.S. electricity supply grid. In FY 2009, the Department launched a multi-year initiative to demonstrate peak-load reductions in grid regions and successfully organized to issue Funding Opportunity Announcements and make awards for the Recovery Act Smart Grid Investment Grant Program (\$3.4 billion) and the Smart Grid Regional and Energy Storage Demonstration Project (\$700 million). These matching grant projects will facilitate the deployment of smart meters and real-time system monitoring tools to increase consumer choice, reduce cost, and increase the reliability and flexibility of the energy system.

Reduction in peak demand achieved through “smart” system management tools is a key performance measure. It translates to customer savings by eliminating or deferring the need for new transmission and generation capacity. In FY 2009, DOE achieved its target of demonstrating usage of distributed energy and smart grid technology to reduce the peak load on a feeder system by 5%. Plans are to run multiple demonstration projects over the next 3 years (funded through the Recovery Act) to reduce peak loads by up to 15%.



Building Technologies. The FY 2009 market penetration of Energy Star® products was 39% for appliances, 24% for compact fluorescent lights, and 56% for windows. Estimated energy savings are 0.30 quads and \$657 million in consumer utility billing savings.

Loan Guarantees. Title XVII of the 2005 Energy Policy Act gave DOE the authority to provide loan guarantees for innovative clean energy technologies. Additional funding from the Recovery Act will help accelerate deployment of renewable energy and electric power transmission projects while ensuring that there is a reasonable prospect of repayment. In FY 2009, the Department awarded loan guarantees, resulting in a commitment of 1% of the \$3.935 billion credit subsidy budget, which was short of its goal of 5% in FY 2009.

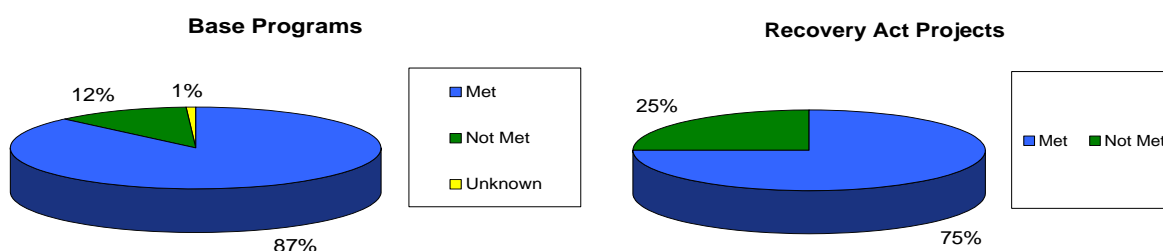
Through the Advanced Technology Vehicles Manufacturing loan program DOE authorized \$8.6 billion in conditional loan commitments for the development of advanced technology vehicles that will create thousands of jobs while helping improve vehicle fuel efficiency and reduce the nation’s dependence on oil.

Priority 3. Clean, Secure Energy: *Cut the carbon pollution that is changing our climate, while reducing our dependence on oil*

Achieving President Obama’s climate change goal of reducing our country’s greenhouse gas emissions by 80% from 1990 levels by 2050 necessitates contributions from the full portfolio of available clean energy technologies – from efficiency programs and building technologies that can be deployed in the near term to long-term investments in new nuclear power and carbon capture and storage. With assistance from Recovery Act funding, DOE is accelerating investments in a variety of renewable sources of electricity generation and deploying technologies to reduce our dependence on oil and decrease energy use in homes, transportation and industry. Investments in energy efficiency projects through grants to states and weatherization assistance have had immediate tangible benefits by reducing energy use and lowering energy bills. Near-zero emissions coal plants will help allow fossil fuels to be used as abundant and low-carbon emitting energy resources in the future. Nuclear energy is a fundamental component of the energy mix as well, and currently supplies about 20% of the

nation's electricity. The progress in achieving this clean, secure energy goal is measured annually through detailed performance metrics; the FY 2009 results follow below.

Priority 3: Performance Summary – The Department tracked 52 performance measures for base programs (funded from FY 2009 base appropriations) with FY 2009 budgetary expenditures totaling \$1.8 billion under the Clean, Secure Energy priority: 45 measures were met, 6 were not met, and 1 was unknown (performance measurement was not complete by the end of September 2009). Under Recovery Act projects within this priority, 28 performance measures were tracked with FY 2009 budgetary expenditures totaling \$7.5 million: 21 measures were met and 7 were not met. The metrics not met were because of delays in the engineering design and procurement process for commercial biorefinery construction projects, higher component costs than expected for concentrating solar, incomplete verification of modeled costs for wind projects, and unrealistic targets in the vehicles technologies area.



Expenditures and Performance Scores

2009 Secretarial Priority	2006 Strategic Theme	Base Program (funded from FY 2009 base appropriations)	FY 2009 Budgetary Expenditures ^a (million \$)	FY 2009 Performance Targets		
				Met	Not Met	Unknown
3. Clean, Secure Energy	1. Energy Security	Hydrogen Technology	17	4	1	0
		Biomass & Biorefinery Systems R&D	204	6	1	0
		Solar Energy	357	3	1	0
		Wind Energy	57	2	2	0
		Geothermal Technology	19	2	0	0
		Water Power	5	2	0	0
		Vehicle Technologies	227	4	1	0
		Near-Zero Atmospheric Emissions Coal-Based Electricity & Hydrogen Production	362	12	0	1
		New Nuclear Generation Technologies	414	5	0	0
		National Nuclear Infrastructure	55	2	0	0
		Energy Information Administration	98	3	0	0
Total			\$ 1,815	45	6	1

Recovery Act Project				
Energy Efficiency and Renewable Energy:				
- Biomass	1.6	3	1	0
- Solar Energy	0.4	0	3	0
- Geothermal Technology	0.05	4	1	0
- Wind Energy	0	3	1	0
- Water Power	0	1	0	0
- Hydrogen Technologies	5.4	1	0	0
- Vehicle Technologies	0	4	1	0
Fossil Energy	2.9	5	0	0
Total	\$ 7.45	21	7	0

^a Delivered orders of obligations including capital expenditures but excluding depreciation, changes in unfunded liability estimates, and certain other non-fund costs and allocations of Departmental Administration activities.

Priority 3: Performance Metric Highlights – The table below contains a representative sample of key indicators that summarize the performance of programs under the Clean, Secure Energy priority. Detailed reports of metrics are in the section titled “Performance Measures Details” at the back of this report. Trends and additional discussion of these measures are discussed in more detail following this table.

Key Performance Indicators

Program	Base Program Metric	FY 2009 Target	FY 2009 Result
Energy Efficiency & Renewable Energy (EERE) – Biomass	Modeled ethanol price for thermochemical gasification followed by mixed alcohol synthesis and ethanol separation	\$1.97/gallon	Met
EERE – Solar/Photovoltaic	Modeled levelized cost for commercial applications including federal, state, and local subsidies – complete R&D that will reduce the manufacturing, installation, and operation costs of commercial photovoltaic systems to produce energy	\$0.12- \$0.16/kWh	Met
EERE – Wind	Modeled cost of wind power in land-based Class 4 wind speed areas including federal, state, and local subsidies (i.e., 13 mph annual average wind speed at 33 feet above ground)	\$0.039/kWh	Met
	Modeled cost of wind power in Class 6 wind speed areas (i.e., 15 mph annual average wind speed at 33 feet above ground) for shallow offshore systems including federal, state, and local subsidies	\$0.0915/kWh	Met
EERE – Vehicle Technologies	Modeled production cost of high-power, 25-kilowatt lithium-ion battery for hybrid electric vehicles (HEV)	\$550	Not Met (\$600)
Fossil Energy – Clean Coal	Net cost of CO2 capture and sequestration as measured by percent of cost of electricity; cost of electricity increase is for 90% CO2 capture and sequestration when compared to a conventional (off-the-shelf) non-capture power plant	17%	Met
Nuclear Energy – Next Generation Nuclear Power	Determine a path forward for the design and construction of an NGNP by 2011 by partnering with private industry on its development, performing environmental assessment activities, and continuing with the research, analysis, design, and licensing	program milestones met	Met

Recovery Act Metric			
Fossil Energy – Carbon Capture & Storage/ FutureGen	Complete preliminary engineering design, including equipment package solicitations, power plant design, sequestration system design, and balance of plant design	Preliminary design completed	Met
EERE – Battery Manufacturing	Announce selections for award for the “Electric Drive Vehicle Battery and Component Manufacturing” solicitation	FOA issued	Exceeded (30 projects announced)
EERE – Biomass	Complete merit reviews for proposed projects for Integrated Biorefinery Solicitation Program for Pilot and Demonstration Scale Biorefineries	Reviews completed	Exceeded (10 projects announced)

The discussion that follows describes some of the performance indicators in the table above:

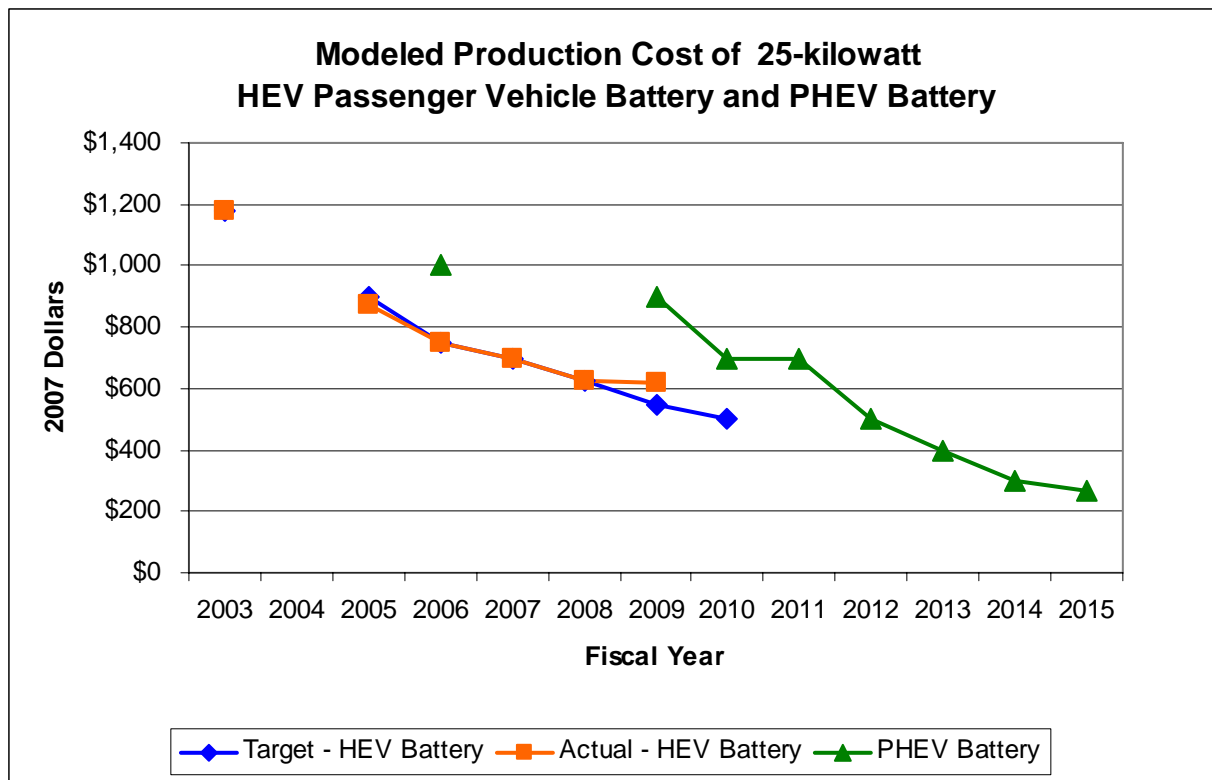
Renewable Energy. DOE uses similar trendable performance metrics for incrementally lowering the cost of renewable energy technologies. Cost target ranges are created for technologies to track how R&D activities result in lower costs of fuel cells, wind energy, and different types of solar power. In FY 2009, funding from the DOE Solar program has enabled companies within the Technology Pathway Partnerships program to manufacture proprietary cells, modules, and systems at lower costs. When combined with best practices system installation, a leveled cost of energy at or below \$0.20/kilowatt-hour is achievable with or without federal, state, and local subsidies. In FY 2009, DOE achieved a modeled ethanol price of \$1.97 per gallon through research and pilot scale experiments conducted at the National Renewable Energy Laboratory. DOE has set future performance targets for the price per gallon of ethanol and cellulosic biofuel production that will help the nation achieve the Renewable Portfolio Standards established in the 2007 Energy Independence and Security Act. To further monitor technology adoption by the market, DOE tracks the number of new units of distributed wind turbines deployed in U.S. markets as well as the number of states with newly installed wind energy generation capacity.

The Recovery Act provided \$16.8 billion to accelerate of investments in renewable energy and energy efficiency. Examples include: accelerated validation of multiple advanced biofuel pathways to help reach DOE’s goal of making cellulosic ethanol cost-competitive by 2012; the acceleration of next-generation geothermal, or enhanced geothermal systems (EGS), technology development; particularly pilot and demonstration projects, and component technology R&D. Intensified work on these projects will help to prove the technical feasibility of EGS systems by 2015; and the expansion of near-term market and manufacturing opportunities, which will help to support the acceleration fuel cell market transformation. In FY 2009, DOE issued Funding Opportunity Announcements, reviewed proposals, selected meritorious projects, and initiated some awards. These activities will continue in FY 2010 and will be monitored through new performance metrics to assess continued progress.

Vehicle Technologies. DOE has demonstrated progress in the vehicle technologies area by lowering the modeled cost of a 25-kilowatt, lithium-ion battery for hybrid electric vehicles (HEV) from a baseline cost of \$3,000 in 1998 to \$1,180 in FY 2003 with continued progress to \$621 in FY 2009. This R&D enabled private battery manufactures to begin the manufacture of lithium-ion HEV batteries in 2009. These batteries in HEV vehicles will help reduce our dependence on oil. In 2010, DOE is deemphasizing HEV battery R&D and emphasizing R&D

on new battery technology for plug-in HEVs (PHEV). Cost effective PHEV batteries will enable even greater reductions in oil use.

It should be noted that the performance metric for HEV batteries is the total cost for a 25-kilowatt battery system where 25 kilowatts is the battery power requirement for a mid-sized vehicle. Because the key challenge for a PHEV battery is storing a lot of energy (but at relatively low cost), the PHEV performance measure is the cost per unit of energy stored (\$/kilowatthour). The target PHEV battery performance measures for FY 2010 and beyond are shown in green below; the PHEV battery baseline is the PHEV battery normalized energy cost in 2006 (\$1,000/kilowatthour).



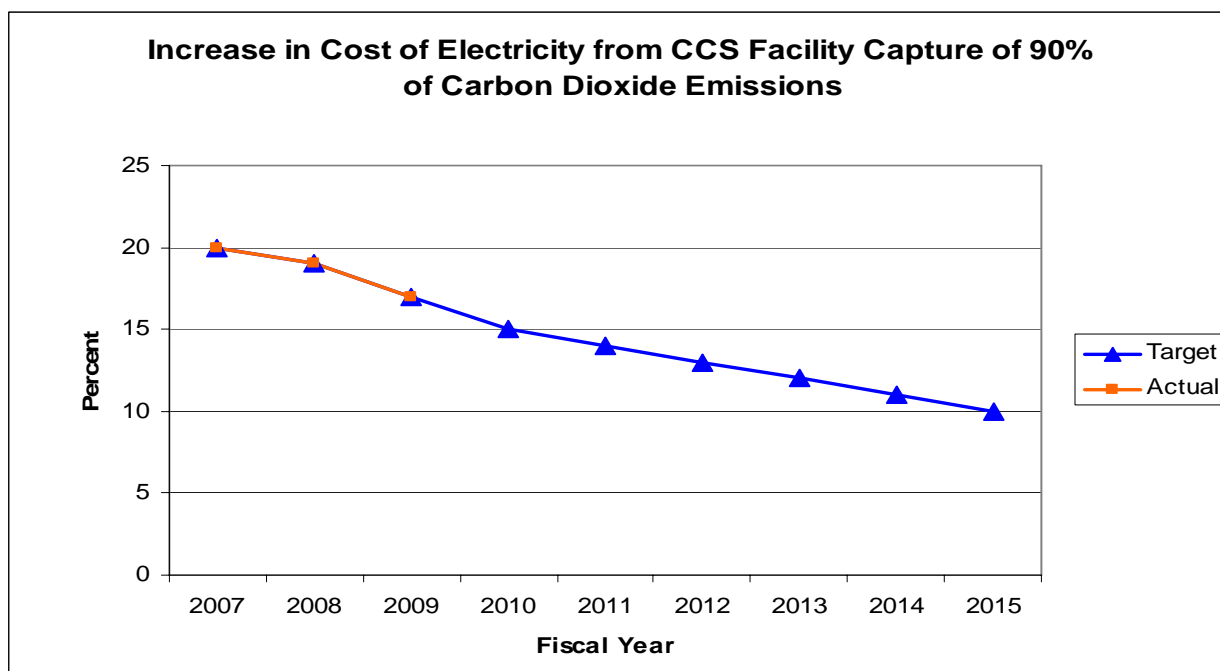
In FY 2009, the Oak Ridge National Lab demonstrated an engine efficiency of 44.1% using lab data and modeling. An organic Rankine cycle was used to generate more than 2.9 kilowatts of net electrical power from the exhaust heat of a General Motors 1.9-L diesel engine. The additional power raised the effective efficiency of the engine from 42.3% brake thermal efficiency (BTE) to a combined BTE of 44.1%.

Clean Coal. The Clean Coal Power Initiative Round 3 (CCPI-3) Funding Opportunity Announcement was issued in August 2008. The projects selected under CCPI-3 in FY 2009 are expected to demonstrate the technical feasibility of capturing carbon dioxide (CO₂) emissions from coal-fueled power systems, and test the feasibility of large-scale storage of CO₂ in geologic formations. In FY 2009, the original validation phase CO₂ injection tests of the Regional Carbon Sequestration Partnership (RCSP) (Phase II) have been completed. The RCSPs originally planned 25 geologic validation phase injection tests. Of these 25 tests, 12 tests were completed in 2009, 3 tests were completed in 2008, 1 test was completed in 2007, and 9 tests underwent modification of either changing sites, discontinued, or merged due to a variety of factors beyond

the program's control. The Phase III goal was also met, which was to inject 0.5 million metric tons of CO₂ at one or more large-volume field test sites; the Southeast Regional Carbon Sequestration Partnership initiated CO₂ injection for their large-volume field test in 2009 in the saline waters beneath the oil bearing formation at the Cranfield site near Natchez, Mississippi.

To advance the goal of developing commercially viable Carbon Capture and Storage (CCS) technology, DOE is measuring incremental decreases in the additional cost of electricity for the capture of carbon dioxide (CO₂). A sustained focus on reducing the additional cost of CO₂ capture, along with developing sequestration options, are critical drivers for future market adaptation of CCS technologies, which could help mitigate climate change by permanently storing millions of metric tons of CO₂ in geologic formations.

Starting with a FY 2007 baseline of a 20% increase cost of electricity for advanced Integrated Gasification Combined Cycle power plants with carbon capture technology to capture 90% of CO₂ emissions, DOE has developed systems engineering studies decreasing the modeled cost to a 17% increase in the cost of electricity in FY 2009, and projects pilot-scale tests are expected to lower the additional cost of electricity to 10% by FY 2015.



The Recovery Act provided \$3.4 billion for Fossil Energy projects to leverage federal funding, stimulate private sector investment, accelerate delivery of CCS technology, and demonstrate the integration of coal-based energy systems and industrial processes with capture and permanent storage of CO₂ in geologic formations. In FY 2009, DOE is on track to meet their 2010 targets to begin construction of first large-scale industrial CCS projects and initiate FutureGen detailed design (Title II), including long-lead equipment (for example, energy conversion plant, sequestration system, balance of power, and final design report).

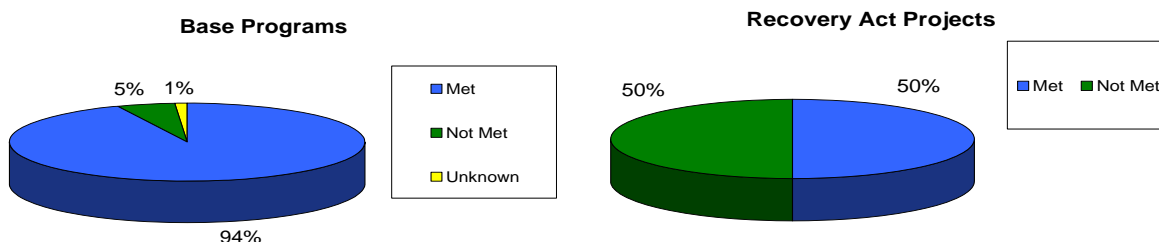
Nuclear Power. The Next Generation Nuclear Plant (NGNP) Conceptual Design Funding Opportunity Announcement (FOA) was successfully issued in FY 2009. The FOA will facilitate the development of conceptual design data and other information needed for future decisions. In FY 2009, DOE conducted R&D in used fuel separations, transmutation fuels, and fast reactors.

The research accomplishments were: transmutation fuels development; separations and waste forms development; transmutation systems; materials protection; accountability and control technology development; advanced modeling and simulation; and systems analysis. DOE concluded experiments during FY 2009 on the High Temperature Electrolysis, Sulfur-Iodine Thermochemical, and Hybrid Sulfur hydrogen production technologies.

Priority 4. National Security: *Maintain nuclear deterrent and prevent proliferation*

The Department continues its efforts to meet goals for nonproliferation, weapons stewardship, nuclear propulsion and legacy cleanup – leveraging science to promote national security. In an April 2009 speech in Prague, President Obama established goals for the United States to lead an international effort to secure all vulnerable nuclear material around the world within 4 years; establish new nuclear nonproliferation treaties and partnerships to reduce stockpiles and ban testing; and maintain a safe, secure, and effective arsenal to deter any adversary as long as nuclear weapons exist. The federal government has the responsibility to ensure a clean, safe, and healthy environment for future generations. To deliver on the Department’s obligations stemming from 50 years of nuclear research and weapons production during the Cold War, the Department continues to focus its resources on those activities that will yield the greatest risk reductions, with safety as the utmost priority. DOE’s diverse and technically complex cleanup mission includes: decontaminating and decommissioning (D&D) nuclear facilities, remediating contaminated soil and ground water, constructing and operating facilities to treat radioactive liquid tank waste, securing and storing nuclear material, and transporting and disposing of transuranic and low-level wastes. The progress in achieving this national security goal is measured annually through detailed performance metrics; the FY 2009 results follow below.

Priority 4: Performance Summary – The Department tracked 94 performance measures for base programs (funded from FY 2009 base appropriations) with FY 2009 budgetary expenditures totaling \$17.2 billion under the National Security priority: 88 measures were met, 5 were not met, and 1 was unknown (performance measurement was not complete by the end of September 2009). Under Recovery Act projects within this priority (all environmental management), 34 performance measures were tracked with FY 2009 budgetary expenditures totaling \$654 million: 17 measures were met and 17 were not met. The metrics not met were because of unrealistic targets, schedule slippages on construction projects, and incomplete negotiations with regulators on remediation sites.



Expenditures and Performance Scores

2009 Secretarial Priority	2006 Strategic Theme	Base Program (funded from FY 2009 base appropriations)	FY 2009 Budgetary Expenditures ^a (million \$)	FY 2009 Performance Targets		
				Met	Not Met	Unknown
4. National Security	2. Nuclear Security	Office of the Administrator	403	2	0	0
		Directed Stockpile Work	1,505	4	1	0
		Science Campaign	318	4	0	0
		Engineering Campaign	149	5	0	0
		Inertial Confinement Fusion Ignition & High Yield Campaign	458	5	0	0
		Advanced Simulation & Computing Campaign	534	4	0	0
		Readiness Campaign	153	4	0	0
		Readiness in Technical Base & Facilities	1,706	3	1	0
		Secure Transportation Asset	223	5	0	0
		Nuclear Weapons Incident Response	217	1	0	0
		Facilities & Infrastructure Recapitalization Program	168	3	0	0
		Environmental Projects & Operations	23	2	0	0
		Defense Nuclear Security	721	3	0	0
		Cyber Security	120	3	0	0
		Nonproliferation & Verification R&D	400	6	0	0
		Elimination of Weapons-Grade Plutonium Production	171	4	0	0
		Nonproliferation & International Security	199	5	0	0
		International Nuclear Materials Protection & Cooperation	553	5	1	0
		Fissile Materials Disposition	462	2	1	0
	Global Threat Reduction Initiative	273	4	0	0	
	Naval Reactors	811	5	0	0	
	4. Environmental Responsibility	Environmental Management	7,183	6	1	0
		Nuclear Waste Disposal	279	2	0	0
	Legacy Management	165	1	0	1	
Total			\$ 17,194	88	5	1
Recovery Act Project						
Environmental Management			\$ 654	17	17	0

^a Delivered orders of obligations including capital expenditures but excluding depreciation, changes in unfunded liability estimates, and certain other non-fund costs and allocations of Departmental Administration activities.

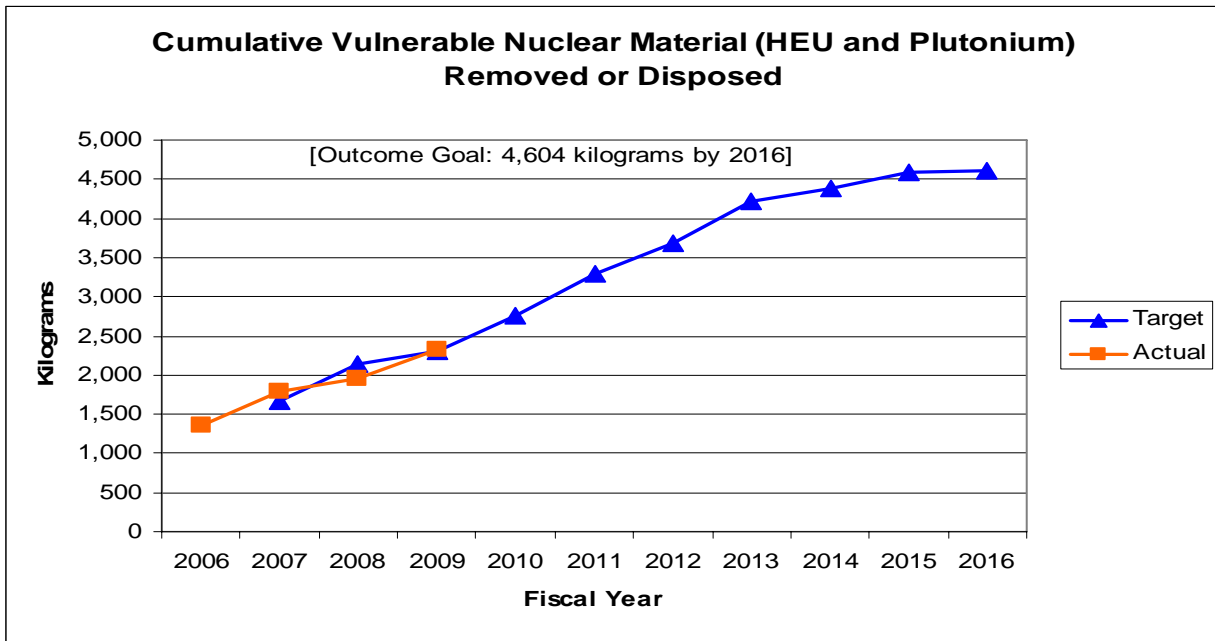
Priority 4: Performance Metric Highlights – The table below contains a representative sample of key indicators that summarize the performance of programs under the National Security priority. Detailed reports of metrics are in the section titled “Performance Measures Details” at the back of this report. Trends and additional discussion of these measures are discussed in more detail following this table.

Key Performance Indicators

Program	Base Program Metric	FY 2009 Target	FY 2009 Result
National Nuclear Security Administration (NNSA) – Global Threat Reduction Initiative	Cumulative number of kilograms of vulnerable nuclear material (HEU and plutonium) removed or disposed	2,311	Met
NNSA – Directed Stockpile Work	Annual percentage of warheads in the Stockpile that is safe, secure, reliable, and available to the President for deployment	100%	Met
NNSA – Facilities & Infrastructure Recapitalization	Cumulative percentage of legacy deferred maintenance baseline of \$900 million funded for elimination	80%	Met
NNSA – Naval Reactors	Cumulative percentage of completion on the next-generation aircraft carrier reactor plant design	88%	Met
Environmental Management – Radioactive Facilities	Cumulative number of radioactive facilities completed	363	Exceeded
Environmental Management – Nuclear Facilities	Cumulative number of nuclear facilities completed	91	Exceeded
Environmental Management – Enriched Uranium	Cumulative total of enriched uranium containers packaged for disposition	7,549	Exceeded
Recovery Act Metric			
Environmental Management – Environmental Cleanup/ Idaho	Reduce EM building footprint by eliminating square footage of facilities	8,855	Met
Environmental Management – Environmental Cleanup/ Moab, Utah	Tons of additional uranium mill tailings disposed	97,000	Exceeded

The discussion that follows describes some of the performance indicators in the table above:

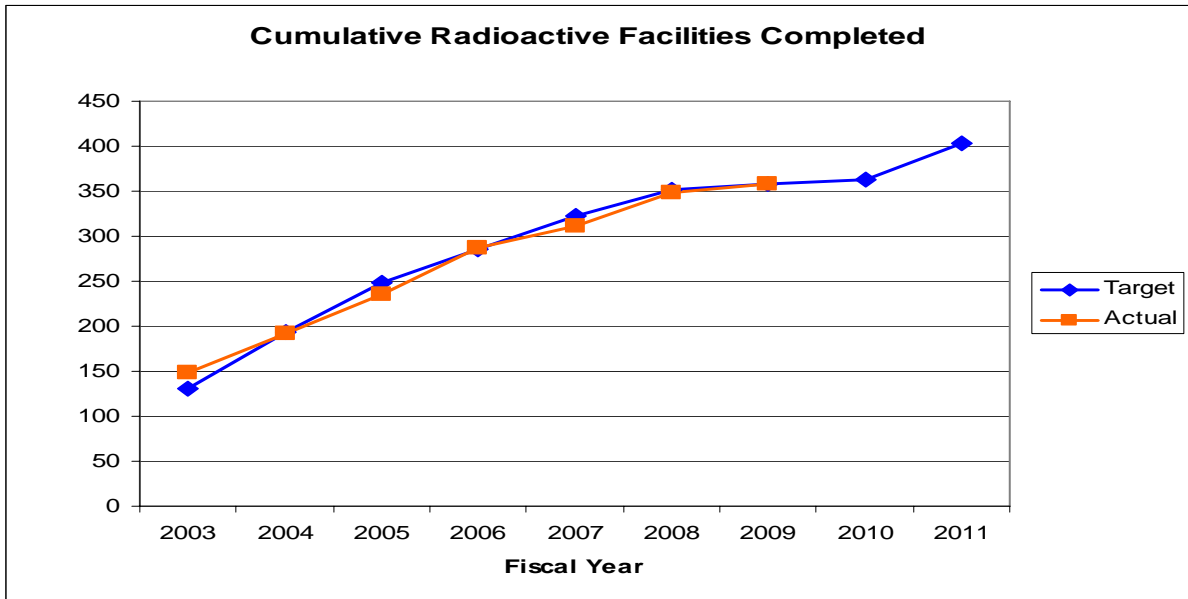
Global Threat Reduction. DOE’s efforts in the area of global threat reduction contribute to the goal of preventing nuclear terrorism by reducing and protecting vulnerable nuclear and radiological materials located at civilian sites worldwide. The chart below shows that DOE removed or disposed an additional 369 kilograms of highly enriched uranium or plutonium in FY 2009, surpassing 50% of the outcome goal, with an aggressive acceleration scheduled over the next few years.



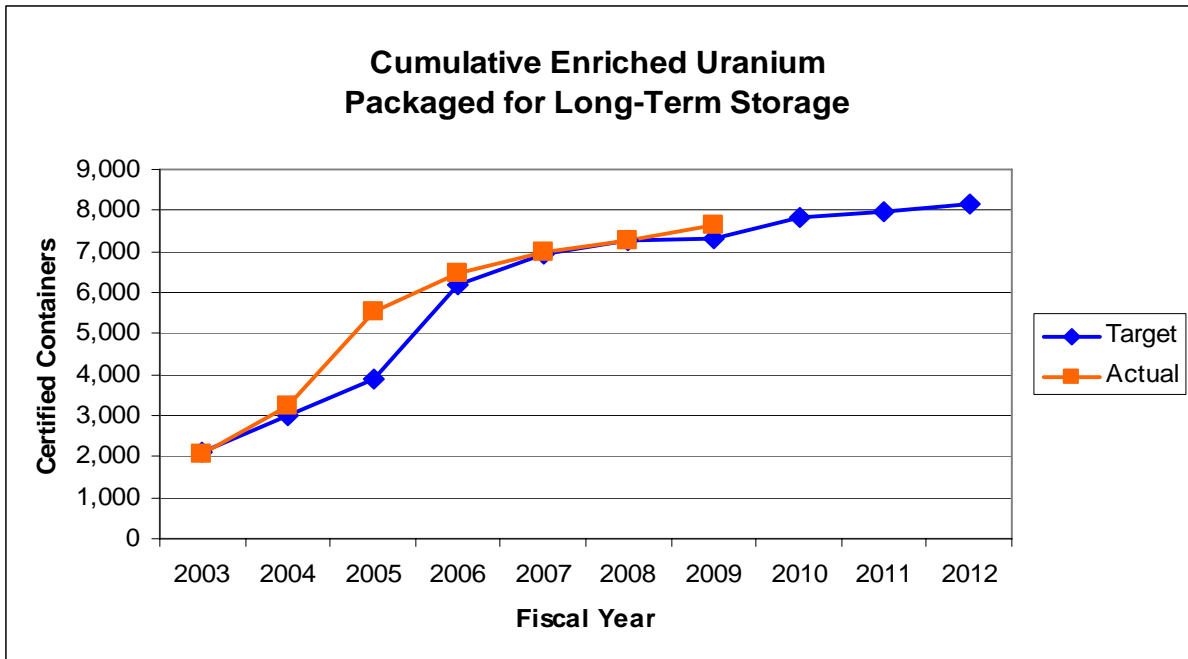
Stockpile Work. DOE continues progress towards achieving the goal of funding \$900 million of legacy deferred maintenance reduction. The average contribution to the goal from FY 2003-2009 was 12% annually. In FY 2009, DOE is ahead of schedule and about 82% complete. DOE has also consistently coordinated to meet the critical metric that 100% percent of warheads in the nuclear weapons stockpile are safe, secure, reliable, and available to the President for deployment.

Naval Reactors. DOE tracks cumulative progress on the next-generation aircraft carrier reactor plant design. Work is currently on schedule, completing 88% of the work scope for designing the A1B reactor plant for the Navy.

Radioactive Facilities. Facility completion measures mark the endpoints for DOE responsibility for facilities based on cumulative work to decommission, deactivate, dismantle, demolish, or transfer the complex to another owner. In order to identify and control radiological and non-radiological safety and health hazards, DOE tracks all facilities that are required to be completed: nuclear, radiological, and industrial. With a life-cycle goal of 992 facilities spanning most DOE sites, the radioactive facility measure is perhaps the best indicator of overall site cleanup progress. In FY 2009, DOE completed 10 radioactive facilities for a cumulative total of 363. The chart also shows an expected increase in FY 2011 from an estimated 25 facilities scheduled to be completed through the Recovery Act.

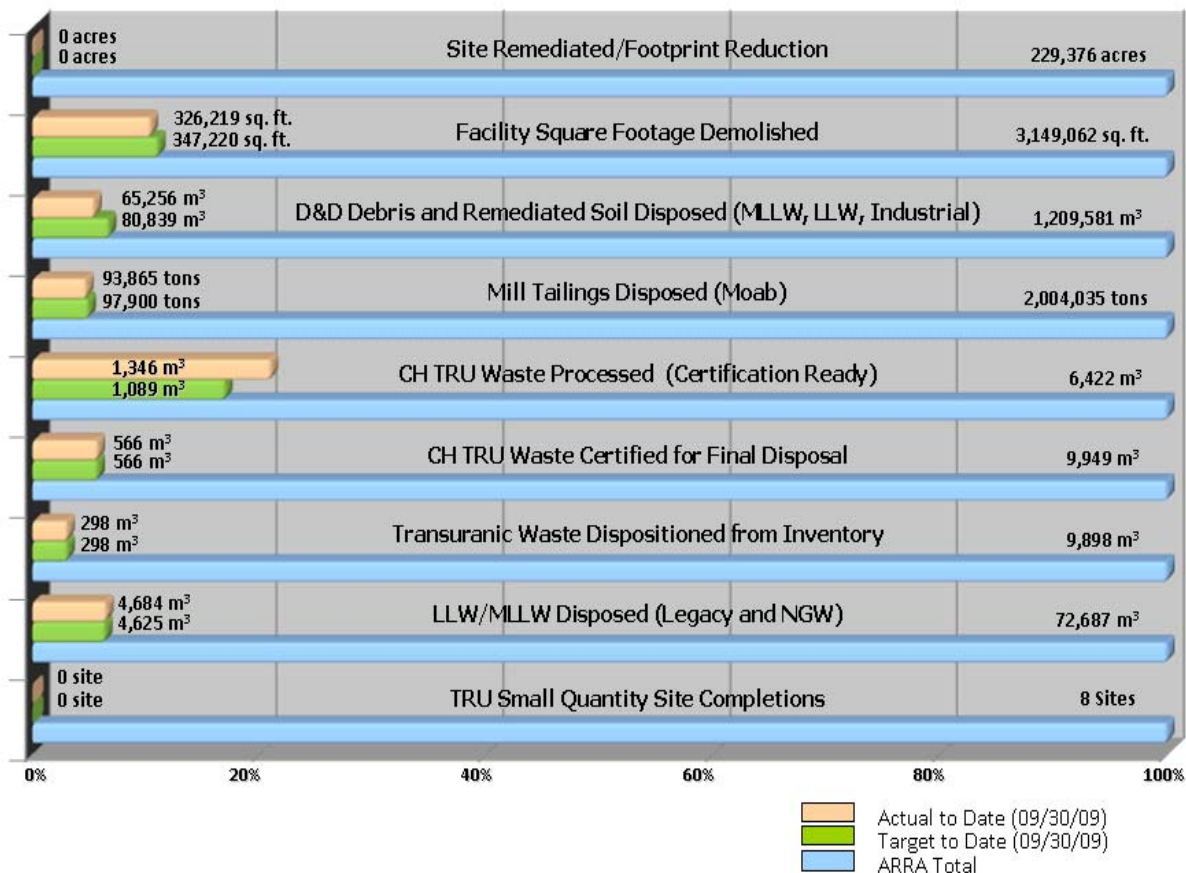


Enriched Uranium. DOE fulfills the goal of securing vulnerable nuclear materials by reducing the inventory of high-risk nuclear materials located in U.S. sites and preparing them for long-term storage or disposition. In FY 2008, DOE completed packaging 5,089 containers of plutonium and metal oxide, and is consolidating the material at central sites to reduce risk. DOE is also nearing completion of the work of treating and packaging containers of enriched uranium for long-term storage. The chart below shows that this work is on schedule to be completed by about 2012; the cumulative total for FY 2009 was 7,629 containers packaged for long-term storage.



Recovery Metrics – Environmental Management. In FY 2009, DOE met a set of process measures and cumulatively obligated \$5.8 billion of its \$6.0 billion in Recovery Act funds. This money is expected to accelerate cleanup work to reduce site footprint by approximately 40% by 2011—results that will save taxpayers money by reducing long-term liability costs.

The chart below provides additional transparency on 2009 progress in completing planned Recovery Act cleanup projects across the DOE complex. In FY 2010, DOE is changing the performance measure for each of its 35 projects to track a single, quantitative outcome measure, such as footprint reduction. The 2010 measures will link directly to the impact categories below and will enable comparison to base performance measures.



Below is a chart providing more detail on the contribution of various sites towards accomplishment of these key Recovery Act cleanup metrics. Some of these metrics have been newly established for Recovery-specific projects.

Metric: CH TRU Waste Certified for Final Disposal - Cubic meters			
Central Characterization Project-certified Contact Handled Transuranic (TRU) Waste that is ready for shipment and disposal at the Waste Isolation Pilot Plant (reported by Carlsbad Field Office).			
Site	FY 2009 Actual	FY 2009 Target ¹	Total Target
Waste Isolation Pilot Plant	566	566	9,949
CH TRU Waste Certified for Final Disposal Total, All Sites	566	566	9,949

Metric: CH TRU Waste Processed (Certification Ready) - Cubic meters			
Onsite Contact Handled Transuranic Waste that has been retrieved, remediated, repackaged, and made ready for the characterization and certification process for shipment and disposal at WIPP (reported by sites).			
Site	FY 2009 Actual	FY 2009 Target ¹	Total Target
Argonne National Laboratory-East	0	0	30

¹ In some cases, sites did not have formally baselined monthly target profiles for performance metrics until early FY 2010. In these cases, FY 2009 targets are considered to be equal to FY 2009 actuals.

Hanford Site	24	0	850
Oak Ridge	0	0	595
Savannah River Site	1,322	1,089	4,766
West Valley Demonstration Project	0	0	181
CH TRU Waste Processed (Certification Ready) Total, All Sites	1,346	1,089	6,422

Metric: D&D Debris and Remediated Soil Disposed (MLLW, LLW, Industrial) - Cubic meters			
Bulk waste from facility Deactivation and Decommissioning (D&D) and Soil Remediation not included in other EM Corporate Measures.			
Site	FY 2009 Actual	FY 2009 Target ¹	Total Target
Hanford Site	7,446	23,116	731,689
Idaho National Laboratory	2,931	1,920	24,643
Los Alamos National Laboratory	0	0	37,408
SPRU	195	70	27,998
Oak Ridge	2,776	4,183	47,918
Portsmouth Gaseous Diffusion Plant	0	0	78,926
Savannah River Site	51,268	51,268	209,995
Other Sites Total	640	282	51,004
D&D Debris and Remediated Soil Disposed (MLLW, LLW, Industrial) Total, All Sites	65,256	80,839	1,209,581

Metric: Facility Square Footage Demolished - Square Feet			
Total square footage of facility floor space demolished			
Site	FY 2009 Actual	FY 2009 Target ¹	Total Target
Hanford Site	7,064	16,771	294,323
Idaho National Laboratory	318,255	330,449	824,471
Los Alamos National Laboratory	900	0	146,327
Oak Ridge	0	0	233,531
Paducah Gaseous Diffusion Plant	0	0	225,000
Portsmouth Gaseous Diffusion Plant	0	0	288,489
Savannah River Site	0	0	931,598
Other Sites Total	0	0	205,323
Facility Square Footage Demolished Total, All Sites	326,219	347,220	3,149,062

Metric: LLW/MLLW Disposed (Legacy and NGW) - Cubic meters			
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed. Disposal quantities include onsite disposal of a site's own waste, waste shipped to a commercial facility for disposal, and waste shipped to another DOE site for disposal. Waste generated from ongoing processing operations is included in this measure; remediation waste is not included in this measure.			
Site	FY 2009 Actual	FY 2009 Target ²	Total Target
Energy Technology Engineering Center	0	0	25
Hanford Site	264	190	1,800
Idaho National Laboratory	1,397	1,390	2,195
Oak Ridge	631	653	43,038
Savannah River Site	2,393	2,392	25,629
LLW/MLLW Disposed (Legacy and NGW) Total, All Sites	4,684	4,625	72,687

² In some cases, sites did not have formally baselined monthly target profiles for performance metrics until early FY 2010. In these cases, FY 2009 targets are considered to be equal to FY 2009 actuals.

Metric: Mill Tailings Disposed (Moab) - Tons (short)			
Tons (short) of mill tailings disposed			
Site	FY 2009 Actual	FY 2009 Target¹	Total Target
Moab	93,865	97,900	2,004,035
Mill Tailings Disposed (MOAB) Total, All Sites	93,865	97,900	2,004,035

Metric: Site Remediated / Footprint Reduction - Acres			
Area reduced by remediation from further active EM cleanup			
Site	FY 2009 Actual	FY 2009 Target¹	Total Target
Hanford Site	0	0	150,016
Savannah River Site	0	0	79,360
Site Remediated / Footprint Reduction Total, All Sites	0	0	229,376

Metric: Transuranic Waste Dispositioned from Inventory - Cubic meters			
Number of cubic meters of suspect Remote Handled and Contact Handled Transuranic (TRU) Waste dispositioned from inventory			
Site	FY 2009 Actual	FY 2009 Target¹	Total Target
Argonne National Laboratory-East	0	0	52
Hanford Site	0	0	2,468
Idaho National Laboratory	0	0	1,500
Oak Ridge	0	0	1,678
Savannah River Site	298	298	4,200
Transuranic Waste Dispositioned from Inventory Total, All Sites	298	298	9,898

PERFORMANCE MEASURES DETAILS

The Department's performance measures are tracked quarterly through a Performance Measure Manager (PMM) system. For FY 2009, the Department tracked 208 performance measures that provide detailed information and assessment of progress for the Department's 52 program goals associated with its budget. These performance measures are listed in the "FY 2009 Targets" column of the "Annual Performance Results and Targets" table in DOE's FY 2010 Congressional Budget Request. The annual progress made toward outcome-oriented, multi-year program goals is a key indicator of whether the Department is making progress toward its strategic priorities. In addition to these budget measures, metrics were developed for projects funded through the Recovery Act. The Department is tracking 142 performance metrics for 29 major project areas that describe the outcomes expected by the end of 2010 and the FY 2009 results.

FY 2009 Performance Measures

1. Science, Discovery and Innovation

Office: Office of Science

Program: High Energy Physics

Secretarial Priority Supported: Science, Discovery and Innovation

CDF/D-Zero Detector

Measure: Deliver within 20% of baseline estimate a total integrated amount of data (in inverse picobarns, [pb⁻¹]) to the CDF and D-Zero detectors at the Tevatron. The FY09 baseline is 1684 pb⁻¹, so within 20% of baseline is 1347 pb⁻¹.

2009 Results

Commentary: Met Annual goal met. Achieved 1939 pb⁻¹

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

<http://www-bdnew.fnal.gov/operations/lum/supertable.html>.

Supporting

Documentation: This page, "Quarterly Performance Numbers," lists the number of inverse picobarns for each quarter. Target performance is determined from the average integrated luminosity (average of CDF and D-Zero).

Associated Performance in Prior Years

FY 2008: Met Deliver within 20% of baseline estimate a total integrated amount of data (in inverse picobarns, [pb⁻¹]) to the CDF and D-Zero detectors at the Tevatron. The FY08 baseline is 1000 pb⁻¹, so within 20% of baseline is 800 pb⁻¹.

FY 2007: Met Deliver within 20% of baseline estimate a total integrated amount of data (in inverse picobarns, [pb⁻¹]) to the CDF and D-Zero detectors at the Tevatron. The FY 2007 baseline is 800 pb⁻¹, so within 20% of baseline is 640 pb⁻¹. FY 2007 actual: Tevatron delivered 1311 pb⁻¹ to CDF and D-Zero.

FY 2006: Met Delivered data as planned within 20% of the baseline estimate (675 pb⁻¹) to CDF and D-Zero detectors at the Tevatron.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: High Energy Physics

Secretarial Priority Supported: Science, Discovery and Innovation

Const/MIE Cost and Schedule

Measure: Achieve less than 10% for both the cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects.

2009 Results

Commentary: Met Annual goal met. CPI 1.3%, SPI: 7.4%

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Cost and schedule variance calculated by Earned Value for each project is averaged, weighted by the Total Project Cost for that project.

Supporting

Documentation: The supporting documentation resides in the files of the HEP Office (SC-25), and a web site is under development.

Associated Performance in Prior Years

FY 2008: Met Achieve less than 10% for both the cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects.

FY 2007: Met Achieve less than 10% for both the cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. FY 2007 actual: Cost variance for ATLAS is +0.8%. Cost variance for CMS is +1.1%. Total project cost-weighted average is +1.0%. Schedule variance for both ATLAS and CMS is less than 0.1%. Therefore, the total project cost-weighted average is less than 0.1%.

FY 2006: Met Maintained cost and schedule milestones for major items of equipment and new construction projects within 10% of baseline estimates.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: High Energy Physics

Secretarial Priority Supported: Science, Discovery and Innovation

Facility Ops

Measure: Achieve greater than 80% average operation time of the scientific user facilities (the Fermilab Tevatron) as a percentage of the total scheduled annual operating time. In FY09, the performance goal will be met if more than 4032 hours are delivered and will be exceeded if greater than 5040 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Annual goal met. Achieved 83.7% of scheduled operating time.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Derived from letters from Lab Directors or designee. Fermi data are reported at <http://www-bdnew.fnal.gov/operations/lum/supertable.html>.

Supporting Documentation: The scientific user facilities and scheduled hours: - the Fermilab Tevatron, 5040 for a total of 5040 hours (4032 hours is 80%).

Unscheduled downtime reported by each facility is averaged, weighted by the Facility Operations cost. Facility Operations costs are defined in the Facilities Summary section of the HEP FY09 budget submission.

Associated Performance in Prior Years

FY 2008: Met Achieve greater than 80% average operation time of the scientific user facilities (the Fermilab Tevatron and the Stanford Linear Accelerator (SLAC) B-factory) as a percentage of the total scheduled annual operating time.

FY 2007: Met Achieve greater than 80% average operation time of the scientific user facilities (the Fermilab Tevatron and the Stanford Linear Accelerator (SLAC) B-factory) as a percentage of the total scheduled annual operating time. FY 2007 actual: Fermi operation time was 83% in FY07 and SLAC operation time was 81%. Overall HEP average is 82%.

FY 2006: Not Met Maintained and operated HEP facilities such that unscheduled downtime was on average less than 20% of the total scheduled operating time.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: High Energy Physics

Secretarial Priority Supported: Science, Discovery and Innovation

MINOS Detector

Measure within 20% of the total integrated amount of data (in protons-on-target) delivered to the MINOS detector using the NuMI facility. The FY09 baseline is 2.2×10^{20} protons-on-target; goal will be met if total integrated amount of data measured is greater than or equal to 1.8×10^{20} protons-on-target.

2009 Results

Commentary: Met Annual goal met. Achieved 2.24×10^{20} protons-on-target.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: <http://www-bdnew.fnal.gov/operations/lum/supertable.html>
This page, "Quarterly Performance Numbers," lists the number of protons-on-target for each quarter.

Associated Performance in Prior Years

FY 2008: Met Measure within 20% of the total integrated amount of data (in photons-on-target) delivered to the MINOS detector using the NuMI facility. The FY08 baseline is 2.0×10^{20} photons-on-target, so within 20% of baseline is 1.6×10^{20} photons-on-target.

FY 2007: Met Measure within 20% of the total integrated amount of data (in photons-on-target) delivered to the MINOS detector using the NuMI facility. The FY 2007 baseline is 1.5×10^{20} photons-on-target, so within 20% of baseline is 1.2×10^{20} photons-on-target. FY 2007 actual: NuMI delivered 1.9×10^{20} photons-on-target.

FY 2006: Met Delivered data as planned within 20% of the baseline estimate (1×10^{20} protons on target) for the MINOS experiment using the NuMI facility.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Nuclear Physics

Secretarial Priority Supported: Science, Discovery and Innovation

ATLAS - HRIBF Detectors

Measure: Achieve at least 80% of the integrated delivered beam used effectively for all experiments run at each of the Argonne Tandem Linac Accelerator System (ATLAS) and the Holifield Radioactive Ion Beam (HRIBF) facilities measured as a percentage of the scheduled delivered beam considered effective for each facility.

2009 Results

Commentary: Not Met Annual goal not met. Annual goal was met for ANL/ATLAS but not for ORNL/HRIBF.

Future Plans / Explanation of Shortfalls: SHORTFALL: ORNL/HRIBF: Shortfall of 3% resulted from a stripper foil mechanism failure which required an extended tandem tank opening in Q2, along with several difficulties encountered while resuming operating of ORIC in Q3 and Q4, after a nine month shutdown following an Operational Emergency which occurred at the end of FY 2008.

Shortfalls:

FUTURE: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: Official letters from ANL and ORNL management to NP Office reporting and certifying the total percentage integrated delivered beam achieved for the year.

Documentation:

Documentation resides in the Office of Nuclear Physics (SC-26) files.

Associated Performance in Prior Years

FY 2008:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments at the Argonne Tandem Linac Accelerator System (ATLAS) and Holifield Radioactive Ion Beam facilities (HRIBF), respectively. FY08 Baseline: 20, 2.4; within 20% of baseline 16, 1.9.
FY 2007:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments at the Argonne Tandem Linac Accelerator System (ATLAS) and Holifield Radioactive Ion Beam facilities (HRIBF), respectively. FY 2007 Baseline: ATLAS-22, HRIFB-1.8; FY 07 within 20% of baseline ATLAS-17.6, HRIFB-1.4. FY 2007 actual: Achieved 27.6 billion events at ATLAS and 7.1 billion events at HRIBF.
FY 2006:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments at the Argonne Tandem Linac Accelerator System (24.6) and Holifield Radioactive Ion Beam (7.1) facilities, respectively.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Nuclear Physics

Secretarial Priority Supported: Science, Discovery and Innovation

CEBAF detector

Measure: Achieve at least 80% of the integrated delivered beam used effectively for experimental research in each of Halls A, B and C at the Continuous Electron Beam Accelerator Facility (CEBAF) measured as a percentage of the scheduled delivered beam considered effective for each Hall.

2009 Results

Commentary: Not Met Annual goal not met. Annual goal was met for Halls A and B, but not met for Hall C.

Future Plans / Explanation of Shortfalls: **SHORTFALL:** The core problem in Hall C was primarily the failure of the SANE target provided by outside collaborators, as well as challenges associated with commissioning two complex experiments in FY 2009.

FUTURE: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: Official letter from TJNAF management to NP Office reporting and certifying the total percentage integrated delivered beam in Hall A, B, C at CEBAF achieved for the year. Documentation resides in the Office of Nuclear Physics (SC-26) files.

Associated Performance in Prior Years

FY 2008:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments in Hall A, Hall B, and Hall C at the Continuous Electron Beam Accelerator facility (CEBAF). FY 2008 Baseline: Hall A: 2.9, Hall B: 14.9, and Hall C: 3.2; within 20% of baseline Hall A: 2.3, Hall B: 11.9, and Hall C: 2.5.
FY 2007:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments in Hall A, Hall B, and Hall C at the Continuous Beam Accelerator facility. FY 2007 Baseline: Hall A 2.2, Hall B 11.6, and Hall C 2.6; FY 07 within 20% of baseline Hall A 1.76, Hall B 9.28, and Hall C 2.08. FY 2007 actual: Hall A=2.49; Hall B=12.42; Hall C=3.01.
FY 2006:	Met	Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments in Hall A (1.77), Hall B (9.9), and Hall C (1.9), respectively, at the Continuous Electron Beam Accelerator Facility.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Nuclear Physics

Secretarial Priority Supported: Science, Discovery and Innovation

Proton Collision

Measure: Achieve at least 80% of the projected integrated proton-proton collision luminosity sampled by each of the PHENIX and STAR experiments at the Relativistic Heavy Ion Collider, where the projected values take into account anticipated collider performance and detector data-taking efficiencies.

2009 Results

Commentary: Not Met Annual goal not met. PHENIX exceeded its annual goal with 90% but STAR did not with a result of 65.4%. The STAR experiment's projected enhancement in the accelerator's proton beam luminosity for STAR was not realized.

Future Plans / Explanation of Shortfalls: The performance of RHIC operations will be examined at the 2009 Science and Technology Review with a panel of expert peers. Appropriate action will be formulated based upon the review panel's findings.

Supporting Documentation: Official letter from BNL management to NP Office reporting and certifying the total percentage of projected integrated proton-proton collision luminosity sampled by each PHENIX and STAR experiments at RHIC for the year.
Documentation: Documentation resides in the Office of Nuclear Physics (SC-26) files.

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Nuclear Physics

Secretarial Priority Supported: Science, Discovery and Innovation

NP Const/MIE Cost & Schedule

Measure: Achieve within 10% for both the cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects.

2009 Results

Commentary: Met Annual goal met. CPI = 0.98 and SPI = 0.95.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Derived from the Monthly Report preceding the end of the quarter for the following projects:
- 12 GeV CEBAF Upgrade

Supporting Documentation: Cost and schedule variance calculated by Earned Value for each project is averaged, weighted by the Total Project Cost for that project.

The supporting documentation resides in the files of the ONP (SC-26).

Associated Performance in Prior Years

FY 2008: Met Achieve within 10% for both the cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Nuclear Physics

Secretarial Priority Supported: Science, Discovery and Innovation

NP Facility Ops

Measure: Achieve at least 80% average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. In FY09, the performance goal will be met if more than 12,352 hours are delivered and will be exceeded if greater than 15440 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Annual goal met.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Supporting Documentation:

Official letters from ANL (ATLAS), BNL (RHIC), ORNL (HRIBF), and TJNAF (CEBAF) management to NP Office reporting and certifying annual achieved operation time of the user facility (per documented control process); NP program office worksheet showing subsequent calculation and compiled average of the achieved operation time as a percent of total scheduled annual operating time.

Documentation resides in the Office of Nuclear Physics (SC-26) files. This target, a measure of the reliability of NP facilities, is met when the average of the calculated percentages is greater than 80%.

Associated Performance in Prior Years

FY 2008: Met Achieve at least 80% average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time.

FY 2007: Met Achieve at least 80% average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. FY 2007 actual: NP user facilities (ATLAS, HRIBF, RHIC and CEBAF) achieved an average of 91% reliability of the uptime/scheduled time for the year.

FY 2006: Met Maintained and operated Nuclear Physics scientific user facilities so the unscheduled operational downtime was 6%, on average, of scheduled operating time.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Artificial Retina

Measure: Advance blind patient sight. FY09: Complete in vitro/bench top development of implantable 200+ electrode prototype.

2009 Results

Commentary: Met Annual goal met. The bench-top development of an implantable 200+ electrode prototype has been completed. All the components of the 200+ electrode prototype have been integrated and characterized.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Supporting Emails reporting the results and publication/availability of the results (per documented control process).

Documentation: The e-mails reside at <http://artificialretina.energy.gov/gpra2008.shtml>

Associated Performance in Prior Years

FY 2008: Met Advance blind patient sight: Optimize the 200+ Artificial Retina Using Data from Clinical Results.

FY 2007: Met Advance blind patient sight: complete design and construction of final 256 electrode array. Begin in vitro testing and non-stimulating testing in animals. FY 2007 actual: The design and construction of two 256 electrode arrays was completed, and in vitro and animal non-stimulating tests were initiated.

FY 2006: Met Advance blind patient sight: Begin testing of prototypes for 256 microelectrode array artificial retina.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Determine Scalability of Laboratory Results in Field Experiments

Measure: Determine scalability of laboratory results in field environments - Determine the dominant processes controlling the fate and transport of contaminants in subsurface environments and develop quantitative numerical models to describe contaminant mobility at the field scale. For FY09: Test geophysical techniques that measure parameters controlling contaminant movement under field conditions in at least two distinct subsurface environments.

2009 Results

Commentary: Met Annual goal met.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Emails reporting the results and publication/availability of the results (per documented control process).

Supporting

Documentation: The e-mails reside at <http://www.lbl.gov/ERSP/generalinfo/milestones.html> and/or <http://www.lbl.gov/NABIR/generalinfo/>

Associated Performance in Prior Years

FY 2008:	Met	Determine the dominant processes controlling the fate and transport of contaminants in subsurface environments and develop quantitative numerical models to describe contaminant mobility at the field scale. For FY08: Identify the critical redox reactions and metabolic pathways involved in the transformation/ sequestration of at least one key DOE contaminant in a field environment.
FY 2007:	Met	Implement a field-oriented, integrated experimental research program to quantify coupled processes that control reactive transport of at least one key DOE contaminant. FY 2007 actual: Implementation Plan progress report from the Oak Ridge Integrated Field Challenge (IFC) project announced.
FY 2006:	Met	Develop predictive model for contaminant transport that incorporates complex biology, hydrology, and chemistry of the subsurface. Validate model through field tests.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Climate Facility Ops

Measure: The achieved operation time of the (climate change) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. In FY09, the ARM Climate Research Facilities performance goal will be met if more than 7726 hours are delivered and will be exceeded if greater than 7884 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Annual goal met.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Emails reporting the results and data availability (per documented control process). ARM stands for

Supporting Atmospheric Radiation Measurement

Documentation:

The e-mails reside at: <http://www.arm.gov/acrf/opsstats.stm>.

Associated Performance in Prior Years

FY 2008:	Met	The achieved operation time of the (climate change) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. ARM Climate Research Facilities - 7884 total hours annually, so 98% is greater than 7726 hours.
FY 2007:	Met	The achieved operation time of the (climate change) scientific user facility as a percentage of the total scheduled annual operating time in FY 2007 is greater than 98%. FY 2007 actual: Achieved an average of 104%.
FY 2006:	Met	Maintain and operate BER Climate Change research facilities such that achieved operation time is on average greater than 98% of the total scheduled annual operation time for each group of facilities.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Environmental Facility

Measure: The achieved operation time of the (environment) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. In FY09, the Environmental Molecular Sciences Laboratory (EMSL) performance goal will be met if more than 4277 hours are delivered and will be exceeded if greater than 4365 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Annual goal met. EMSL achieved 4377 operational hours.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Emails reporting the results and data availability (per documented control process).

Supporting

Documentation: The e-mails will reside at: <http://www.emsl.pnl.gov/homes/hours.shtml>

Associated Performance in Prior Years

FY 2008:	Met	The achieved operation time of the (environment) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. Environmental Molecular Sciences Laboratory – 4365 total hours annually, so 98% is greater than 4277 hours.
FY 2007:	Met	The achieved operation time of the (environment) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. FY 2007 actual: Achieved an average of 99.9%.
FY 2006:	Met	Maintain and operate BER Environmental Remediation facilities such that achieved operation time is on average greater than 95% of the total scheduled annual operation time for each group of facilities.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Improve Climate Models

Improve climate models -- Develop a coupled climate model with fully interactive carbon and sulfur cycles, as well as dynamic vegetation to enable simulations of aerosol effects, carbon

Measure: chemistry and carbon sequestration by the land surface and oceans and the interactions between the carbon cycle and climate. FY09: Provide improved climate simulations on subcontinental, regional, and large watershed scales, with an emphasis on improved simulation of precipitation and produce new continuous time series of retrieved cloud, aerosol, and radiation for Arctic region.

2009 Results

Commentary: Met Annual goal met.

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

Emails reporting the results and publication/availability of the results (per documented control process).

Supporting Documentation: Report is available at <http://www.arm.gov/science/metrics.stm>.

Associated Performance in Prior Years

FY 2008: Met Report results of decade-long control simulation using geodesic grid coupled climate model and produce new continuous time series of retrieved cloud, aerosol, and dust properties, based on results from the ARM mobile facility deployment in Niger, Africa.

FY 2007: Met Provide new mixed-phase cloud parameterization for incorporation in atmospheric GCMs and evaluate extent of agreement between climate model simulations and observations for cloud properties in the arctic. FY 2007 actual: The predicted ice water content in the CAM3 with the new scheme is in better agreement with the ARM observation at the SGP site for the mixed-phase clouds and with the Aura MLS data than that in the standard CAM3.

FY 2006: Met Improve climate models: Produce a new continuous time series of retrieved cloud properties at each ARM site and evaluate the extent of agreement between climate model simulations of water vapor concentration and cloud properties and measurements of these quantities on time scales of 1 to 4 days.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Increase the rate and decrease the cost of DNA sequencing

Increase the rate and decrease the cost of DNA sequencing – Increase by at least 10% the number of high quality (less than one error in 10,000) bases of DNA from microbial and model organism genomes sequenced the previous year, and decrease by at least 10% the cost (billion base pair/dollar) to produce these base pairs from the previous year's actual results. FY09: Sequence 253 billion base pairs at a rate of 4600bp/\$1, based on FY08 actual of 125.5 billion base pairs at a rate of 2350bp/\$1.

2009 Results

Commentary: Met Goal met. 1004 billion base pairs of high quality DNA sequenced (representing 397% of the yearly target) at 15,430 bp/\$.

Future Plans / Explanation of Shortfalls: (Note: The enhanced annual goals/targets are based on anticipated FY09 sequencing technology improvements.) Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: Emails reporting the results and data availability (per documented control process). The number of base pairs will be divided by the total funding to the Production Genomics Facility to calculate the cost of DNA sequencing.

Production Genomics Facility – <http://www.jgi.doe.gov/sequencing/statistics.html>.

Associated Performance in Prior Years

FY 2008: Met Increase by 10% the number (in billions) of high quality (less than one error in 10,000) bases of DNA from microbial and model organism genomes sequenced the previous year, and decrease by 10% the cost (base pair/dollar) to produce these base pairs from the previous year's actual results. FY08: 42.8 billion base pairs (bp) and 785bp/\$1 (based on FY07 actual were 38.95 Billion base pairs (bp), and JGI achieving 714bp/\$1.)

FY 2007: Not Met Increase the rate and decrease the cost of DNA sequencing - Number (in billions) of high quality (less than one error in 10,000 bases) of DNA microbial and model organisms' genome sequenced annually, and the cost (base pairs per dollar) to produce these base pairs. FY 2007 actual: 38.95 Billion bases (97% of goal) achieved.

FY 2006: Met Increase the rate of DNA sequencing -- Number (in billions) of base pairs of high quality (less than one error in 10,000 bases) DNA microbial and model organism genome sequence produced annually. In FY 2006 at least 30 billion base pairs will be sequenced.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Biological and Environmental Research

Secretarial Priority Supported: Science, Discovery and Innovation

Life Sci Facility Ops

Measure: The achieved operation time of the (life sciences) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. In FY09, the Production Genomics Facility (PGF) performance goal will be met if more than 8232 hours are delivered and will be exceeded if greater than 8400 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Annual goal met. The PGF achieved 8626 operational hours.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: Emails reporting the results and data availability (per documented control process).
The e-mails will reside at: <http://www.jgi.doe.gov/sequencing/statistics.html>

Associated Performance in Prior Years

FY 2008: Not Met The achieved operation time of the (life sciences) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. Production Genomics Facility (PGF) – 8400 total hours annually, so 98% is greater than 8232 hours.

FY 2007: Met The achieved operation time of the (life sciences) scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. FY 2007 actual: Achieved an average of 102%.

FY 2006: Met Maintain and operate BER Life Science facilities such that achieved operation time is on average greater than 98% of the total scheduled annual operation time for each group of facilities.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Fusion Energy Sciences

Secretarial Priority
Supported: Science, Discovery and Innovation

FES Facility Based Experiments

Measure: Conduct experiments on the major fusion facilities (DIII-D, Alcator C-Mod, NSTX) leading toward the predictive capability for burning plasmas and configuration optimization. In FY 2009, FES will identify the fundamental processes governing particle balance by systematically investigating a combination of divertor geometries, particle exhaust capabilities, and wall materials. Alcator C-Mod operates with high-Z metal walls, NSTX is pursuing the use of lithium surfaces in the divertor, and DIII-D continues operating with all graphite walls. Edge diagnostics measuring the heat and particle flux to walls and divertor surfaces, coupled with plasma profile data and material surface analysis, will provide input for validating simulation codes. The results achieved will be used to improve extrapolations to planned ITER operation.

2009 Results

Commentary: Met Goal met. Experiments were conducted on DIII-D, NSTX, and C-Mod. Fundamental processes governing particle balance were identified. The results achieved were used to improve extrapolation to planned ITER operation.

Future Plans /
Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.
Shortfalls:

Supporting The V&V website is: <http://www.science.doe.gov/ofes/performance/targets.shtml>
Documentation: This site provides quarterly progress reports and documentation of achievement for this annual target.

Associated Performance in Prior Years

FY 2008: Met Conduct experiments on the major fusion facilities (DIII-D, Alcator C-Mod, NSTX) leading toward the predictive capability for burning plasmas and configuration optimization. In FY 2008, FES will evaluate the generation of plasma rotation and momentum transport, and assess the impact of plasma rotation on stability and confinement. Alcator-Mod will investigate rotation without external momentum input, NSTX will examine very high rotation speeds, and DIII-D will vary rotation speeds with neutral beams. The results achieved at the major facilities will provide important new data for estimating the magnitude of and assessing the impact of rotation on ITER plasmas.

FY 2007: Met Conduct experiments on the major fusion facilities (DIII-D, Alcator C-Mod, NSTX) leading toward the predictive capability for burning plasmas and configuration optimization. In FY 2007, FES will measure and identify magnetic modes on NSTX that are driven by energetic ions traveling faster than the speed of magnetic perturbations (Alfvén speed); such modes are expected in burning plasmas such as ITER. FY 2007 actual: Completed a series of energetic particle-related experiments and identified three Alfvén Eigenmodes. Carried out a comprehensive analysis of the behavior of the modes and their effect on the confinement of fast particles, and compared the results with published theoretical models.

FY 2006: Met Conduct experiments on the major fusion facilities (DIII-D, Alcator C-Mod, and NSTX) leading toward the predictive capability for burning plasmas and configuration optimization. In FY 2006, FES injected 2 MW of neutral power in the counter direction on DIII-D and began physics experiments.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Fusion Energy Sciences

Secretarial Priority Supported: Science, Discovery and Innovation

FES Facility Operations

Measure: Average achieved operation time of the major national fusion facilities (DIII-D, Alcator C-Mod, NSTX) as a percentage of the total planned operation time is greater than 90%. In FY09, the performance goal will be met if more than 34 weeks are delivered and will be exceeded if greater than 38 weeks (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Annual goal met. DIII-D completed 14 weeks of experiments on July 27. NSTX completed 11 weeks of experiments on July 7. C-Mod completed 9.1 weeks of experiments on September 25. Met A total of 34.1 weeks of operations exceeded the target of 34 weeks (90% of planned operating time.)

Future Plans /

Explanation of Target will be continued with a revised goal based on appropriated funding for FY 2010.

Shortfalls:

The V&V website is: <http://www.science.doe.gov/ofes/performance/targets.shtml>

This site provides quarterly progress reports and documentation of achievement for this annual target. The results will be updated on a timely basis.

Supporting FES's major national fusion facilities are:

Documentation: - the DIII-D Tokamak at General Atomics in San Diego, California;
- the Alcator C-Mod Tokamak at the Massachusetts Institute of Technology;
- the National Spherical Torus Experiment at the Princeton Plasma Physics Laboratory.

38 weeks total (baseline) are expected for FY09.

Associated Performance in Prior Years

FY 2008: Average achieved operation time of the major national fusion facilities (DIII-D, Alcator C-Mod, NSTX) as a percentage of the total planned operation time in FY08 of greater than 90%. Met

FY 2007: Average achieved operation time of the major national fusion facilities (DIII-D, Alcator C-Mod, NSTX) as a percentage of the total planned operation time in FY 2007 of greater than 90%. Met
FY 2007 actual: A total of 40.1 weeks of operations exceeded the target of 35 weeks; 114.6% > 90%.

FY 2006: Average achieved operational time of major national fusion facilities as a percentage of total planned operational time is greater than 90%. Met

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Fusion Energy Sciences

Secretarial Priority Supported: Science, Discovery and Innovation

Simulation Resolution

Measure: Continue to increase resolution in simulations of plasma phenomena -- optimizing confinement and predicting the behavior of burning plasmas require improved simulations of edge and core plasma phenomena, as the characteristics of the edge can strongly affect core confinement. In FY 2009, gyrokinetic edge electrostatic turbulence simulations will be carried out across the divertor separatrix with enhanced resolution down to the ion gyroradius scale.

2009 Results

Commentary: Met Goal was met. High resolution simulations of edge plasma turbulence advanced our understanding of H-mode physics.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: The V&V website is: <http://www.science.doe.gov/ofes/performance/targets.shtml>
This site provides quarterly progress reports and documentation of achievement for this annual target.

Associated Performance in Prior Years

FY 2008: Met Increase resolution in simulations of plasma phenomena—optimizing confinement and predicting the behavior of burning plasmas require improved simulations of edge and core plasma phenomena, as the characteristics of the edge can strongly affect core confinement. In FY 2008, improve the simulation resolution of ITER-relevant modeling of lower hybrid current drive experiments on Alcator C-Mod by increasing the number of poloidal modes used to 2,000 and the number of radial elements used to 1,000 using the Office of Science's high performance computing resources.

FY 2007: Met Plasma Phenomena - Increase resolution in simulations of plasma phenomena -- optimizing confinement and predicting the behavior of burning plasmas require improved simulations of edge and core plasma phenomena, as the characteristics of the edge can strongly affect core confinement. In FY 2007, improve the simulation resolution of linear stability properties of Toroidal Alfvén Eigenmodes driven by energetic particles and neutral beams in ITER by increasing the number of toroidal modes used to 15. FY 2007 actual: Prepared a comprehensive review of the TAE energetic particle stability of ITER discharges in three operating regimes.

FY 2006: Met Increase resolution in simulations of plasma phenomena-optimizing confinement and predicting the behavior of burning plasmas require improved simulations of edge and core plasma phenomena, as the characteristics of the edge can strongly affect core confinement. In FY 2006, FES simulated nonlinear plasma edge phenomena using extended MHD codes with a resolution of 40 toroidal modes.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Basic Energy Science

Secretarial Priority Supported: Science, Discovery and Innovation

BES Const/MIE Cost & Schedule

Measure: Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. In FY09, it is at least 10% and 10%, respectively.

2009 Results

Commentary: Met Goal Met. 2.5% (cost variance) and -5.9% (schedule variance)
References: Reports from the DOE Federal Project Directors on all BES construction projects reside in the files of the Office of Basic Energy Sciences (SC-22). Final results for FY 2009 will be submitted when available (September 2009 PARS data not yet available).

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: BES Projects include those that have an approved performance baseline at the start of FY 2009, which include: LCLS, SING-I, SING-II, NSLS-II, ALS User Support Building, TEAM, and PULSE. Another project is expected to obtain an initial performance baseline (CD-2) during FY09, i.e, LUSI.
Supporting Documentation: Supporting data reside in the DOE Office of Engineering and Construction Management's (OECM, ME-50) Project Assessment and Reporting System (PARS) and with Basic Energy Science's Division of Scientific User Facilities (SC-22.3).

Associated Performance in Prior Years

FY 2008: Met Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. In FY08, it is at least 10% and 10%, respectively.

FY 2007: Not Met Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. In FY 2007, it is at least 10% and 10%, respectively. FY 2007 actual: -5.8% (cost variance) and -11.0% (schedule variance).

FY 2006: Met Cost and timetables were maintained within 10% of the baselines given in the construction project datasheets for all construction projects ongoing during the year (Results: -1.7% cost variance and -3.2% schedule variance).

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Basic Energy Science

Secretarial Priority Supported: Science, Discovery and Innovation

BES Facility Ops

Measure: Achieve an average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time of greater than 90%. In FY09, the performance goal will be met if more than 27,630 hours are delivered and will be exceeded if greater than 30,700 hours (which is 100% of scheduled operating time) are delivered.

2009 Results

Commentary: Met Goal Met. 103.5% (average annual operating time at BES facilities as a percentage of planned scheduled time; i.e., 31,785 actual total hours delivered to users versus 30,700 total planned hours)

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010

Supporting Documentation: Supporting documents consist of the required quarterly and annual reports submitted to BES by the BES user facilities at the completion of each quarter and at the end of the fiscal year. These final reports reside in the files of the Office of Basic Energy Sciences (SC-22).
The total planned operating hours for this goal is obtained from the planned operating hours of these individual user facilities: NSLS 5,500; SSRL 5,200; ALS 5,700; APS 5,000; HFIR 3,500; Lujan 3,000; and SNS 3,500 for a total of 30,700 hours (27,630 hours is 90%).

Associated Performance in Prior Years

FY 2008: Met Achieve an average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time of greater than 90%.

FY 2007: Met Achieve an average operation time of the scientific user facilities as a percentage of the total scheduled annual operating time of greater than 90%. FY 2007 actual: 102.1% (27,010 actual total hours delivered to users versus 26,450 total planned hours).

FY 2006: Met Scientific user facilities were maintained and operated to achieve an average at least 90% of the total scheduled operating time (Results: 96.7%).

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Basic Energy Science

Secretarial Priority Supported: Science, Discovery and Innovation

Spatial Resolution

Measure: Maintain spatial resolutions for imaging in the hard x-ray region of <100 nm and in the soft x-ray region of <18 nm, and spatial information limit for an electron microscope of 0.08 nm.

2009 Results

Commentary:	Met Goal Met. Hard x-ray - 90 nanometers Soft x-ray - 15 nanometers Electron microscope - 0.05 nanometers
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Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation:	No further quantitative improvements are expected in these measures in FY 2009 as compared to the level of achievement for FY 2008. Performance levels for spatial resolution have reached the maximum for the current suite of available instruments. This target is a measure of SC's intent to maintain the maximum level of performance for users of the current SC facilities until the next generation of instruments and facilities becomes available.
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Associated Performance in Prior Years

FY 2008:	Met Maintain spatial resolutions for imaging in the hard x-ray region of <100 nm and in the soft x-ray region of <18 nm, and spatial information limit for an electron microscope of 0.08 nm.
FY 2007:	Met Maintain spatial resolutions for imaging in the hard x-ray region of <100 nm and in the soft x-ray region of <18 nm, and spatial information limit for an electron microscope of 0.08 nm. FY 2007 actual: Hard x-ray - 90 nanometers; Soft x-ray - 15 nanometers; Electron microscope - 0.078 nanometers.
FY 2006:	Met Improve Spatial Resolution: Spatial resolution for imaging in the hard x-ray region was measured at 90 nm and in the soft x-ray region was measured at 15 nm, and spatial information limit for an electron microscope of 0.078 nm was achieved.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Basic Energy Science

Secretarial Priority Supported: Science, Discovery and Innovation

Temporal Resolution

Measure: Maintain X-ray pulse of less than 100 femtoseconds in duration and containing more than 100 million photons per pulse (10^8 photons/pulse).

2009 Results

Commentary: Met Goal met. 70 femtosecond pulses with 100 million photons per pulse.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: No further quantitative improvements are expected in these measures in FY 2009 as compared to the level of achievement for FY 2008. Performance levels for temporal resolution have reached the maximum for the current suite of available instruments. This target is a measure of SC's intent to maintain the maximum level of performance for users of the current SC facilities until the next generation of instruments and facilities becomes available.

Associated Performance in Prior Years

FY 2008:	Met	Maintain X-ray pulse of less than 100 femtoseconds in duration and containing more than 100 million photons per pulse (10^8 photons/pulse).
FY 2007:	Met	Demonstrate an X-ray pulse of less than 100 femtoseconds in duration and containing more than 100 million photons per pulse. FY 2007 actual: 70 femtosecond pulses with 100 million photons per pulse.
FY 2006:	Met	Improve temporal resolution: X-ray pulses were measured at 70 femtoseconds in duration with an intensity of 100 million photons per pulse.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Advanced Scientific Computing Research

Secretarial Priority Supported: Science, Discovery and Innovation

Improve Computational Science Capabilities

Measure: Average annual percentage increase in the computational effectiveness (either by simulating the same problem in less time or simulating a larger problem in the same time) of a subset of application codes, tools and/or libraries. In FY09, the computational effectiveness is greater than 100%.

2009 Results

Commentary: Met Annual goal met. Computational effectiveness of each application (CAM, RAPTOR, VisIT, and XGC1) improved by more than 100% for the year.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: In the first Quarter of FY 200, the Suite of applications, tools or libraries to be evaluated is proposed by ASCR to ASCAC. After the list is approved by ASCAC an initial set of baseline science problems for each application, or baseline scaling performance for tools and libraries is defined in detail. The time to solution on each of these baselines, using the application software, tool or library as of the beginning of FY 2009 is determined. Progress towards the 100% goal is determined by monitoring the time to solution of the baseline as the application software, tool or library is improved during the FY or the increase in the size or complexity of the baseline science problem that is possible without increasing the time to solution. Reports detailing these evaluations reside in the files of the ASCR Office (SC-21).

Associated Performance in Prior Years

FY 2008: Met Average annual percentage increase in the computational effectiveness (either by simulating the same problem in less time or simulating a larger problem in the same time) of a subset of application codes. In FY08, the computational effectiveness is greater than 100%.

FY 2007: Met Average annual percentage increase in the computational effectiveness (either by simulating the same problem in less time or simulating a larger problem in the same time) of a subset of application codes within the Scientific Discovery through Advanced Computing (SciDAC) effort. In FY07, the computational effectiveness is greater than 100%. FY 2007 actual: Achieved improvement of computational effectiveness of selected codes of > 100%.

FY 2006: Met Improved Computational Science Capabilities. Average annual percentage increased in the computational effectiveness (either by simulating the same problem in less time or simulating a larger problem in the same time) of a subset of application codes within the SciDAC effort. FY 2006—>50%.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

Office: Office of Science

Program: Advanced Scientific Computing Research

Secretarial Priority Supported: Science, Discovery and Innovation

National Energy Research Scientific Computing Center - Capability Computing

Measure: Focus usage of the primary supercomputer at the National Energy Research Scientific Computing Center (NERSC) on capability computing. At least forty percent (40%) of the computing time will be used by computations that require at least 1/8 (2,040 processors) of the NERSC resource. FY09 goal 40%.

2009 Results

Commentary: Met Annual goal met. Averaged over the year, 51.9% of the time used on Franklin was used by jobs running with 2,024 or more cores.

Future Plans / Explanation of Shortfalls: Target will be continued with a revised goal based on appropriated funding for FY 2010.

Supporting Documentation: This data comes directly from the batch queue accounting system at NERSC. The Number of CPU hours accounted for by jobs that use at least 2,040 processors is divided by the total number of CPU hours delivered to all jobs in the batch system. Reports detailing this progress reside in the files of the ASCR Office (SC-21).

Associated Performance in Prior Years

FY 2008: Met Focus usage of the primary supercomputer at the National Energy Research Scientific Computing Center (NERSC) on capability computing. Thirty percent (30%) of the computing time will be used by computations that require at least 1/8 (2,040 processors) of the NERSC resource. FY08 goal 30%.

FY 2007: Met Focus usage of the primary supercomputer at the National Energy Research Scientific Computing Center (NERSC) on capability computing. Percentage of the computing time used that is accounted for by computations that require at least 1/8 of the total resource. In FY 2007, the time used is at least 40%. FY 2007 actual: Achieved a target of 67.9%.

FY 2006: Met Focused usage of the primary supercomputer at the NERSC on capability computing. Percentage of the computing time used that was accounted for by computations that require at least 1/8 of the total resource. FY 2006—40%.

Additional Information

Program Office: <http://www.sc.doe.gov/>

FY 2009 Performance Measures

2. *Economic Prosperity*

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

Energy Storage Program

Finalize conceptual system design for a Flywheel Energy Storage System for Voltage Support and

Measure: Distribution Upgrade Deferral in collaboration with the New York State Energy Research and Development Authority (NYSERDA).

2009 Results

This milestone was met. The kickoff meeting was held in the middle of the quarter. The system design was completed. Schematic drawings for the electrical distribution system; the layout and of the energy storage system in the prefabricated housing; and the configuration of system protection and data monitoring systems were provided. A detailed operations manual for the data logger was also provided.

Commentary: Met The installation of a 2.5 Megawatt (MW) system at Malverne Station will improve the performance of the system in this location. The fast response and stiff voltage regulation of the Flywheel Energy Storage System(FESS) will allow the trains to be operated with faster acceleration and less disruption than they are currently experiencing. Acceptable performance includes demonstrating that the FESS can deliver (discharge) or receive (charge) 2.5 MW for 15 seconds (for the 12-flywheel configuration), with a 15-flywheel configuration option that can achieve a 30-second discharge at 2.5 MW.

Future Plans / Explanation of Shortfalls: Future plans include data monitoring by Sandia National Laboratories through EnerNex over the 12-month demonstration period. The data will be used to perform an independent analysis on the system performance.

Supporting Documentation: Sandia National Laboratory (SAND) Report entitled Conceptual System Design for a Trackside Flywheel Energy Storage System for Voltage Support and Distribution Upgrade Deferral.

Associated Performance in Prior Years

FY 2008: Met Test three ionic liquids for possible use as electrolytes in batteries or electrochemical capacitors with the potential for doubling the energy and increasing the power by at least 50% for capacitors or doubling the lifetime and improving safety of rechargeable non-aqueous batteries.

FY 2007: Met Commission two major pioneering energy storage systems in collaboration with the CEC and NYSERDA, and complete data collection and monitoring of three systems commissioned during FY 2006.

FY 2006: Met Commissioned three pioneering energy storage systems in collaboration with the California Energy Commission and collect preliminary technical and economic data.

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

High Temperature Superconductivity

Measure: Maintain progress in routinely manufacturing prototype superconducting wires to fabricate, test and produce 2 Tesla magnetic fields at 65 Kelvin (K) coils for electric power applications.

2009 Results

Commentary: Met SuperPower has succeeded in routine manufacturing of prototype superconducting wires with enhanced in-field performance. These wires were used to fabricate test coils that generated greater than 2 Tesla magnetic fields at 65 K.

Future Plans /

Explanation of Goal was accomplished. Future plans exist to increase magnetic fields to 5 Tesla by 2014.

Shortfalls:

Oak Ridge National Laboratory (ORNL) Superconducting Technology Program Superconductivity for Supporting Electric Systems Annual Report for Fiscal Year (FY) 2009 - Section 5 - Subtask 1.5.1 - SuperPower Inc Documentation: Second Generation (2G) Wire Development Subcontract.

Associated Performance in Prior Years

FY 2008:	Met	Demonstrate prototype 50,000 A-m critical current-length for second generation wire.
FY 2007:	Met	Complete six months operation of superconducting cable operating on the grid at greater than 10 kilovolts.
FY 2006:	Met	Operated a first-of-a-kind superconducting power cable on the electric grid for 240 hours.

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

Renewable and Distributed Systems Integration

Demonstrate peak load reduction on distribution feeders with the implementation of Distributed

Measure: Energy (DE) and Smart Grid technologies with a 5 percent reduction in peak load and 1 feeder analyzed/demonstrated.

2009 Results

Commentary: Met The goal to demonstrate a 5 percent peak load reduction on distribution feeders with the implementation of Distributed Energy (DE) and Smart Grid Technologies was accomplished. The distributed resources were installed and are available to supply electricity during peak load periods. Monitoring and data collection have been initiated and continue.

Future Plans /

Explanation of Goal was accomplished. Future plans exist to increase peak load reduction from 5 to 10 percent

Shortfalls:

Supporting Documentation: Phase II Final Report for DE-FC02-04CH11234, Sandia National Laboratory Project for Lanai, Kauai, Oak Ridge National Laboratory (ORNL) Quarterly Report DSI 3rd and 4th Quarters, Fiscal Year 2009

Associated Performance in Prior Years

FY 2008:	Met	Award contracts to demonstrate improvement in grid utilization of 5% by 2009 and 20% by 2015.
FY 2007:	N/A	
FY 2006:	N/A	

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability Program: Electricity Delivery and Energy Reliability Secretarial Goal Supported: Economic Prosperity	<p>Operations and Analysis/Infrastructure Security and Energy Restoration</p> <p>Formally request in writing access to electric transmission information from relevant regional stakeholders in order to have near real time visualization capability within the Energy Response Center of the entire U.S. electric transmission grid at 230 Kilovolts (KV) and above, thereby enabling improved situational awareness during emergencies.</p> <p style="text-align: center;"><u>2009 Results</u></p> <p>OE has met the 2009 annual target. The office submitted a formal request to the Western Electricity Coordinating Council, WECC, to obtain electric transmission data for the western United States. WECC had received a similar request from the North American Electricity Reliability Corporation, NERC, and asked ISER to investigate obtaining the data directly from NERC. After several meetings with NERC it was determined that the data that they are requesting is at a higher level than the data that ISER needs to complete the real time transmission status displays in our current modeling platform, VERDE. As a result, ISER has resubmitted the request to WECC to obtain the data directly. The request is being prepared for presentation to the WECC board of directors for their consideration at an upcoming board meeting. The data from WECC will be combined with existing data feeds from the eastern interconnect and data feeds from the Electric Reliability Council of Texas, ERCOT. Together, these industry sources are capable of providing transmission status coverage that would enable the office to have comprehensive and near real time information as planned.</p> <p>A major obstacle in getting national coverage has been obtaining agreements in the WECC region. WECC is still about a year away from having the similar data sharing infrastructure as in the East. Discussions have continued with utilities in the western interconnect with interest in accessing VERDE. It is anticipated that these efforts will continue in FY2010.</p> <p>Future Plans / Explanation of Shortfalls: Future plans to expand the tool include: - Identify a structure to obtain real-time data from oil and natural gas infrastructure - In FY2010, non disclosure agreements with participating utilities need to be renewed and will be necessary to ensure continued operations of VERDE in the Southeast region and the Midwestern Independent System Operators (MISO).</p> <p>Supporting Documentation: Capabilities and user manual for Energy Response Center; technical documentation describing the VERDE system; Situational Reports; and Daily VERDE Features</p>
<u>Associated Performance in Prior Years</u>	
FY 2008:	N/A
FY 2007:	N/A
FY 2006:	N/A

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office:	Electricity Delivery and Energy Reliability	
Program:	Electricity Delivery and Energy Reliability	
Secretarial Goal Supported:	Economic Prosperity	
	Research and Development Program Efficiency Measure	
Measure:	Maintain total Research and Development (R&D) Program Direction costs in relation to total Research and Development costs of less than 12%.	
	<u>2009 Results</u>	
Commentary:	Met	R&D division continued to achieve an efficiency measure below the 12% target level. While the 9.71% costed number is well below the 12% target, it does reflect an increase over FY 2008. This is due in part to work that was initiated immediately after enactment of the Recovery Act to expedite the recovery effort.
Future Plans / Explanation of Shortfalls:		OE intends to continue to maintain total R& D Program Direction costs at less than 12% of total R & D costs for 2010.
Supporting Documentation:		Annual September/October Efficiency Spreadsheets 2009.
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	Maintain total Research and Development Program Direction costs in relation to total Research and Development costs of less than 12%.
FY 2007:	Met	Maintain total Research and Development Program Direction costs in relation to total Research and Development costs of less than 12%.
FY 2006:	Met	Maintain total Research and Development Program Direction costs in relation to total Research and Development costs at less than 12%.

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

Operations and Analysis/Permitting, Siting, and Analysis

Measure: Complete DOE's Second Study of National Electric Transmission Congestion.

2009 Results

Commentary: Not Met This is the second such study; the first was published on August 8, 2006. These studies are required triennially by section 1221(a) of the Energy Policy Act of 2005, and their purpose is to identify areas of the country that are experiencing chronic or persistent problems due to demand for transmission services that exceeds the safe carrying capacity of the areas' transmission networks.

Future Plans / Explanation of Shortfalls: As stated in the Quarter 4 actuals, National Electric Transmission Congestion Studies are required triennially by section 1221(a) of the Energy Policy Act of 2005. The next study is due in 2012. In Fiscal Years 2011 through 2015, the Permitting, Siting, and Analysis Division also expects to process 150 electricity export authorizations and 15 Presidential permits to increase the number of electric transmission lines connecting the U.S. with Canada and Mexico and well as the volume of electricity trade

Supporting Documentation: Publication of the 2009 National Electric Transmission Congestion Study is awaiting final review.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

Visualization and Control

Measure: Develop Prototype Angle Stability Monitoring Tool.

2009 Results

Commentary: Met OE met its annual performance target. The development of a new Real Time Dynamics Monitoring System (RTDMS) release incorporating new angle stability monitoring displays has been completed and is presently undergoing field trials at selected utilities/organizations within the Eastern Interconnection power system. This modified prototype visualization tool will be released to the broader North American SynchroPhasor Initiative (NASPI) community for industry evaluation in 4th Quarter Fiscal Year (FY) 2009.

Future Plans / Explanation of Shortfalls: The FY2009 target developed baselines for voltage levels and angles and incorporates these quantities into the RTDMS monitoring tool. The FY 2010 work will determine voltage phase angle limits from historical data and planning studies across the grid that define thresholds, which when exceeded would trigger actual alarms. This is the logical next step for voltage stability monitoring and completes the voltage-related part on the RTDMS monitoring platform.

Supporting Documentation: FY09 Technical Report Program, Consortium for Electric Reliability Technology Solutions (CERTS) Quarterly Status Report for July-Sept 09 that will be available in early October.

Associated Performance in Prior Years

FY 2008: Met Commission an Area Interchange Error (AIE) visualization system at the North American Electric Reliability Corporation (NERC) for monitoring compliance with mandatory rules that will improve the reliability of the Nation's electric grid.

FY 2007: Met Develop a plan that delineates the division of duties between DOE and the Electric Reliability Organization (ERO) relative to the research and development activities of DOE, and the deployment of a wide area transmission reliability measurement network in North America by the ERO.

FY 2006: Met Facilitate the installation and operation of 30 additional measurement units and 2 additional archiving and analysis locations in a real-time measurement network, for a cumulative total of 80 measuring units and 8 archiving and analysis locations.

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: Electricity Delivery and Energy Reliability

Secretarial Goal Supported: Economic Prosperity

Visualization and Controls - Cyber Security

Measure: Complete cyber security assessments of 4 SCADA systems in a test bed environment.

2009 Results

Commentary: Exceeded
DOE completed cyber security assessments of 11 Supervisory Control and Data Acquisition/Energy Management Systems (SCADA/EMS) in a test bed environment. These systems are used mainly for applications in the U.S. electric power grid. DOE identified numerous vulnerabilities and developed recommendations for mitigation. As a result, vendors developed "next generation" systems with enhanced cyber security features. Utilities have deployed 6 of these "next generation" systems which will reduce the risk of energy disruptions due to cyber attacks on control systems.

Future Plans /
Explanation of Shortfalls: Complete development of security audit files for 3 control systems.

Supporting Documentation: National SCADA Test Bed, Enhancing control systems security in the energy sector, Fact Sheet and Data Reports; Study of Security Attributes of Smart Grid Systems - Current Cyber Security Issues, April 2009.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.oe.energy.gov/>

FY 2009 Performance Measures

Office: Western Area Power Administration

Program: Western Area Power Administration

Secretarial Goal Supported: Economic Prosperity

Repayment of Investment Performance

Measure: Ensure unpaid investment (UI) is equal to or less than the allowable unpaid investment (AUI) in accordance with DOE Order RA 6120.2 and Reclamation Law.

2009 Results

Western's unpaid investment is equal to or less than the allowable unpaid investment (UI= \$6,195/AUI=\$8,868 (in \$M)).

Commentary: Met

Achieving this target reflects Western's commitment to repay Federal investment within required repayment periods, meeting our obligation to the U.S. Treasury.

Future Plans /

Explanation of Shortfalls: Western will continue to meet all long-term project repayment obligations.

Supporting

Documentation: Final FY 2008 Power Repayment Studies

Associated Performance in Prior Years

FY 2008:	Met	Ensure unpaid investment (UI) is equal to or less than the allowable unpaid investment (AUI) in accordance with DOE Order RA 6120.2 and Reclamation Law.
FY 2007:	Met	Ensure unpaid investment is equal to or less than the allowable unpaid investment. Achieve a ratio of unpaid to allowable unpaid ≤ 1.00 .
FY 2006:	N/A	

Additional Information

Program Office: www.wapa.gov

FY 2009 Performance Measures

Office: Western Area Power Administration

Program: Western Area Power Administration

Secretarial Goal Supported: Economic Prosperity

Measure: **System Reliability Performance - NERC Rating**
Same as above.

2009 Results

All four Western control areas achieved a “pass” rating for both CPS1 and CPS2 for the year.

Commentary: Met Western’s FY 2009 averages: CPS1: 188.45; CPS2: 99.45

Achieving this target reflects Western’s ability to operate the power system efficiently which contributes to the stability of the Nation’s integrated power grid.

Future Plans / Explanation of Shortfalls: Western will continue to operate its system at the highest level of reliability and exceed NERC operating requirements.

Supporting Documentation: NERC Control Performance Report.

Associated Performance in Prior Years

FY 2008: Met Meet North American Electric Reliability Corporation (NERC) Control Performance Standards (CPS) of CPS1>100 and CPS2>90 and meet or exceed industry averages. CPS1 measures a generating system's performance at matching supply to changing demand requirements and supporting desired system frequency in one minute increments. CPS2 measures a generating system's performance at limiting the magnitude of generation and demand imbalances in ten minute increments.

FY 2007: Met Attain acceptable North American Electric Reliability Corporation (NERC) ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS1 which measures generation/load balance and support system frequency on one minute intervals (rating >100); and 2) CPS2 which limits any imbalance magnitude to acceptable levels (rating >90).

FY 2006: Met Attain acceptable North American Electric Reliability Council (NERC) ratings for the following Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS1 which measures generation/load balance and support system frequency on 1-minute intervals (rating>100); and 2) CPS2 which limits any imbalance magnitude to acceptable levels (rating>90).

Additional Information

Program Office: www.wapa.gov

FY 2009 Performance Measures

Office: Western Area Power Administration

Program: Western Area Power Administration

Secretarial Goal Supported: Economic Prosperity

System Reliability Performance - Outages

Measure: Accountable customer and/or transmission element outages will not exceed 26 for FY 2009.

2009 Results

Commentary: Met For FY2009, Western experienced 15 outages against our target of 26 or less. Achieving this target reflects Western's ability to operate and maintain the power system effectively to ensure system reliability and dependable service to customers.

Future Plans / Explanation of Shortfalls: Western will continue to provide reliable service to our customers.

Supporting Documentation: FY 2009 Accountable Outages Report

Associated Performance in Prior Years

FY 2008:	Met	Accountable customer and/or transmission element outages will not exceed 26 for FY 2008.
FY 2007:	Met	Accountable customer and/or transmission element outages will not exceed 26 for FY 2007.
FY 2006:	N/A	

Additional Information

Program Office: www.wapa.gov

FY 2009 Performance Measures

Office: Bonneville Power Administration

Program: Bonneville Power Administration

Secretarial Goal Supported: Economic Prosperity

BPA Hydropower Generation Efficiency Performance

Measure: Achieve 97.5% Heavy Load Hour Availability (HLHA) through efficient performance of Federal hydro-system processes and assets, including joint efforts of BPA, Army Corps of Engineers, and Bureau of Reclamation. HLHA is actual machine capacity available during heavy-load hours (0700-2200 Monday-Saturday), divided by planned available capacity during heavy-load hours.

2009 Results

Commentary: Met BPA achieved this target with 100.2% Heavy-Load-Hour Availability for FY 2009, demonstrating Bonneville's commitment and ability to provide reliable power to the region. By optimizing planned maintenance and taking into consideration expected forced outages, BPA's heavy load hour performance ensured that BPA had the system capacity to serve its system load.

Future Plans / Explanation of Shortfalls: There were no shortfalls in FY 2009. In FY 2010, BPA will work with the Army Corps of Engineers and Bureau of Reclamation to refine unit outage schedules for planned maintenance, and to enhance coordination activities required to return units to service, in order to ensure that BPA continues to efficiently provide reliable power to the region.

Supporting Documentation: Quarter One, Quarter Two, Quarter Three, and Quarter Four FY 2009 Findings Memos (from BPA Chief Operating Officer to BPA Administrator)

Associated Performance in Prior Years

FY 2008: Met Achieve > or = 97.5% Heavy-Load-Hour Availability (HLHA) through efficient performance of Federal hydro-system processes and assets, including joint efforts of BPA, Army Corps of Engineers, and Bureau of Reclamation.

FY 2007: Met Achieve > r = 97.5% Heavy Load Hour Availability (HLHA) through efficient performance of Federal hydro-system processes and assets, including joint efforts of BPA, Army Corps of Engineers, and Bureau of Reclamation. HLHA is actual machine capacity available during heavy-load hours (0700-2200 Monday-Saturday), divided by planned available capacity during heavy-load hours.

FY 2006: Met Achieve 97% HLHA through efficient performance of Federal hydro-system processes and assets, including joint efforts of BPA, Army Corps of Engineers, and Bureau of Reclamation. HLHA is actual machine capacity available during heavy-load hours (0700-2200 Monday-Saturday), divided by planned available capacity during heavy-load hours.

Additional Information

Program Office: <http://www.bpa.gov/corporate/>

FY 2009 Performance Measures

Office: Bonneville Power Administration

Program: Bonneville Power Administration

Secretarial Goal Supported: Economic Prosperity

Measure: **BPA Repayment of Federal Power Investment Performance**
Meet planned annual repayment of principal on Federal power investments.

2009 Results

Commentary: Met BPA met this performance target for the 26th straight year, demonstrating Bonneville's ongoing commitment to meeting its obligations to U.S. taxpayers. BPA made a total annual payment of \$845.1 million of which \$432 million was principal amortization.

Future Plans /

Explanation of Shortfalls: There were no shortfalls. For FY 2010, BPA will continue to set rates in order to assure Treasury payment.

Documentation: Supporting Quarter One, Quarter Two, Quarter Three, and Quarter Four FY 2009 Findings Memo (from BPA Chief Operating Officer to BPA Administrator)

Associated Performance in Prior Years

FY 2008: Met Meet planned annual repayment of principal on Federal power investments.

FY 2007: Met Meet planned annual repayment of principal on Federal power investments.

FY 2006: Met Meet planned annual repayment of principal on Federal power investments. Met Goal (\$304 million); Actual: \$646 million.

Additional Information

Program Office: <http://www.bpa.gov/corporate/>

FY 2009 Performance Measures

Office: Bonneville Power Administration

Program: Bonneville Power Administration

Secretarial Goal Supported: Economic Prosperity

BPA System Reliability Performance - NERC Rating

Attain average North American Reliability Council (NERC) compliance

ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load, including support for system frequency: (1) CPS1, which measures generation/load balance on one-minute intervals (rating > or =100); and (2) CPS2, which limits any imbalance magnitude to acceptable levels (rating > or =90).

2009 Results

Commentary: Met BPA achieved 6 of 6 possible CPS pass ratings in each of the four quarters for FY 2009 for a total of 24 out of 24 possible pass ratings, demonstrating Bonneville's ongoing commitment and ability to provide reliable transmission for the region. For July, August, and Sept.2009 respectively, BPA achieved performance on CPS-1 of 196.0%, 191.2%, and 189.7%, against a target of no less than 100%; and on CPS-2 of 99.2%, 99.2%, and 98.4%, against a target of no less than 90%.

Future Plans / Explanation of Shortfalls: BPA will continue to carefully manage its transmission operations to ensure reliable power delivery in FY 2010. Beginning in March 2010, BPA anticipates obtaining a waiver from the CPS-2 requirement as part of the Western Electricity Coordinating Council (WECC) field trial of the "Reliability Based Control NERC draft standard" (NERC is the North American Electric Reliability Corporation).

Supporting Documentation: Quarter One, Quarter Two, Quarter Three, and Quarter Four FY 2009 Findings Memo (from BPA Chief Operating Officer to BPA Administrator)

Associated Performance in Prior Years

FY 2008: Met Attain average North American Reliability Council (NERC) compliance ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load, including support for system frequency: (1) CPS1, which measures generation/load balance on one-minute intervals (rating > or = 100); and (2) CPS2, which limits any imbalance magnitude to acceptable levels (rating > or = 90).

FY 2007: Met Attain average North American Electric Reliability Council (NERC) compliance ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load, including support for system frequency: (1) CPS1, which measures generation/load balance on one-minute intervals (rating > or = 100); and (2) CPS2, which limits any imbalance magnitude to acceptable levels (rating > or = 90). (1.3.18.1)

FY 2006: Met Attain average NERC compliance ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load, including support for system frequency: (1) CPS1, which measures generation/load balance on one-minute intervals (rating greater than or equal to 100); and (2) CPS2, which limits any imbalance magnitude to acceptable levels (rating greater than or equal to 90).
Actual: Met - CPS1: 193.3%; CPS2: 96.1%

Additional Information

Program Office: <http://www.bpa.gov/corporate/>

FY 2009 Performance Measures

Office: Southeastern Power Administration

Program: Southeastern Power Administration

Secretarial Goal Supported: Economic Prosperity

Measure: **Repayment of Federal Power Investment Performance**
Repay the Federal Power Investment within the required repayment period.

2009 Results

Commentary: Met

Future Plans / Explanation of Shortfalls: Southeastern will continue to efficiently operate its system and meet or exceed its annual repayment obligations.

Supporting Documentation: Third-party verification of supporting the Financial Audit data for tracking the repayment measures is prepared by an independent accounting firm (KPMG).

Associated Performance in Prior Years

FY 2008:	Met	Meet planned annual repayment of principal on Federal power investments. Repay the required repayment of \$22.2 million in FY 08.
FY 2007:	Met	Meet planned annual repayment of principal on Federal power investments. Repay the required repayment of \$1.0 million.
FY 2006:	Not Met	Repay \$40.7 million annually under average water conditions to meet required payments as they come due and assure that all aged investments will be replaced on a timely basis now and in the future.

Additional Information

Program Office: www.sepa.doe.gov

FY 2009 Performance Measures

Office: Southeastern Power Administration

Program: Southeastern Power Administration (1.3.23)

Secretarial Goal Supported: Economic Prosperity

System Reliability Performance - NERC

Measure: Meet North American Electric Reliability Council (NERC) Control Performance Standards (CPS) of CPS1>100 and CPS2>90 and meet or exceed industry averages. CPS1 measures a generating system's performance at matching supply to changing demand requirements and supporting desired system frequency in one minute increments. CPS2 measures a generating system's performance at limiting the magnitude of generation and demand imbalances in ten minute increments.

2009 Results

Commentary: Met

Future Plans / Explanation of Shortfalls: Southeastern will continue to operate its system at the highest level of reliability and meet or exceed NERC operating requirements.

Supporting Documentation: Third-party verification of supporting CPS-1 & 2 documentation can be provided by the SERC Reliability Corporation. Unlike other regions SERC data is not included in the SERC section of the NERC website due to confidentiality issues.

Associated Performance in Prior Years

FY 2008:	Met	Meet North American Electric Reliability Council (NERC) Control Performance Standards (CPS) of CPS1>100 and CPS2>90 and meet or exceed industry averages. CPS1 measures a generating system's performance at matching supply to changing demand requirements and supporting desired system frequency in one minute increments. CPS2 measures a generating system's performance at limiting the magnitude of generation and demand imbalances in ten minute increments.
FY 2007:	Met	Meet North American Electric Reliability Council (NERC) Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems ability to limit the magnitude of generation and demand imbalances.
FY 2006:	Met	Meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems ability to limit the magnitude of generation and demand imbalances.

Additional Information

Program Office: www.sepa.doe.gov

FY 2009 Performance Measures

Office: Southwestern Power Administration

Program: Southwestern Power Administration

Secretarial Goal Supported: Economic Prosperity

Annual Operating Cost Performance

Measure: Provide power at the lowest possible cost by keeping average operation and maintenance cost per kilowatt-hour below the national average for hydropower.

2009 Results

During FY 2009, cost per kilowatt-hour statistics are as follows:

Southwestern: \$0.0126

National industry average: \$0.062

Commentary: Met Therefore, Southwestern is less than the national industry average.

Achieving this target reflects Southwestern's ability to control annual Operations and Maintenance costs, thereby providing power at the lowest possible cost.

Future Plans / Explanation of Shortfalls: Southwestern will continue to provide the lowest possible cost power by keeping average operation and maintenance cost below the national average.

Supporting Documentation: APPA Selected Financial and Operating Ratios of Public Power Systems (2006 Data), Annual Reports, Energy Information Administration Form 1 Reports, CBO Budget and Economic Outlook Forecast.

Associated Performance in Prior Years

FY 2008: Met Provide power at the lowest possible cost by keeping average operation and maintenance cost per kilowatthour below the national average for hydropower.

FY 2007: Met Provide power at the lowest possible cost by keeping average operation and maintenance cost per kilowatthour below the national average for hydropower.

FY 2006: Met Provide power at the lowest possible cost by keeping average operation and maintenance cost per kilowatthour below the national average for hydropower.
Actual: Southwestern: \$0.0116; National industry average: \$0.0136

Additional Information

Program Office: www.swpa.gov

FY 2009 Performance Measures

Office: Southwestern Power Administration

Program: Southwestern Power Administration

Secretarial Goal Supported: Economic Prosperity

Repayment of the Federal Power Investment Performance

Measure: Repay the federal investment within the required repayment period.

2009 Results

Commentary: Met During FY 2009, Southwestern achieved 100.0% of planned repayment of the federal investment.
Target: \$6,223 Actual: pending final audit numbers
Achieving this target reflects Southwestern's commitment to meet repayment of the federal investment, thereby achieving and maintaining financial integrity.

Future Plans / Explanation of Shortfalls: Southwestern will continue to efficiently operate its system and meet or exceed its annual repayment obligations.

Supporting Documentation: FY 2009 Power Repayment Studies

Associated Performance in Prior Years

FY 2008:	Met	Repay the federal investment within the required repayment period.
FY 2007:	Met	Repay the federal investment within the required payment period.
FY 2006:	Met	Repay the federal investment within the required repayment period. Actual: met all required repayment.

Additional Information

Program Office: www.swpa.gov

FY 2009 Performance Measures

Office: Southwestern Power Administration

Program: Southwestern Power Administration

Secretarial Goal Supported: Economic Prosperity

System Reliability Performance - NERC Rating

System Reliability Performance: Meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90 and meet or exceed industry averages. CPS1 measures a generating system's performance at matching supply to changing demand requirements and supporting desired system frequency in one minute increments. CPS2 measures a generating system's performance at limiting the magnitude of generation and demand imbalances in ten minute increments.

2009 Results

Commentary: Met During FY 2009, Southwestern achieved 6 out of 6 control compliance ratings. Southwestern's average annual results are 199.98 for CPS 1 & 99.82 for CPS 2. Achieving this target reflects Southwestern's ability to maintain acceptable power system operation for control area performance, thereby operating the power system efficiently and effectively.

Future Plans / Explanation of Shortfalls: Southwestern will continue to operate its system at the highest level of reliability and exceed NERC operating requirements.

Supporting Documentation: NERC Monthly Control compliance Rating Report for 2000 through 2009. Data can be found at <http://www.nerc.com/~filez/cps.html>.

Associated Performance in Prior Years

FY 2008: Met Meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90 and meet or exceed industry averages. CPS1 measures a generating system's performance at matching supply to changing demand requirements and supporting desired system frequency in one minute increments. CPS2 measures a generating system's performance at limiting the magnitude of generation and demand imbalances in ten minute increments.

FY 2007: Met Meet industry averages (CPS1: 161.81 and CPS2: 97.21) and at a minimum, meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems ability to limit the magnitude of generation and demand imbalances.

FY 2006: Met Meet industry averages (CPS1:161.8 and CPS2: 97.2) and at a minimum, meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems ability to limit the magnitude of generation and demand imbalances. Actual: CPS 1: 180.23; CPS 2: 99.18.

Additional Information

Program Office: www.swpa.gov

FY 2009 Performance Measures

Office: Southwestern Power Administration

Program: Southwestern Power Administration

Secretarial Goal Supported: Economic Prosperity

System Reliability Performance - Outages

Measure: Operate the transmission system so there are no more than 3 preventable outages annually.

2009 Results

During FY 2009, Southwestern had no preventable customer outages.

Commentary: Met Achieving this target reflects Southwestern's ability to provide reliable service to customers each year, thereby maintaining power system reliability.

Future Plans / Explanation of Shortfalls: Southwestern will continue to provide reliable service to their customers.

Supporting Documentation: Southwestern's Point of Delivery Incidents Log

Associated Performance in Prior Years

FY 2008:	Met	Operate the transmission system so there are no more than three preventable outages annually.
FY 2007:	Met	Operate the transmission system so there are no more than 3 preventable outages annually.
FY 2006:	Met	Operate the transmission system so there are no more than 3 preventable outages annually. Actual: Southwestern incurred one preventable outage.

Additional Information

Program Office: www.swpa.gov

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Building Technologies

Secretarial Goal Supported: Economic Prosperity

Buildings - Appliance Standards

Measure: Complete 14-16 proposals to update appliance standards and test procedures publish in the Federal Register. Final rules will be issued for 4-6 of these product categories, consistent with the law, to amend appliance standards and test procedures that are economically justified and will result in significant energy savings. For this measure proposal includes unique product inclusions in ANOPRS, NOPRS, and Final Rules. Multiple proposals (covering a number of product categories) could be bundled in Federal Register Notices.

2009 Results

Commentary: Met Completed energy conservation standard final rules for 9 products not including codification of prescribed standards: packaged terminal air conditioners and packaged terminal heat pumps (1), commercial refrigeration equipment (2), gas and electric ranges and ovens (3), microwave ovens (4), General Service Fluorescent lamps (5), Incandescent Reflector Lamps (6), Very large commercial package air conditioning and heating equipment (7), packaged boilers (8), and refrigerated beverage vending machines (9). Test procedure final rules were published for battery chargers and external power supplies (standby mode), small electric motors, and General Service Fluorescent, Incandescent Reflector, and General Service Incandescent Lamps. Proposals were completed for 15 products.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

PUBLISHED NOPRS AND FINAL RULES IN FY2009

**Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps

Energy Conservation Standard: Final Rule (73FR58772)

**Gas and electric ranges and ovens, microwaves

Energy Conservation Standard: NOPR (73FR62034), final rule (74FR16040)

**Microwave Oven Standby TP: NOPR (73FR62134)

**Clothes Dryers and Room Air-conditioning

Standby TP: NOPR (73FR74639)

**Electric Motors TP: NOPR (73FR78220),

**Commercial Refrigeration Equipment

Energy Conservation Standard: Final Rule (74FR1092)

**Fluorescent Lamp Ballasts

Standby TP: NOPR (74FR3450)

Supporting Documentation: **Very large commercial package air conditioning and heating equipment and packaged boilers

Energy Conservation Standard: NOPR (74FR12000), final rule (74FR36312)

**EISA En Masse Technical Amendment (74FR12058)

**Battery Chargers and External Power Supplies

Standby TP: Final Rule (74FR13318)

**General Service Fluorescent and Incandescent Reflector Lamps

Energy Conservation Standard: NOPR (74FR16920), final rule (74FR34080)

**General Service Fluorescent, Incandescent Reflector, and General Service Incandescent Lamps Test Procedure final rule (74FR31829)

**Refrigerated Beverage Vending Machines

Energy Conservation Standard: NOPR (74FR26020), final rule (74FR44914)

**Small Electric Motors TP (74FR32059)

**Metal Halide Lamp Ballast TP: NOPR (74FR33171)

**Residential Furnaces, Small Furnaces, Mobile Home Furnaces, and Boilers TP: NOPR (74FR36959)

Associated Performance in Prior Years

FY 2008:	Met	Complete 11-13 proposals to update appliance standards and test procedures publish in the Federal Register. Final rules will be issued for 1-2 of these product categories, consistent with the law, to amend appliance standards and test procedures that are economically justified and will result in significant energy savings.
FY 2007:	Not Met	Final rules will be issued for 3-5 product categories, consistent with enacted law, to amend appliance standards and test procedures that are economically justified and will result in significant energy savings. This includes final rules for distribution transformers and residential furnaces and boilers.
FY 2006:	Met	Complete analytical and regulatory steps necessary for DOE issuance of 4 rules, consistent with enacted law, to amend appliance standards and test procedures that are economically justified and will result in significant energy savings. Develop for DOE issuance notices of proposed rulemaking (NPRs) regarding energy conservation standards for electric distribution transformers, commercial unitary air conditioners and heat pumps, and residential furnaces and boilers.

Additional Information

Program Office: <http://www1.eere.energy.gov/buildings/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Building Technologies

Secretarial Goal Supported: Economic Prosperity

Buildings - Commercial Buildings

Measure: Complete four additional design technology packages for new commercial buildings (that achieve 30 percent increase in energy efficiency relative to the ASHRAE 90.1-2004 benchmark) with five year or less payback. These design technology packages will be for small to medium-sized commercial buildings.

2009 Results

Commentary: Met Technical Support Documents published with energy savings of more than 50% for four commercial building types: general merchandise (retail), grocery stores, highway lodging, and medium offices.

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

The Technical Support Documents have been published on the labs' web sites:

General Merchandise: <http://www.nrel.gov/docs/fy09osti/46100.pdf>

Supporting Grocery Store: <http://www.nrel.gov/docs/fy09osti/46101.pdf> ,

Documentation: Highway Lodging: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-18773.pdf

Medium Offices: http://www.pnl.gov/main/publications/external/technical_reports/PNNL-18774.pdf.

The reports are also embedded in this spreadsheet.

Associated Performance in Prior Years

FY 2008: Met Complete four additional design technology packages for new commercial buildings (that achieve 30 percent increase in energy efficiency relative to the ASHRAE 90.1-2004 benchmark) with five year or less payback. These design technology packages will be for small to medium-sized commercial buildings.

FY 2007: Met Complete the development of one new design technology package for a second small to medium sized commercial building type to achieve 30% energy savings over American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) 90.1-2004.

FY 2006: Met Complete the development of one design technology package to achieve 30 percent or better energy savings, focusing on a single, high priority building type, such as small commercial retail or office buildings, based on the technical and market assessments completed in 2005.

Additional Information

Program Office: <http://www1.eere.energy.gov/buildings/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Building Technologies

Secretarial Goal Supported: Economic Prosperity

Buildings - Energy Star

Measure: Achieve market penetration target for Energy Star® appliances of 39 percent (baseline 30 percent in 2003), 12 percent for CFLs (baseline 2 percent in 2003), and 56 percent for windows (baseline 40 percent in 2003). Revised criteria for windows. Complete evaluation for developing Energy Star® criteria for small wind turbines and photovoltaic systems. Due to short fall in FY08 funding and lack of adequate test procedures, criteria for small wind turbines and photovoltaic systems will not take place in FY 2009.

2009 Results

Commentary: Met The FY 2009 ENERGY STAR market penetration was 39% for appliances, 24% for CFLs, and 57% for windows. DOE released final revised criteria for windows on April 7, 2009 (Q3) with an effective date of January 4, 2010. DOE released final criteria revision for dishwashers on November 14, 2008 (Q1) with an effective date of August 11, 2009. During Q1 DOE prepared market and technical analyses for both Small Wind and PV and then in Q2 developed potential frameworks for ENERGY STAR criteria for these products. Due to short fall in FY08 funding and lack of adequate test procedures, criteria for small wind turbines and photovoltaic systems will not take place in FY 2009.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010.

Supporting Documentation: Cover letter from Richard H. Karney, P.E., ENERGY STAR Program Manager
http://www.drintl.com/htmlmail/Cover_Letter_7Apr09.pdf
ENERGY STAR Program Requirements for Residential Windows, Doors, and Skylights - Version 5.0
http://www.drintl.com/htmlmail/ES_Windows_Doors_and_Skylights_Program

Associated Performance in Prior Years

FY 2008: Met Achieve market penetration target for ENERGY STAR® appliances of 33 percent (baseline 30 percent in 2003), 6 percent for CFLs (baseline 2% in 2003), and 48 percent for windows (baseline 40 percent in 2003).

FY 2007: Met Increase market penetration of appliances to 30 to 32% (baseline 30% calendar year 2003), to 2.5 to 4% for compact fluorescent lamps (CFLs) (baseline 2% calendar year 2003) and 45 to 50% for windows (baseline 40% for calendar year 2003). Estimated energy savings will be 0.032 Quads and \$671 million in consumer utility bill savings.

FY 2006: Met Increase market penetration of appliances (clothes washers, dishwashers, room air conditioners and refrigerators) to 38 percent to 42 percent (baseline of 30 percent, 2003 calendar year) to two percent to three percent for compact fluorescent lamps (baseline 2percent, 2003 calendar year), and 40 percent to 45 percent for windows (baseline 40 percent, 2004). Estimated energy savings will be 0.30 quads and \$657 million in consumer utility billing savings.

Additional Information

Program Office: <http://www1.eere.energy.gov/buildings/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Building Technologies

Secretarial Goal Supported: Economic Prosperity

Buildings - Residential Buildings

Measure: Complete one design technology packages for new residential buildings (that are 40 percent more energy efficient relative to the 2004 Building America benchmark) at net zero financed cost to the homeowner for one climate zones.

2009 Results

Commentary: Met The 2009 Residential Milestone has been successfully completed. Design technology packages that achieve 40% savings relative to the BA benchmark at zero net cost to homeowners were completed for one climate (cold climate).

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting Documentation: A report documenting milestone completion has been posted on:
https://www.eere.energy.gov/extranet/buildings/building_america/pdfs/joule_milestones/fy09_joule_bsc_g3_40cold_draft_final.pdf
https://www.eere.energy.gov/extranet/buildings/building_america/pdfs/joule_milestones/fy09_joule_bsc_g3_40cold_draft_final.pdf. User name: baleads, password: bareports.

Associated Performance in Prior Years

FY 2008: Exceeded Complete one design technology package for new residential buildings (that is 40 percent more energy efficient relative to the 2004 Building America benchmark) at net zero financed cost to the homeowner for one climate zone.

FY 2007: Met Document in Technology Package Research Reports research results for production ready new residential buildings that are 30% more efficient in 1 climate zone and 40% more efficient in 1 climate zone than the whole-house Building America benchmark.

FY 2006: Met Complete system research with lead builders in two climate zones demonstrating production-ready new residential buildings that are 30 percent more efficient than the whole-house Building America benchmark and document the results in Technology Package Research Reports.

Additional Information

Program Office: <http://www1.eere.energy.gov/buildings/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Building Technologies (1.4.20)

Secretarial Goal Supported: Economic Prosperity

Buildings - Solid State Lighting

Measure: Achieve efficiency of "white light" solid-state lighting in a lab device, of at least 110 lumens per Watt.

2009 Results

Commentary: Met In September, Cree successfully fabricated a prototype cool white LED that delivers 117 lm/W at 350mA, exceeding DOE's FY 2009 Joule milestone of 110 lm/W. This achievement builds on the Cree EZBright® LED chip platform, developed in part with prior funding support from DOE. Based on a 1 millimeter-square chip, the new prototype LED produces white light with a correlated color temperature (CCT) of 6,450 K and a color rendering index (CRI) of 69.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting Documentation: A data sheet that details the photometric testing from Cree (confidential and proprietary due to competitive reasons). These data are not to be released outside of DOE or used for other purposes than official JOULE decisions.

Associated Performance in Prior Years

FY 2008: Met Achieve efficiency of "white light" solid-state lighting in a lab device, of at least 101 lumens per watt.

FY 2007: Met Achieve at least 86 lumens per watt (in a laboratory device) of white light from solid state devices based on cost-shared research which is competitively selected.

FY 2006: Met Conduct cost-shared, competitively selected research on technology to achieve 65 lumens per watt (in a laboratory device) of white light from solid state devices with industry, national laboratories, and universities.

Additional Information

Program Office: <http://www1.eere.energy.gov/buildings/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Industrial Technologies Program

Secretarial Goal Supported: Economic Prosperity

Industry - Emerging Technologies

Measure: Commercialize 3 new technologies in partnership with the most energy-intensive industries that improve energy efficiency of an industrial process by at least 10 percent

2009 Results

Commentary: Met A total of three (3) new technologies were reported as commercialized.

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting

Documentation: PNNL Impacts Tracking of Commercial Technologies

Associated Performance in Prior Years

FY 2008: Met Commercialize 3 new technologies in partnership with the most energy-intensive industries that improve energy efficiency of an industrial process or product by at least 10 percent.

FY 2007: Met Commercialize 3 new technologies in partnership with the most energy-intensive industries that improve energy efficiency of an industrial process or product by at least 10%.

FY 2006: Met Commercialize 3 new technologies in partnership with the most energy-intensive industries.

Additional Information

Program Office: <http://www1.eere.energy.gov/industry/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Industrial Technologies Program

Secretarial Goal Supported: Economic Prosperity

Industry - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /

Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

Shortfalls:

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting

Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.

FY 2006: Met Maintain total Program Direction costs, in relation to, total program costs in the range of 8-12 percent to demonstrate efficient and effective EERE-wide business and technical support to mission direct programs.

Additional Information

Program Office: <http://www1.eere.energy.gov/industry/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Industrial Technologies Program

Secretarial Goal Supported: Economic Prosperity

Industry - Unique Energy-Intensive Industrial Plants

Measure: An estimated 100 trillion Btu energy savings from applying EERE technologies and services to 600 energy-intensive U.S. plants.

2009 Results

Commentary: Met An additional 525 unique energy-intensive plants in the US applied EERE technologies and services in the fourth quarter of FY 2009. The program met and exceeded its JOULE target primarily due to activities under the Save Energy Now (SEN) and Industrial Assessment Centers (IAC).

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Shortfalls:

Supporting Documentation: Technical Assistance quarterly flash report from ORNL.

Associated Performance in Prior Years

FY 2008: Met An estimated 100 trillion Btu energy savings from applying EERE technologies and services to 400 energy-intensive U.S. plants.

FY 2007: Met An estimated 125 trillion Btu saved by an additional 1,000 energy intensive U.S. plants applying EERE technologies and services.

FY 2006: Met An additional 200 (leading to a cumulative 8,600) energy intensive U.S. plants will apply EERE technologies and services contributing to the goal of a 20 percent reduction in energy intensity from 2002 levels by 2020.

Additional Information

Program Office: <http://www1.eere.energy.gov/industry/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Federal Energy Management Program

Secretarial Goal Supported: Economic Prosperity

Federal Energy Management Program (FEMP) Contract Awards

Measure: Estimated lifecycle energy savings expected in Federal agencies' facilities as a result of FEMP activities are 34.4 trillion Btu (TBtu). FEMP's facilitation activities include alternative financing and technical assistance. These savings should result in about a 0.5 percent annual reduction in energy intensity.

2009 Results

Commentary: Met The cumulative FY 09 lifecycle energy savings based on FEMP activities were 116.2 trillion Btu (TBtu), which exceed the FY 2009 goal of 34.4 TBtu. Energy savings in the first quarter were 7.7 TBtu, 0.8 TBtu in the second quarter, 98.6 TBtu in the third quarter, and 9.0 TBtu in the fourth quarter. Contributing to the total energy savings over FY 2009 were fourteen ESPC awards, fifteen UESC awards, three PPA awards, REC purchases in two quarters, and seven projects involving technical assistance. The ESPC at DOE's Savannah River Site was the single largest contributor (72.8 T Btu) to the total FY 2009 energy savings.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting Documentation: Signed Letters

Associated Performance in Prior Years

FY 2008: Met Estimated lifecycle energy savings expected in federal agencies' facilities as a result of FEMP activities are 20.2 trillion Btu (TBtu). FEMP's facilitation activities include alternative financing, technical assistance, and directly funded energy efficiency projects within the Department. These savings should result in about a 0.4 percent annual reduction in energy intensity.

FY 2007: Met Complete Energy Savings Performance Contract (ESPC) and Utility Energy Savings Contract (UESC) contract awards, fund DOE retrofit projects and provide technical assistance that will result in lifecycle Btu savings of 17.1 trillion. (1.4.7.1)

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/femp/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Federal Energy Management Program

Secretarial Goal Supported: Economic Prosperity

Federal Energy Management Program (FEMP) Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008:	Met	Maintain administrative costs as a percent of total program costs less than 12 percent.
FY 2007:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%. (1.4.7.2)
FY 2006:	Met	Maintain total administrative overhead costs (defined as Program Direction and Program Support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/femp/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Weatherization Program

Secretarial Goal Supported: Economic Prosperity

Weatherization - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /

Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

Shortfalls:

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%. (1.4.21.2)

FY 2006: N/A

Additional Information

Program Office: <http://apps1.eere.energy.gov/weatherization/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Weatherization Program

Secretarial Goal Supported: Economic Prosperity

Weatherization Assistance Program

Measure: 95,949 low-income family homes weatherized annually with DOE funds. (Based on appropriation amount of \$450M.)

2009 Results

Commentary: Not Met 95,821 were reported as weatherized to date. States have until December to report final numbers. We expect to exceed target.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010. Encourage network to submit completed number of homes in WinSaga and monitor report for updates.

Supporting Documentation: Based on WinSaga Report

Associated Performance in Prior Years

FY 2008:	Met	75,848 low-income family homes weatherized annually with DOE funds, and support the weatherization of 50,000 additional homes with leveraged funds.
FY 2007:	Met	Weatherize 70,051 units with DOE funds.
FY 2006:	Met	Weatherize 97,300 homes, with DOE funds.

Additional Information

Program Office: <http://apps1.eere.energy.gov/wip/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: State Energy Program

Secretarial Goal Supported: Economic Prosperity

State Energy Program

Measure: Achieve an average annual energy savings of 6-7 trillion source Btu (an estimated \$45 million in annual energy cost savings) with DOE funds.

2009 Results

Commentary: Met Met quarterly and annual energy savings targets, based on applying ORNL impacts assessment methodology to STARS costing totals.

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting Documentation: ORNL Study, An Evaluation of the State Energy Program, 2005

Associated Performance in Prior Years

FY 2008: Met Achieve an average annual energy savings of 10-12 trillion source Btu (an estimated \$60-70 million in annual energy cost savings) with DOE funds.

FY 2007: Met Achieve an average annual energy savings of 12-14 trillion source Btu (an estimated \$72-78 million in annual energy cost savings) with DOE funds. (1.4.22.1)

FY 2006: Met Achieve an average annual energy savings of 8-10 trillion source Btu (an estimated \$50-60 million in annual energy cost savings) with DOE funds. Achieve an additional average energy savings of 26-30 trillion source Btu (an estimated \$190-\$200 million in annual energy cost savings) from leveraged funds.

Additional Information

Program Office: <http://apps1.eere.energy.gov/wip/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: State Energy Program

Secretarial Goal Supported: Economic Prosperity

State Energy Program - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%. (1.4.22.2)

FY 2006: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://apps1.eere.energy.gov/wip/>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Strategic Petroleum Reserve (SPR)

Secretarial Goal Supported: Economic Prosperity

Drawdown Readiness

Measure: Ensure drawdown readiness by achieving > or = 95% of monthly maintenance and accessibility goals.

2009 Results

Commentary: Met This is a weighted average of several maintenance performance elements calculated on a monthly basis. Achieved a 98.4% for FY 2009.

Future Plans /

Explanation of Shortfalls: The program will continue efforts to achieve cost efficiencies wherever possible.

Supporting

Documentation: This is tracked by SAP enterprise resource planning software.

Associated Performance in Prior Years

FY 2008: Met Ensure drawdown readiness by achieving > 95% of monthly maintenance and accessibility goals.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://fossil.energy.gov/>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Strategic Petroleum Reserve (SPR)

Secretarial Goal Supported: Economic Prosperity

SPR Operating Cost

Measure: Achieve operating cost per barrel of capacity of \$0.213.

2009 Results

Commentary: Met This measure is a calculation of annual program costs divided by the total storage capacity in barrels (727 million barrels). Year-end annual costs equate to an operating cost per barrel of \$0.213. Cost efficiencies were achieved by favorable negotiation of the Seaway terminalling contract which resulted in elimination of standby charges. Additionally, accelerating the schedule for relocation of the vapor pressure plant from the Big Hill to the Bryan Mound site resulted in Power and Operations cost savings. Achieved an operating cost of \$0.207 per barrel of capacity in FY 2009.

Future Plans /

Explanation of Shortfalls: The program will continue efforts to achieve cost efficiencies wherever possible.

Supporting Documentation: Year-End financial reports from the Department's accounting system, STARS.

Associated Performance in Prior Years

FY 2008:	Met	Ensure cost efficiency of SPR operations by achieving operating cost per barrel of capacity of \$0.204
FY 2007:	Met	Achieve operating cost per barrel of capacity of \$0.203.
FY 2006:	Met	Achieve operating cost per barrel of capacity of \$0.204.

Additional Information

Program Office: <http://www.fe.doe.gov/programs/reserves/index.html>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Strategic Petroleum Reserve (SPR)

Secretarial Goal Supported: Economic Prosperity

Sustained (90 day) Drawdown Rate

Measure: Achieve maximum sustained (90 day) drawdown rate of 4.4 MMB/Day.

2009 Results

Commentary: Met At year-end, the SPR's drawdown rate was 4.4 million barrels per day as evidenced in the SPR Drawdown Readiness and Capability (RECAP) Report and the Online Readiness Computerized Assessment (ORCA) System. This metric reflects the drawdown rate (in barrels per day) that the SPR can sustain for an initial 90 days in order to distribute crude oil from underground storage sites to distribution points. Maintained a 4.4 MMB/Day for FY 2009.

Future Plans /

Explanation of SPR will continue to work towards maintaining a drawdown rate of 4.4 million barrels.

Shortfalls:

Supporting Documentation: SPR Drawdown Readiness and Capability (RECAP) Report and the Online Readiness Computerized Assessment (ORCA) System.

Associated Performance in Prior Years

FY 2008:	Met	Enable ready distribution of SPR oil by achieving maximum sustained (90day) drawdown rate of 4.4 million barrels per day.
FY 2007:	Met	Achieve maximum sustained (90 day) drawdown rate of 4.4 MMB/Day.
FY 2006:	Met	Achieve maximum sustained (90 day) drawdown rate of 4.4 MMB.

Additional Information

Program Office: <http://www.fe.doe.gov/programs/reserves/index.html>

FY 2009 Performance Measures

3. Clean, Secure Energy

Office: Energy Efficiency and Renewable Energy

Program: Hydrogen

Secretarial Goal Supported: Clean, Secure Energy

Distributed Energy Fuel Cell Systems and Fuel Processor Research and Development

Measure: DOE-sponsored research will improve electrical efficiency to 36 percent at full power for a natural gas or propane fueled stationary fuel cell power system verified by a 5-250 kW prototype. This will support development of fuel cell power systems as alternative power sources to grid-based electricity for buildings and other stationary applications.

2009 Results

Commentary: Met Intelligent Energy projected (based on experimental results and modeling) 36% electrical efficiency of its prototype polymer electrolyte membrane stationary fuel cell system, operating on natural gas. Additionally, Bloom Energy Systems operated two 25-kW solid-oxide stationary fuel cell systems running on natural gas. One system achieved 44% electrical efficiency, and the other system achieved 45% efficiency. Applications for solid-oxide fuel cell systems are currently limited by their poor transient load response and their long startup times.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. FY 2010 performance measures will focus on improving catalyst utilization of fuel cell systems and advancing hydrogen storage materials.

Supporting Documentation: Bloom Energy Systems Quarterly Report and Intelligent Energy System Efficiency Update presentation

Associated Performance in Prior Years

FY 2008: Met DOE-sponsored research will improve electrical efficiency to 35 percent at full power for a natural gas or propane fueled 5-250 kW stationary fuel cell power system verified by a 5-250 kW prototype. This will support development of fuel cell power systems as alternative power sources to grid-based electricity for buildings and other stationary applications.

FY 2007: Met DOE-sponsored research will improve electrical efficiency to 34% at full power for a natural gas or propane fueled 5-250 kW stationary fuel cell power system verified by a prototype (5-50 kW system).

FY 2006: N/A Due to Congressionally Directed Activities, there was no activity in this area in FY 2006.

Additional Information

Program Office: <http://www1.eere.energy.gov/hydrogenandfuelcells/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Hydrogen

Secretarial Goal Supported: Clean, Secure Energy

Hydrogen Storage Research and Development: Materials-Based

Measure: Develop solid-state or liquid materials with the potential to meet 2010 targets of 2.0 kWh/kg (6 percent by weight), 1.5 kWh/L, develop system design and evaluate against 2009 interim goal of 5 percent by weight (modeled) or 1.7 kWh/kg.

2009 Results

Commentary: Met Several hydrogen storage materials such as Ammonia Borane compounds and metal borohydrides have exceeded 6 wt%. Metal-oxide framework (MOF) compounds have exceeded 45 g/L (1.5 kWh/L). Two classes of materials (Alane, and MOFs) have been evaluated against the interim goal of 5 wt%. The MOF system was 5 wt% and Alane was 4 wt%. Note: Storage System Targets were updated in FY2009. FY2010 Targets are now 1.5 kWh/kg (4.5 percent by weight), 0.9 kWh/L.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. FY 2010 performance measures will focus on improving catalyst utilization of fuel cell systems and advancing hydrogen storage materials.

Supporting Documentation: ANL's 2009 AMR Presentation (MOF 177), 2008 AMR Presentation (Alane), NAS Peer Review August 2009.

Associated Performance in Prior Years

FY 2008: Met Develop chemical hydrogen storage regeneration methods at laboratory-scale, obtain initial data for efficiency and systems analysis, and demonstrate lab-scale reactions capable of at least 40 percent energy efficiency, leading to greater effective storage density and driving range for fuel cell vehicles.

FY 2007: Met Complete baseline on-board storage systems analyses, down select materials, and evaluate against 2007 targets of 1.5 kWh/kg (4.5% by weight) and 1.2 kWh/L.

FY 2006: Met Complete fabrication and testing of a sub-scale prototype metal hydride storage system; evaluate progress toward the 2007 target of 1.5 Wh/kg (4.5 wt.%), and complete preliminary design of system with potential to meet 2010 targets (2.0 kWh/kg [6 wt.%], 1.5 kWh/L).

Additional Information

Program Office: <http://www1.eere.energy.gov/hydrogenandfuelcells/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Hydrogen

Secretarial Goal Supported: Clean, Secure Energy

Hydrogen Systems Integration

Measure: Complete feedstock, capital, capacity and utility sensitivity analyses on the cost of delivered hydrogen for 6 pathways using the Macro-System Model. This will aid in understanding and assessing technology needs and progress, potential environmental impacts, and the energy-related economic benefits of various hydrogen supply and demand pathways.

2009 Results

Commentary: Met Analyses were completed for six hydrogen pathways, accounting for feedstock, capital, capacity and utilities. For the biomass and central natural gas reforming with pipeline delivery pathways, it was found that production energy efficiency had the largest impact on the range of possible cost and GHG emissions. For distributed natural gas reforming, the key input parameter is operating capacity. For distributed electrolysis and central electrolysis of windbased electricity, the key input parameter is electricity cost. For central coal with carbon capture and sequestration, the key input parameter is total capital investment.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on identifying technology gaps and metrics for solid-oxide and methanol fuel cell systems.

Supporting Documentation: Report by NREL Systems Integration, "Hydrogen Pathways: Cost, Well-to- Wheels Energy Use, and Emissions for the Current Technology Status of Seven Hydrogen Production, Delivery, and Distribution Scenarios."

Associated Performance in Prior Years

FY 2008: Met Complete benchmark demonstration of reforming technologies and identify development pathways to meet the 2012 target of producing hydrogen from distributed reforming of renewable liquids for \$<3.80/gge at large equipment production volumes (e.g., 500 units/yr) and for dispensing at 5,000 psi. Reduced costs of hydrogen production will support technology readiness for hydrogen powered vehicles.

FY 2007: Met Complete preliminary lab scale tests to identify technologies that produce 5,000 psi hydrogen from natural gas for \$2.50/gge, untaxed at the station and with large equipment production volumes [e.g., 500 units/year].

FY 2006: Met Complete the development of a laboratory scale distributed natural gas-to-hydrogen production and dispensing system that can produce 5,000 psi hydrogen for \$3.00/gge (projected, untaxed) at the station in 2006.

Additional Information

Program Office: <http://www1.eere.energy.gov/hydrogenandfuelcells/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Hydrogen

Secretarial Goal Supported: Clean, Secure Energy

Hydrogen - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.

FY 2006: Met Maintained total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/hydrogenandfuelcells/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Hydrogen

Secretarial Goal Supported: Clean, Secure Energy

Transportation Fuel Cell Systems and Fuel Cell Stack Component Research and Development

Measure: DOE-sponsored research will reduce the modeled technology cost of a hydrogen-fueled 80kW fuel cell power system to \$60/kW. Reducing automotive fuel cell costs accelerates the market viability and deployment of fuel cell technologies, which contribute to the Department's goal of increased energy security and reduced greenhouse gas and pollutant emissions.

2009 Results

Commentary: Met Research and development sponsored by the Hydrogen Program has resulted in a significant reduction in the modeled technology cost of a hydrogen-fueled 80-kW fuel cell power system from \$73/kW in FY 2008 to \$61/kW in FY 2009. Directed Technologies Inc. conducted a cost analysis in FY 2009 that shows the high volume modeled cost to be \$61/kW based on the following: a production volume of 500,000 units per year, a platinum loading and power density representative of 2009 technology in a commercially available membrane-electrode assembly, and greater than 7,000 hours durability based on laboratory data achieved in FY 2009 in a 50 cm² cell.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on improving catalyst utilization of fuel cell systems and advancing hydrogen storage materials.

Supporting Documentation: Presentation to the FreedomCAR and Fuel partnership Fuel Cell Technical Team, Mass-Production Cost Estimation for Direct H₂ PEM Fuel Cell Systems for Automotive Applications, August 12, 2009 by Directed Technologies Inc. (DTI) . Presentation provided by DTI to the Fuel Cell Technical Team on September 14, 2009, Changes Since 8/12 Tech. Team Presentation.

Associated Performance in Prior Years

FY 2008: Not Met DOE-sponsored research will reduce the modeled technology cost of a hydrogen-fueled 80kW fuel cell power system to \$70/kW. Reducing automotive fuel cell costs accelerates the market viability and deployment of fuel cell technologies, which contribute to the Department's goal of increased energy security and reduced greenhouse gas and pollutant emissions.

FY 2007: Met DOE-sponsored laboratory scale research will reduce the modeled technology cost to \$90/kW for a hydrogen-fueled 80kW fuel cell power system.

FY 2006: Met DOE-sponsored laboratory scale research will reduce the modeled technology cost to \$110/kW for a hydrogen-fueled 80 kW fuel cell power system.

Additional Information

Program Office: <http://www1.eere.energy.gov/hydrogenandfuelcells/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Biomass Feedstock Platform

Measure: Initiate a GIS-based regional feedstock atlas system incorporating USDA agricultural datasets, energy crop field test results, residue removal trial results, DOE and USDA funded biorefinery project results, and other assessments from public and private sources to provide the best biomass resource database, models, and tools available for a wide variety of users including Federal and State governments, biorefinery developers, growers, and researchers. These efforts will enable evaluation of potential future feedstock supply in support of the goal of producing feedstocks at \$46 per dry ton by 2012.

2009 Results

The KDF will be functional and available for a limited number of users on October 1, 2009. The system will provide access to data from the SGI field trials, including uploading and downloading of spreadsheets as well as map based access to this data. Additionally, a complex security model to support user management of the availability of this data has been designed and partially implemented. When fully implemented in FY 2010, this will allow researchers to manage security for their own uploads and downloads.

The system will also contain select datasets from the billion ton update, NASS, HSIP Gold, and a limited number of other datasets that have been provided through the KDF research efforts. This includes literature which will populate the Knowledge Compendium. None of this data will be automatically updated or otherwise vetted; however, automatic updates and data management are goals that will be explored in FY 2010 and FY 2011.

Commentary: Met We have produced a comprehensive, validated geodatabase of US corn-based ethanol biorefineries which includes accurate geospatial location information, on-site storage capability for finished product, rail siding capacity and accessibility, barge access, and other distribution and transportation attributes. ORNL is also partnering with NREL to obtain additional production and feedstock attributes for the biorefineries which will be populated early in the next fiscal year. The geodatabase is also being expanded for biodiesel and cellulosic production facilities and will be made available in early FY 2010 through the KDF. We have been working closely with the Billion Ton Update effort and two preliminary datasets have been received describing poplar (residues, thinning, and other) from 2007 and estimated crop residues from the 2009 POLYSYS baseline run in which the residues were harvested using a baler. These datasets have been used in the development of a data model which will be fully implemented in FY 2010. Currently, we are providing access to this preliminary data through a limited number of maps and made available for querying, visualizing, and downloading in the KDF. Extensive access to the data through the KDF interface including complex visualization and querying capabilities will also be completed early in FY 2010.

Future Plans / Explanation of integration. Both the system itself, and the data available within it, will be significantly enhanced in FY Shortfalls: 2010.

Supporting Documentation: The Bioenergy Knowledge Discovery Framework is currently available at <https://bioenergykdf.net/biokdf>. This system has been demonstrated to the DOE Office of Biomass Program.

Associated Performance in Prior Years

FY 2008:	Met	Conduct replicated field trials across regions to determine the impact of residue removal on grain yield (in subsequent years); field trials (including genetic evaluations) to develop energy crops within a geographical region; resource assessments to determine regional feedstock supply curves (variable costs of feedstock across various sites); and economic studies that identify the best site conditions and general locations for biorefineries within a region, all of which can demonstrably contribute to the goal of producing feedstocks at \$32 per dry ton by 2012.
FY 2007:	Met	Complete a core R&D engineering design and techno-economic assessment of an integrated wet storage - biomass field pre-processing assembly system with a pretreatment process that could potentially be scaled up to produce feedstocks to achieve a reduction to \$35 per ton by 2012 from \$53 per ton as of 2003. This is based on the original baseline and cost reduction targets specific to corn stover.
FY 2006:	N/A	

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Operational Efficiency Measure

Measure: Maintain administrative costs as a percent of total program costs less than 12 percent.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /

Explanation of The FY 2009 performance measure will be continued in FY 2010.

Shortfalls:

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation is the DOE STARS accounting system and the EERE Executive Information System. This Documentation: rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008:	Met	Maintain administrative costs as a percent of total program costs less than 12 percent.
FY 2007:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.
FY 2006:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Platforms Research and Development - Sugars

Measure: Demonstrate alternative pretreatment technologies at bench-scale using advanced cellulase enzymes and integrated technologies that have the potential of achieving \$0.12 per pound of sugars on the pathway to \$0.073 per pound by 2012 (in \$2007). Reduced sugar costs will reduce cellulosic ethanol costs, leading to increased adoption of ethanol and reduced consumption of petroleum

2009 Results

Commentary: Met The FY 2009 Joule target of \leq \$0.12/lb sugar (2007\$) was met through improvements in pretreatment and enzymatic hydrolysis technology. By using a lower-severity pretreatment in the horizontal reactor, followed by a secondary hydrolysis or "oligomer hold" step, the total conversion of xylan to xylose was improved to 79.6%, with a loss to furfural of 6.4%. These results were obtained in continuous operation at the pilot scale. Integrated washed-solids enzymatic hydrolysis experiments performed at the bench scale on the same pretreated corn stover generated by the pilot plant demonstrated a cellulose-to-glucose yield of 88%, as well as 78% conversion of residual xylan to xylose using an advanced enzyme preparation received in FY 2009. When these conversion improvements were input to the updated sugar model, the modeled sugar cost for FY 2009 was \$0.1197/lb, clearly meeting the Joule target.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on modeling ethanol conversion cost and improving pretreatment and hydrolysis processes.

Supporting Documentation: FY 2009Q4_Joule_EEGG_1.1.06.2_Platforms R&D_Biochem_Report,
FY 2009Q4_Joule_EEGG_1.1.06.2_Platforms R&D_Biochem_Summary

Associated Performance in Prior Years

FY 2008: Met Achieve a modeled cost of a mixed, dilute sugar stream suitable for fermentation to ethanol of \$0.13 per pound of sugars (equivalent to \$2.39 per gallon of cellulosic ethanol) through the formulation of improved enzyme mixtures and pretreatments (in \$2007). The cost of the sugar stream ties directly to the price of ethanol, a substitute for gasoline and key output of a biorefinery. Reduction in the cost of sugars can lead to commercialization of biorefineries that produce fuels (such as ethanol), chemicals, heat, and power from biomass.

FY 2007: Met Complete integrated tests of pretreatment and enzymatic hydrolysis in conjunction with existing fermentation organisms at bench-scale on corn stover that validate \$0.125 per pound sugars on the pathway to achieving \$0.064 per pound in 2012.

FY 2006: Met Complete laboratory and economic assessment of 2 different feedstocks, identifying operating conditions that link pretreatment with enzymes that could be scaled-up and have the potential of achieving the goal of \$0.125 per pound sugar by 2007.

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Platforms Research and Development - Syngas

Measure: By September 30, 2009 Achieve a modeled ethanol price of \$1.97/gal for thermochemical gasification followed by mixed alcohol synthesis and ethanol separation. This will be achieved by demonstrating pilot-scale technology capable of economically converting biomass feedstocks, and will be based on a feedstock cost of \$60/dry ton (calculated in 2007 dollars).

2009 Results

Commentary: Met The FY 2009 Joule Target of a modeled ethanol cost target of \$1.97/gallon Minimum Ethanol Selling Price (MESP) was achieved via research and pilot scale experiments conducted at the National Renewable Energy Lab. The key technical accomplishment leading to this MESP was a methane conversion, during tar reforming, above 56% in the pilot plant operations with the help of intermediate catalyst regeneration.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on improving tar reforming catalysts, thermochemical gasification followed by mixed alcohol synthesis, and ethanol separation.

Supporting Documentation: FY 2009Q4_Joule_EEGG_1.1.06.3_Platforms R&D_Thermochem_Summary

Associated Performance in Prior Years

FY 2008: Met Achieve a modeled cost of a cleaned and reformed biomass-derived synthesis gas or oils of \$6.88/MBtu by demonstrating pilot-scale technology capable of economically converting biomass residues, pulping liquors, or waste fats and greases. Reduction in the cost of syngas can lead to commercialization of biorefineries that produce fuels, chemicals, heat, and power from biomass.

FY 2007: Met Demonstrate conversion of 50% of non-methane (C2+ higher) hydrocarbons that result in a syngas cost of \$7.15/MBtu in 2007 (equivalent electricity cost of 6.83 cents/kWh).

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Utilization of Platform Outputs

Measure: Initiate construction of at least one commercial-scale biorefinery project (designed to 700 tonnes per day feedstock processed) including orders for long lead items, vendor packages, and structural steel. Validation of biorefinery concepts will reduce technological risk and attract additional sources of capital to accelerate deployment and oil displacement.

2009 Results

Initiating actual construction is evidenced by reports from DOE's Independent Engineer (IE) on construction progress. In the 1st quarter Joule Report for FY2008, ground was broken for the Range Fuels, Soperton, Georgia plant. In the Quarter 3, 2009 Joule milestone report, DOE's IE reported that actual construction progress was on its way. In July and August, DOE's IE provided a monthly progress report documenting that the project is actively underway with key construction items being undertaken or completed. Some key excerpts from the reports follow:

Commentary: Met As of August 12, 2009 – Mechanical completion without distillation will occur early in 2010. Commissioning could occur in the late spring of 2010.
As of September 9, 2009 – Schedules as described above are being maintained.
Examples of construction occurring: Woodyard facilities being completed, product tank foundations are being completed, product loadout structural steel is being erected, and pipe racks and electrical systems are being installed and completed.
These reports contain several photographs of progress in a wide range of activities including foundational work, silo construction, water storage and product tankage and installation of various pieces of conversion process equipment.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on modeling dry herbaceous feedstock logistics costs. This data will be input into designing integrated biomass production systems that incorporate positive services to the environment.

Supporting Documentation: Engineers Independent Report provided to DOE June 25, 2009 number R1277 from RW Beck, Inc.
Engineers Independent Status Report provided to DOE July, 2009 and August 2009.

Associated Performance in Prior Years

FY 2008: Met Approve a final engineering design package of at least one commercial scale biorefinery capable of processing up to 700 metric tones per day of lignocellulosic feedstocks. The approved design package must address any findings from an independent engineering review to validate contractor costs and scheduled timeline. Validation of biorefinery concepts will reduce technological risk and attract additional sources of capital to accelerate deployment and oil displacement.

FY 2007: Met Complete a preliminary engineering design package, market analysis, and financial projection for at least one industrial-scale project for near term agricultural pathways (corn wet mill, corn dry mill, oilseed) to produce a minimum of 15 million gallons of biofuels per year (as mandated by the Energy Policy Act).

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Utilization of Platforms R&D

Measure: Approve preliminary engineering design package, market analysis and financial projections for at least four demonstration scale biorefinery (designed to 70 tonnes per day feedstock) selected in FY 2008. These efforts work toward validating the \$1.33 per gallon cost target in integrated biorefineries by 2017.

2009 Results

Commentary: Met

DOE Order 413.3 provides guidance on definitions for construction projects. The definition of "preliminary design" from DOE Order 413.3 means that the design provides sufficient information to support development of the Performance Baseline. Five projects were evaluated in FY2009 for this baseline by DOE's Independent Engineer (IE). Four were approved or accepted by DOE and its IE. One was determined to require additional baselining to satisfy GFO requirements. In the First Quarter Milestone report, DOE was provided with an Engineering Independent Review (EIR) for two of the four demonstration biorefinery projects (70 tons per day) involving the Verenum demonstration plant in Jennings, Louisiana and the proposed Mascoma demonstration plant in Kinross, Michigan and its predecessor pilot plant in Rome, NY. Please refer to that milestone completion report for additional detail. These reports evaluate the preliminary design package, potential readiness of the project and project site, off-take agreements and estimates of costs related to the construction of the proposed facilities. In both cases, DOE approved the plans and the projects have continued with their planning for a final design package (Mascoma) or final evaluation of the project goals in the case of Verenum which already has a demonstration scale facility and is evaluating two types of feedstocks to potentially be employed in a larger commercial operation. In the Second Quarter Milestone report, DOE was provided with two additional EIRs for demonstration biorefinery projects (70 tons per day) involving the New Page demonstration project in Wisconsin Rapids, Wisconsin and the Pacific BioGasol West Coast Biorefinery Project in Boardman, Oregon. Please refer to that milestone completion report for additional detail. These reports evaluate the preliminary design package, potential readiness of the project and project site, off-take agreements and estimates of costs related to the construction of the proposed facilities. In this instance, DOE approved the New Page project and New Page and Flambeau (see below) continue with pilot testing to improve the final design. During the third and fourth quarters of FY 2009, an additional EIR was conducted for the Flambeau River Biorefinery Demonstration project in Park Falls, Wisconsin. Flambeau satisfied the target by providing the 4th iteration of their Class 30 design, which has been evaluated by the IE and found to be reasonably sound.

Future Plans / Explanation of Shortfalls: The preliminary design will be updated and refined with the results from pilot plant testing, which is occurring now during August-November 2009 together with New Page (each supplies its own feedstock) and the results will be incorporated into the final design. This will provide Flambeau and New Page with important information to undertake their detailed design on schedule: Flambeau - 2/2010 and New Page - 9/2010. Both projects intend to complete detailed design in 2010: New Page - 4/2010 and Flambeau - 9/2010.

Supporting Documentation: All reports are on file at the Golden Field Office and are business sensitive and proprietary. Quarter 1 and Quarter 2 Joule Milestone Reports. Independent Engineer report for the Flambeau River Project provided to GFO in July, 2009.

Associated Performance in Prior Years

FY 2008:	Met	Approve a final engineering design package of at least one commercial scale biorefinery capable of processing up to 700 metric tones per day of lignocellulosic feedstocks. The approved design package must address any findings from an independent engineering review to validate contractor costs and scheduled timeline. Validation of biorefinery concepts will reduce technological risk and attract additional sources of capital to accelerate deployment and oil displacement.
FY 2007:	Met	Complete a preliminary engineering design package, market analysis, and financial projection for at least one industrial-scale project for near term agricultural pathways (corn wet mill, corn dry mill, oilseed) to produce a minimum of 15 million gallons of biofuels per year (as mandated by the Energy Policy Act).
FY 2006:	N/A	

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Biomass

Secretarial Goal Supported: Clean, Secure Energy

Biomass - Utilization of Platforms R&D

Measure: Approve engineering design of one additional commercial scale biorefineries (2 in total) including orders for long lead items, vendor packages, and structural steel. The result of this will ultimately be to complete construction by 2011.

2009 Results

Commentary: Not Met

The Abengoa Bioenergy Biomass Kansas plant that is to be sited in Hugoton, Kansas was the commercial scale biorefinery that addresses this target. While the engineering is essentially complete, orders for long lead items are being placed (boilers and combustion equipment), vendor packages are being prepared (enzymatic hydrolysis equipment) and other infrastructure critical items are being managed (feedstock supply contract negotiations), the approval of the design by DOE is not possible since the Engineering Independent Review (EIR) process could not be initiated in time to verify this level of readiness by September 30, 2009. These final design and procurement efforts were undertaken in August and September, 2009 preventing the scheduling of the EIR until October/November 2009.

Future Plans / Explanation of Shortfalls: Scheduling is proceeding by the Golden Field Office to conduct the EIR by our independent engineer in the first quarter of FY2010. Upon completion of that EIR, DOE will be able to verify the readiness of this project in order to meet one of the key requirements for making a construction and operations award under Other Transaction authority granted to DOE under EPAAct 2005.

Supporting Documentation: The project manager for ABBK, Hugoton facility provided weekly status reports on Business and Finance progress and a 4 week look ahead for Process Engineering. These are business sensitive documents in possession of the Office of Commercialization and Project Management at the Golden Field Office.

Associated Performance in Prior Years

FY 2008: Met

Approve a final engineering design package of at least one commercial scale biorefinery capable of processing up to 700 metric tones per day of lignocellulosic feedstocks. The approved design package must address any findings from an independent engineering review to validate contractor costs and scheduled timeline. Validation of biorefinery concepts will reduce technological risk and attract additional sources of capital to accelerate deployment and oil displacement.

FY 2007: Met

Complete a preliminary engineering design package, market analysis, and financial projection for at least one industrial-scale project for near term agricultural pathways (corn wet mill, corn dry mill, oilseed) to produce a minimum of 15 million gallons of biofuels per year (as mandated by the Energy Policy Act).

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/biomass/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Solar

Secretarial Goal Supported: Clean, Secure Energy

Concentrated Solar Power (CSP)

Measure: Modeled levelized cost of power from large-scale concentrating solar power (CSP) plants in the range of \$0.11-\$0.13/kWh from completed R&D

2009 Results

Commentary: Not Met

The National Renewable Energy Laboratory (NREL) performed a comprehensive cost analysis of a parabolic trough plant in 2009, which indicated that several cost factors were higher than previously expected. Most notably these included the header piping, heat transfer fluid inventory, the solar field itself, and the thermal storage system. Nitrate salt (the thermal storage media) prices have remained at historic highs, despite the economic slowdown in 2009. This resulted in a best modeled cost that exceeds the DOE Solar Program's FY 2009 target of 11-13 ¢/kWh by 1.5¢ in constant 2007 dollars.

It appears previous year model estimates, based on escalation of costs over several years, were optimistic. This finding highlights the need to maintain and rebalance cost models as often as possible, especially when technology, financial, and market factors can change rapidly. The creation of the new cost model in 2009 and analysis activities planned for FY 2010 will facilitate better tracking of current costs.

Future Plans / Explanation of Shortfalls: DOE is already funding R&D to bring down the CSP component costs that have resulted in the higher than anticipated LCOE. More specifically, some of the contracts issued over the past year are designed to address the cost of thermal energy storage, which was a major factor in not meeting the CSP cost target.

NREL encourages dialog between DOE, the national laboratories, and contractors to share information and ensure that research remains focused on such areas of need. In addition to technology-related improvements in solar field and storage systems, the analysis reinforces that learning through system deployment is important to achieving cost targets by reducing indirect costs, construction labor, and O&M costs. Potential learning benefits apply not only to building and operating the plant, but also to financing and project management.

Supporting Documentation: Signed Letters

Associated Performance in Prior Years

FY 2008:	Met	Modeled levelized cost of power from large-scale concentrating solar power (CSP) plants in the range of \$0.11-\$0.13/kWh from completed R&D.
FY 2007:	Met	Develop CSP trough collector and receiver technologies that enable a system conversion efficiency of 13.1%. The levelized cost of energy from such a system is expected to be in the range of \$0.11-\$0.13/kWh.
FY 2006:	Met	Conduct advanced research on trough collectors and receivers that will lead to a reduction in the modeled cost of energy from CSP troughs to \$0.12-\$0.14/kWh.

Additional Information

Program Office: <http://www1.eere.energy.gov/solar/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Solar

Secretarial Goal Supported: Clean, Secure Energy

Photovoltaic (PV) Energy Systems - Crystalline Silicon

Measure: Complete R&D that will reduce the manufacturing, installation, and operation costs of commercial PV systems to produce energy at a modeled levelized cost of \$0.12-\$0.16 /kWh for commercial applications

2009 Results

Commentary: Met Funding from the DOE Solar Program has enabled companies within the Technology Pathway Partnerships program to manufacture proprietary cells, modules, and systems at lower costs. When combined with best practices system installation, a levelized cost of energy at or below \$0.16/kWh is achievable.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010. Continued R&D progress to improve PV systems modeled levelized cost of energy.

Supporting Documentation: Signed letters

Associated Performance in Prior Years

FY 2008: Met Reduce producer manufacturing cost of silicon PV modules to \$1.70 per Watt, roughly equivalent to a modeled levelized cost of energy of \$0.14-\$0.23/kWh.

FY 2007: Met Verify, using standard laboratory measurements, a conversion efficiency of 14.5% of U.S.-made, commercial crystalline silicon PV modules. Production cost of such modules is expected to be \$1.80 per watt.

FY 2006: Met Verify, using standard laboratory measurements, a conversion efficiency of 13.8 percent of U.S.-made, commercial crystalline silicon PV modules. Production cost of such modules is expected to be \$1.90 per watt.

Additional Information

Program Office: <http://www1.eere.energy.gov/solar/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Solar

Secretarial Goal Supported: Clean, Secure Energy

Photovoltaic Energy Systems - Thin-Film

Complete R&D that will reduce the manufacturing, installation, and operation costs of residential

Measure: PV systems to produce energy at a modeled levelized cost of \$0.17 -\$0.20/kWh for residential applications.

2009 Results

Commentary: Met Funding from the DOE Solar Program has enabled companies within the Technology Pathway Partnerships program to manufacture proprietary cells, modules, and systems at lower costs. When combined with best practices system installation, a levelized cost of energy at or below \$0.20/kWh is achievable.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010 to monitor continued R&D progress to improve PV systems modeled levelized cost of energy.

Supporting Documentation: Signed Letters

Associated Performance in Prior Years

FY 2008:	Met	Complete R&D that will reduce the direct manufacturing cost of thin film PV modules to \$1.60 per Watt, roughly equivalent to a modeled levelized cost of energy of \$0.14-\$0.23/kWh.
FY 2007:	Met	Develop thin-film PV modules with an 11.8% conversion efficiency that are capable of commercial production in the U.S.
FY 2006:	Met	Develop thin-film PV modules with an 11.2 percent conversion efficiency that are capable of commercial production in the U.S.

Additional Information

Program Office: <http://www1.eere.energy.gov/solar/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Solar

Secretarial Goal Supported: Clean, Secure Energy

Solar - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /

Explanation of The FY 2009 performance measure will be continued in FY 2010.

Shortfalls:

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008:	Met	Maintain administrative costs as a percent of total program costs less than 12 percent.
FY 2007:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.
FY 2006:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/solar/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Wind Energy

Secretarial Goal Supported: Clean, Secure Energy

Wind - Distributed Wind Technology (DWT)

Measure: 600 new units of distributed wind turbines deployed in market.

2009 Results

Commentary: Met A total of 4,321 distributed wind turbines (1kW up to 1 MW rated power) were deployed in 2009 according to the report, AWEA Small Wind Turbine Global Market Study 2009.

Future Plans /

Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010.

Supporting Documentation: AWEA Small Wind Turbine Global Market Study 2009.

Associated Performance in Prior Years

FY 2008:	Met	500 new units of distributed wind turbines deployed in market.
FY 2007:	Met	COE of 10-15 cents /kWh in Class 3 winds.
FY 2006:	Met	COE of 11-16 cents /kWh in Class 3 winds.

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Wind Energy

Secretarial Goal Supported: Clean, Secure Energy

Wind - Low Wind Speed Technology (LWST)

Measure: 3.9 cents per kWh modeled cost of wind power in land-based Class 4 wind speed areas (i.e., 13 mph annual average wind speed at 33 feet above ground). 9.15 cents per kWh modeled cost of wind power in Class 6 wind speed areas (i.e., 15 mph annual average wind speed at 33 feet above ground) for shallow offshore systems.

2009 Results

As in previous years, the LWST Project COE reduction was quantified using the Annual Turbine Technology Update (ATTU) methodology. The results show that the LWST Project achieved a land-based COE of 4.02 cents (FY \$2002) /KWh as a result of FY 2009 LWST Project activities. With the FY 2009 target ATTU land-based COE being 3.9 cents/KWh, the achieved ATTU COE falls short of the current year land-based target by 0.12 cents/KWh.

Commentary: Not Met While this represents a clear shortfall for the current fiscal year, the Wind Energy Program will implement an action plan to achieve the FY 2010 targets. Although LWST activities during FY 2009 made significant progress toward the program goal of offshore COE reduction, directly quantifiable data was not available to support verification of the offshore target.

Future Plans / Explanation of Shortfalls: The Annual Turbine Technology Update (ATTU) methodology relies upon data from subcontracts from 2005 which have concluded providing limited data for FY 2009. During FY 2010, new subcontracts will enable the program to resume activities to continue work that is expected to lead to additional cost of energy reductions for both on and offshore systems. These performance measures will be replaced by a new format in FY 2011 which will improve the Wind Program's ability to track progress and performance. NWTC Utility-Scale Partnership activities are linked to both land-based and offshore wind energy technology advancement. These partnerships improve understanding of wind turbine mechanical dynamics, aerodynamics, and wind inflow for increased energy capture, reduced loads and improved turbine reliability. Beginning in FY 2011, a dedicated offshore research program will allow DOE to develop a direct one-to-one link between offshore research efforts and increased performance of offshore wind technology.

Supporting Documentation: Annual Turbine Technology Update

Associated Performance in Prior Years

FY 2008:	Not Met	4.0 cents per kWh modeled cost of wind power in land-based Class 4 wind speed areas (i.e., 13 mph annual average wind speed at 33 feet above ground); and 9.2 cents per kWh modeled cost of wind power in Class 6 wind speed areas (i.e., 15 mph annual average wind speed at 33 feet above ground) for shallow offshore systems.
FY 2007:	Met	COE of 4.1 cents/kWh in onshore Class 4 winds; 9.25 cents/kWh for shallow water offshore systems in Class 6 winds; and 11.93 cents/kWh for transitional offshore systems in Class 6 winds.
FY 2006:	Met	Wind - LWST - COE Target: 4.2 cents per kWh in onshore Class 4 winds; 9.3 cents per kWh for offshore systems in Class 6 winds.

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Wind Energy (1.1.4)

Secretarial Goal Supported: Clean, Secure Energy

Wind - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of The FY 2009 performance measure will be continued in FY 2010.

Shortfalls:
DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008:	Met	Maintain administrative costs as a percent of total program costs less than 12 percent.
FY 2007:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.
FY 2006:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Wind Energy

Secretarial Goal Supported: Clean, Secure Energy

Wind - Technology Acceptance

Measure: 27 States with at least 100 megawatts (MW) of wind power capacity installed, and 4 States with over 1,000 MW wind power capacity installed.

2009 Results

Commentary: Not Met The goal of 4 states with 1,000 MW installed wind capacity has been exceeded by 5 states. However, there are currently only 26 states (1 short of the 27 state goal) with at least 100 MW of installed wind capacity.

Future Plans / Explanation of Shortfalls: We fully expect to exceed the FY 2010 target of 30 states with 100+ MW installed, with the additions of Arizona, Maryland, Virginia, Ohio, and Hawaii.

Supporting Documentation: Signed NREL letter

Associated Performance in Prior Years

FY 2008:	Met	22 States with at least 100 megawatts (MW) of wind power capacity installed.
FY 2007:	Not Met	20 States with over 100 MW wind installed.
FY 2006:	Not Met	19 States with over 100 MW wind installed.

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Geothermal Technologies Program

Secretarial Goal Supported: Clean, Secure Energy

Geothermal

Measure: Determine actual (baseline) pre-stimulation reservoir flow rate for at least one EGS field site.

2009 Results

Commentary: Met Ormat Technologies Inc. performed a pre-stimulation flow rate test of their Well 27-15 at the Desert Peak, Nevada EGS Systems Demonstration site on July 28th, 2009 resulting in an EGS Systems Demonstration pre-stimulation baseline flow rate of .54 kilograms per second.

Future Plans / Explanation of Shortfalls: The FY 2009 performance will not be continued in FY 2010. The FY 2010 performance measure will monitor the continuing R&D, focusing on modeling increase in flow rates for EGS field site demonstrations.

Supporting Documentation: Ormat Well 27-15 flow rate data 7-28-09

Associated Performance in Prior Years

FY 2008: Met Conclude EGS technology evaluation and publish a new Geothermal program plan.

FY 2007: Met Geothermal - Complete an interim report on EGS technology evaluation, and report on completion of program activities and projects funded in FY 2006.

FY 2006: Met Develop an Electronic Repository which makes digitized copies of all Geothermal Technology Program Research Development and Deployment Technical Reports available via the internet, while demonstrating reduction in cost of power for flash systems to 4.9 cents/kWh from 5.3 cents/kWh in 2005 and reducing cost of binary to 8.2 cents/kWh from 8.5 in 2005 based on modeled analysis.

Additional Information

Program Office: <http://www1.eere.energy.gov/geothermal/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Geothermal Technologies Program

Secretarial Goal Supported: Clean, Secure Energy

Geothermal - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

FY 2006: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/geothermal/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Water Program

Secretarial Goal Supported: Clean, Secure Energy

Water Power

Measure: Complete draft of Multi-Year Program Plan

Commentary: Met

The Program has completed a draft version of its Multi-Year Program Plan for 2009-2012. The Program drafted the MYPP using several resources including knowledge gained through interaction with National Laboratories, industry, and other key stakeholders. The document lays out the Program's long-term strategic technology development and market acceleration goals for both marine and hydrokinetic technologies and conventional hydropower. The Program has developed strategic pathways and technical approaches to reach these goals and overcome technical and market barriers. The MYPP allows the Program to reassess its strategy as new information becomes available, the results of R&D projects are analyzed, and as the market develops for these technologies.

Future Plans / Explanation of Shortfalls: Finalize draft MYPP, adding detailed milestones, dates and additional performance metrics for future years.

Supporting Documentation: MYPP Draft completed, will be publically available once finalized

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Water Program

Secretarial Goal Supported: Clean, Secure Energy

Water Power - Operational Efficiency Measure

Measure: Maintain administration costs at less than 12 percent of total program costs.

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans / Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

FY 2008: Met Maintain administrative costs as a percent of total program costs less than 12 percent.

FY 2007: Met Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.

FY 2006: N/A

Additional Information

Program Office: <http://www1.eere.energy.gov/windandhydro/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Vehicles – Hybrid Electric Systems/ Technology Validation

Measure: Verify under real world conditions (through demonstrations and modeling) hydrogen infrastructure technologies with a cost of \$3.00 per gge. (Based on high volume production.)

2009 Results

Commentary: Not Met The cost of producing hydrogen from on-site water electrolysis and steam methane reforming of natural gas was been modeled by the National Renewable Energy Laboratory (NREL) using input from the participating energy companies and Learning Demonstration data modified for volume production and other factors. Results ranged from \$7 per gge to \$12 per gge for natural gas reforming and \$9 per gge to \$14 per gge for water electrolysis.

Future Plans / Demonstrations effort. A parallel evaluation by an independent panel of experts, however, using data from other sources is showing lower electrolysis cost (on the order of \$4.90 to \$5.70 per gge). A previous Shortfalls: panel's evaluation (2006) of natural gas reforming gave a hydrogen production cost of \$3 per gge.

Supporting Documentation: Draft results are from the composite data product #15 prepared by NREL (September 2009).

Associated Performance in Prior Years

FY 2008: Met Fuel Cell vehicle(s) demonstrate the ability to achieve 250 mile range without impacting cargo or passenger compartments, leading to greater adoption of fuel cells. Technology Validation prior to FY 2008 showed 103-190 mile range under real world operating conditions.

FY 2007: Met Validate achievement of a refueling time of 5 minutes or less for 5 kg of hydrogen at 5,000 psi through the use of advanced sensor, control, and interface technologies.

FY 2006: Met Complete installation and 1,000 hours of testing of a refueling station; determine system performance, fuel quality and availability; and demonstrate the ability to produce 5,000 psi hydrogen from natural gas for a projected cost of \$3.00 per gallon of gasoline equivalent, (untaxed at the station, assuming commercial deployment with large equipment production volumes [e.g., 100 units/year]) by 2009.

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Advanced Combustion Engine Research and Development

Measure: Internal combustion laboratory demonstrated engine efficiency for light-duty vehicles of 44%. (Engine efficiency improvements will improve vehicle fuel economy.)

2009 Results

Commentary: Met The Oak Ridge National Lab demonstrated an engine efficiency of 44.1% using lab data and modeling. An organic Rankine cycle (ORC) was used to generate more than 2.9 kW of net electrical power from the exhaust heat of a General Motors 1.9-L diesel engine. The additional power raised the effective efficiency of the engine from 42.3% brake thermal efficiency (BTE) to a combined BTE of 44.1%.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010. Continued progress to improve internal combustion engine efficiency for light-duty vehicles supports program progress towards improving vehicle fuel economy.

Supporting Documentation: An overview of results are provided in a presentation format (September 2009). Results are to be fully documented in Oak Ridge National Laboratory's annual report to Vehicle Technologies later this year.

Associated Performance in Prior Years

FY 2008: Met In the laboratory, demonstrate passenger vehicle combustion engines with a 43 percent brake thermal efficiency. Complete progress review of heavy-duty engine research and down-select from 4 to 2 the number of cooperative agreements for continued R&D, based on the best prospects of achieving the 2013 goal of 55 percent engine efficiency.

FY 2007: Met In the laboratory, demonstrate passenger vehicle combustion engines with a 42% brake thermal efficiency.

FY 2006: Met Achieve 41 percent brake thermal efficiency for light vehicle combustion engines and 50 percent brake thermal efficiency, while meeting EPA 2010 emission standards (0.2 g/hp-hr NOx), for heavy vehicle combustion engines.

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Hybrid Electric Systems (Energy Storage)

Reduce modeled production cost of high-power, 25 kW passenger vehicle lithium-ion battery to Measure: \$550. (Storage batteries are a key cost and performance component for hybrid electric vehicles, which offer improved fuel economy).

2009 Results

Commentary: Not Met

Cost estimates from current DOE/USABC battery developers (Johnson Controls, A123Systems, and Compact Power/LG Chem) for a 25 kilowatt battery vary from \$621 to \$808, excluding life & warranty costs and profit. The battery cost projection was derived by each manufacturer using USABC's battery manufacturing cost model and production volumes of 100,000 to 175,000 batteries per year, which represents full utilization of a small battery production plant. The estimates are exclusive of cost benefits associated with the recently awarded battery manufacturing plants funded by the American Recovery and Reinvestment Act. The Johnson Controls (JCS) and Compact Power contracts have been completed. JCS will commercialize the lithium ion technology developed with DOE's support in 2009 and will likely be the first entry of lithium ion batteries into a production hybrid vehicle. The A123Systems high power battery contract will be completed in March 2010 and further cost reductions of their battery system are expected.

Future Plans / Explanation of R&D: In FY2010, DOE will continue development of lower cost battery technologies for conventional hybrid vehicles. A new funding opportunity to reduce battery cost will be released in January 2010. Follow-on R&D shows the potential to cut the battery production cost an additional 20 percent. No additional action Shortfalls: beyond current R&D plans is believed needed.

Supporting Documentation: Results of the cost models were presented by the developers at the Quarterly Progress Reviews.

Associated Performance in Prior Years

FY 2008:	Met	Reduce the projected cost at high volume of a high power, 25 kW, passenger vehicle lithium ion battery to \$625 per battery system for conventional hybrid vehicles.
FY 2007:	Met	Reduce high power, 25 kW, passenger vehicle, lithium ion battery cost to \$700 per battery system.
FY 2006:	Met	Reduce the projected cost at high volume of a high power, 25 kW, light vehicle, lithium ion battery to \$750 per battery system.

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Lightweight Materials Technology

Measure: Reduce the modeled weight of a passenger vehicle body and chassis system by 40 percent relative to 2002 baseline. (Reducing vehicle weight will improve vehicle fuel economy.)

2009 Results

Commentary: Met A detailed cost model prepared by the Oak Ridge National Laboratory (ORNL) indicates that the 40% weight reduction in the body and chassis is achievable, but not cost-effective on a life-cycle basis at \$1.90 per gallon of fuel. It would be cost effective at prices above \$4/gallon.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010. Continued progress to improve the modeled weight of passenger vehicle body and chassis supports program progress towards improving vehicle fuel economy.

Supporting Documentation: Results are documented in a draft report prepared by the ORNL (June 2009). A summary of the report will be included in the Materials Technology annual report.

Associated Performance in Prior Years

FY 2008: Met Reduce the modeled weight of a mid-sized passenger vehicle body and chassis components by 25 percent relative to baseline.

FY 2007: Met Develop technologies which, if implemented in high volume, could reduce the weight of body and chassis components by 10%.

FY 2006: Not Met Complete R&D on technologies, which, if implemented in high volume, could reduce the projected (i.e. modeled) bulk cost of automotive-grade carbon fiber to less than \$3.00/pound.

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Vehicles - Operational Efficiency Measure

Measure: Maintain administrative costs at less than 12 percent of total program costs.

2009 Results

Commentary: Met Overall performance is 6.8%; annual target is to be less than 12%.

Future Plans /
Explanation of Shortfalls: The FY 2009 performance measure will be continued in FY 2010.

DOE financial accounting system (STARS), based on preliminary FY 2008 actuals.

Supporting Documentation: Documentation is the DOE STARS accounting system and the EERE Executive Information System. This rating is based on preliminary FY 2008 actuals.

Associated Performance in Prior Years

FY 2008:	Met	Maintain administrative costs as a percent of total program costs less than 12 percent.
FY 2007:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12%.
FY 2006:	Met	Maintain total administrative overhead costs (defined as program direction and program support excluding earmarks) in relation to total program costs of less than 12 percent.

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: Vehicle Technologies

Secretarial Goal Supported: Clean, Secure Energy

Vehicles-Hybrid and Electric Propulsion/Advanced Power Electronics

Measure: Reduce the projected cost (modeled) of a combined inverter/motor to \$19/kW peak for a specific power of 1.0 kW/kg, a power density of 2.2 kW/liter and an inlet coolant temperature of 90° C.

2009 Results

Commentary: Met Design analysis by Oak Ridge National Lab (ORNL) of the flux coupling non-PM motor when combined with inverter analysis (Q2 Joule milestone), demonstrated an inverter/motor projected cost (modeled) of \$19/kW peak at the design conditions.

Future Plans / Explanation of Shortfalls: The performance measure will be updated to reflect the program's progress and continued in FY 2010 to monitor R&D progress to improve combined inverter/motors and costs.

Supporting Documentation: The results were documented by ORNL in their September 2009 monthly report and will also be in the Vehicle Technologies 2009 annual report for the PEEM subprogram.

Associated Performance in Prior Years

FY 2008: Met In the laboratory, demonstrate a current source inverter for use in traction drive applications with an inherent boost capability of 3X, a reduction of motor voltage harmonic distortion of 90% and motor bearing leakage current by 90%, and a reduction in capacitor requirements from 2000uF to 200uF.

FY 2007: Met Demonstrate in the laboratory a motor with a specific power of 1.0 kW/kg, power density of 3.0 kW/liter, projected cost of \$9/kW peak, and efficiency of 90%.

FY 2006: Met

Additional Information

Program Office: <http://www1.eere.energy.gov/vehiclesandfuels/>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

Advance Research

Measure: Emphasis is on pre-competitive engineering research that can foster transformational breakthroughs in materials, sensors and controls, and advanced computational processes.

2009 Results

The Advanced Research (AR) Program champions new technology development for Fossil Energy applications and supports developments in 3 cross cutting areas: Sensor & Controls (S&C), Computational Energy Sciences (CES), and Materials.

Commentary: Met

In the S&C Area, projects were initiated to develop novel sensors for harsh environments including ceramic micro sensors and distributed and multiplexed fiber optic sensors for the measurement of temperature, strain and pressure under conditions common to Ultra Supercritical steam and gasification based plants. In CES, efforts to develop and demonstrate Reduced Order Model (ROM) algorithms were completed for fluidized bed systems thereby reducing the CPU processing time by two orders of magnitude. The capability to model and simulate unit processes and fully configured near-zero emission coal-based power plants will allow viable options to be identified, compared, and lead to a reduction in development costs associated with advanced power generation technologies. Additional developments include enhanced capabilities (cut cell techniques) in the multiphase computational fluid dynamics code (MFIIX - Multiphase Flow with Interphase eXchanges) that resulted in enhanced simulation accuracy and simulation of complex gasifier designs. The Materials Program continued development in advanced alloys and coatings for new power systems. Computational and experimental developments were completed for candidate materials in the Ultra Supercritical, oxy-fired pulverized coal (PC) boilers systems.

Future Plans / Explanation of Shortfalls: The Advanced Research activity helps sustain U.S. preeminence in fossil fuel technology by supporting development of materials, computational methods, control systems and knowledge needed to bridge gaps between basic science and engineering development. Advanced Research program efforts will allow development of enabling technologies that support the goals of near-zero atmospheric emissions energy for next generation power systems.

Supporting Documentation: Project Technical Progress Reports, R&D Cooperative Agreements, Quarterly Status Report and Merit Review Proceedings

Associated Performance in Prior Years

Extensive testing at the laboratory scale was completed to demonstrate the overall feasibility of using novel fiber based sensor devices to selectively detect gases (Hydrogen and Carbon Monoxide) at high temperatures (500°C). The sensors capitalize on nano coatings and novel sensor designs to facilitate in situ detection of gases intended for improved real time operation of advanced power systems.

FY 2008: Met Accomplishments in NETL's Advanced Process Engineering Co-Simulator (APECS) continue with capability in an immersive virtual engineering plant walk-through environment. The simulation capability provides a foundation for data storage and usage in the co-simulation process. Embedded within the plant simulator, coding and testing of an entrained flow gasifier model was completed. Principal Component Analysis (PCA) was completed to enable much faster CFD calculations. Resulting efforts enable the demonstration of the integrated CFD simulation within APECS including virtual engineering capability (VE-suite).

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

	Office: Fossil Energy	
	Program: Zero Emissions Coal-Based Electricity & Hydrogen Production	
Secretarial Priority Supported:	Clean, Secure Energy	
	Advance Turbines	
	Measure: Fabrication and testing of key components associated with optimizing turbine hot gas path and exhaust parameters.	
	<u>2009 Results</u>	
Commentary:	Met	In FY09 the large industry team hydrogen turbine projects made excellent progress in the development of these critical components as demonstrated by meeting the FY 2009 Quarterly milestones. By advancing the state of the art in these areas, the gas turbine team members have continued to strive towards turbine temperatures high enough to attain projected efficiency increases. These turbines will allow coal based IGCC power plants, with carbon capture and storage (CCS), to be deployed with a lower cost of electricity. Meeting this annual target directly supports DOE-FE FY 2010 goal of developing technologies that can produce electricity from coal at 45-50 percent efficiency based on higher heating value (HHV) at a capital cost of \$1760/KW (in 2007 dollars).
Future Plans / Explanation of Shortfalls:		The Advanced Turbines activity will, in 2010, develop technology capable of delivering advanced turbine performance on a coal-based synthesis gas fuel at a combined cycle power island that can produce electricity that is 45 to 50 percent efficient (HHV). Specifically, in 2010, advanced turbine technology will deliver a 2 to 3 percentage point improvement in the HHV efficiency of a combined cycle power island and reduce its capital cost (\$/kW) by at least 10 percent through higher power output when compared to previously available systems. This will be done while maintaining 2ppm or less NOx emissions, when fueled by hydrogen. By 2012, advanced turbines capable of firing up to 100 percent hydrogen will be developed.
Supporting Documentation:		1) Advanced IGCC/Hydrogen Gas Turbine Development, work performed by GE Energy Schenectady, NY 12345, DOE Cooperative Agreement: DE-FC26-05NT42643 2) Advanced Hydrogen Turbine Development; work performed by Siemens Power Generation, Inc., 4400 Alafaya Trail, Orlando, Florida 32826; DOE Cooperative Agreement: DE-FC26-05NT42644
		<u>Associated Performance in Prior Years</u>
FY 2008:	Met	Ensure the availability of a new generation of electric power generating "platforms" by initiating development of large frame hydrogen-fired turbine technologies (Phase II), including final combustion system down selection, and complete the test plan for the full head-end combustion system testing to achieve single digit NOx at progressively higher temperature and pressure. Complete preliminary rig tests of 3rd stage turbine blades as input to design for ability to withstand increased power output.
FY 2007:	Met	Complete prototype combustor module testing, demonstrate performance of achieving single digit NOx at lower flame temperatures (2100 degree F vs design inlet temperature of 2500 degrees F) and pressures, and identify the two most promising low NOx, high-hydrogen fueled, combustion concepts for further evaluation and testing in Phase II of the hydrogen turbine development projects.
FY 2006:	Met	Initiate a prototype combustor module test for large frame engines of low NOx combustion technology (trapped vortex, catalytic, lean premix, or modified diffusion flame) using simulated coal based synthesis gas to demonstrate progress towards a 2 ppm NOx emissions goal.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office:	Fossil Energy
Program:	Zero Emissions Coal-Based Electricity & Hydrogen Production
Secretarial Priority Supported:	Clean, Secure Energy
Measure:	<p>Carbon Sequestration - Net Cost</p> <p>17% net cost of CO₂ capture and sequestration as measured by percent of cost of electricity. Cost of electricity increase is for 90% CO₂ capture and sequestration when compared to a conventional (off-the-shelf) non-capture power plant. Performance is measured by validating technology improvements of an advanced power plant with carbon capture technology.</p>
<u>2009 Results</u>	
Commentary:	Met Annual Accomplishment: Systems engineering studies coordinated by NETL have shown that when incorporating advanced technology improvements of an advanced power plant with carbon capture, the resulting increase in busbar cost of electricity for 90% CO ₂ capture is no more than 17% relative to 2003 technology baseline.
Future Plans / Explanation of Shortfalls:	The Carbon Sequestration activity will, by 2015 develop technologies to separate, capture, transport, and store CO ₂ using either direct or indirect systems that result in a less than 10 percent increase in the busbar cost of electricity relative to 2003 technology baseline. By 2012, the program will have developed methodology capable of predicting CO ₂ storage capacity in geologic formation to within +/-30 percent of actual storage capacity. By 2018, Best Practice Manuals for site selection, characterization, operational, and closure practices will be completed.
Supporting Documentation:	2009 Coal Performance Rating Tool (PART) Status Report.
<u>Associated Performance in Prior Years</u>	
FY 2008:	Met Net cost of carbon dioxide (CO ₂) capture and sequestration as measured by percent of cost of electricity to 90% capture at a cost of electricity increase of 19% when compared to a conventional (off-the-shelf) non-capture power plant by validating technology improvements of an advanced power plant with carbon capture technology to ensure availability of affordable, environmentally responsible domestic energy.
FY 2007:	Met Validate technology improvements of an advanced power plant with carbon capture technology that can be extrapolated and translates to 90% carbon capture at a cost of electricity increase of 20% when compared to a conventional (off-the-shelf) non-capture power plant.
FY 2006:	N/A

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

Carbon Sequestration - Phase II

Complete the validation phase injection tests of Regional Carbon Sequestration Partnerships

Measure: Program (Phase II) through the use of industry partnerships, bringing the best emerging new coal-based power generating technologies to deployment.

2009 Results

Commentary: Met All of the original validation phase carbon dioxide (CO₂) injection tests of the Regional Carbon Sequestration Partnership (RCSP) Program (Phase II) have been completed. The RCSPs originally planned 25 geologic validation phase injection tests. Of these 25 tests, 12 tests were completed in 2009, 3 tests were completed in 2008, 1 test was completed in 2007, and 9 tests underwent modification of either changing sites, discontinued, or merged due to a variety of factors beyond the Program's control. The 9 modified tests include: 4 tests that were discontinued due to either merging into Phase III test or were reprogrammed to support other injection tests since limited additional data would have occurred thus leading to better information at other sites; 5 test sites that were changed due to issues with mineral rights, access to injection sites, and changes in industry partners caused the injections to be completed after FY09. Several of these sites are injecting and given the data and investment in characterization and permitting work, it made sense to continue these injection tests.

Future Plans / Explanation of Shortfalls: These Phase III Regional Partnership projects will have a performance period for up to 10 years and therefore will not be completed until after 2012. These projects should lead to the development of commercial demonstration projects by 2020.

Supporting Documentation: Documentation for all tests, completed, discontinued, merged, or changed, can be found in the RCSP's quarterly reports. Numerous techlines have also been completed showcasing these items.

Associated Performance in Prior Years

FY 2008: Met Complete site selection, reservoir modeling, site characterization, and begin injection at depleted oil reservoir, unmineable coal seam, and saline formation to demonstrate that storage of CO₂ in geologic formations is a viable greenhouse gas mitigation option to develop technologies that can safely and economically store carbon dioxide from coal-based energy systems.

FY 2007: N/A

FY 2006: Met Performed pilot-scale testing and also laboratory testing of different CO₂ capture technologies to lead to significant improvement in cost and performance, and initiated field sequestration activities within the Regional Partnerships, including selecting and awarding seven Phase II Regional Carbon Sequestration Partnerships that will begin to evaluate regional infrastructure and technologies to permanently sequester greenhouse gas emissions through small scale validations tests.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure, Energy

Carbon Sequestration - Phase III

Inject 0.5 million metric tons CO₂ total at 1 or more large-volume field test sites to demonstrate Measure: the formations capacity to sequester carbon by developing technologies that can safely and economically store carbon dioxide from coal-based energy systems.

2009 Results

Commentary: Met The Southeast Regional Carbon Sequestration Partnership (SECARB), managed and administered under DOE Cooperative Agreement Number DE-FC26-05NT42590 by the Southern States Energy Board, initiated carbon dioxide (CO₂) injection for their large-volume field test in 2009 in the saline waters beneath the oil bearing formation at the Cranfield site, near Natchez, Mississippi. Members of SECARB, The Bureau of Economic Geology (BEG) at the University of Texas at Austin and Denbury Resources, Incorporated, began this injection in three downdip wells. By June 30, 2009, scientific instrumentation installed nearly two miles beneath the surface was successfully tracking the movement of 890,014 metric tons of injected CO₂.

Future Plans / Explanation of Shortfalls: These Phase III Regional Partnership projects will have a performance period for up to 10 years and therefore will not be completed until after 2012. These projects should lead to the development of commercial demonstration projects by 2020.

Supporting Documentation: Quarterly report from project DE-FC26-05NT42590, Southeast Regional Carbon Sequestration Partnership, Dated August 2009, specifically page 68 mentions the CO₂ injection and page 97 gives the cumulative injection. A techline showcasing the accomplishment can be found at http://www.netl.doe.gov/publications/press/2009/09076-DOE_Project_Hits_Million_Ton_Miles.html (November 5, 2009).

Associated Performance in Prior Years

FY 2008: Met Award initial round of Phase III (development) of the Regional Carbon Sequestration Partnerships, conduct site selection, and complete National Environmental Policy Act (NEPA) activities for at least four large volume field tests through the use of industry partnerships bringing the best emerging new coal-based power generating technologies to deployment.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

Clean Coal Power Initiative (CCPI) Technology Demonstrations

Encourage the nation's energy industry to identify and cost share the best emerging new coal-based power generating technology by completing CCPI Round 3 solicitation, proposal

Measures: evaluations and project selections to assemble the initial portfolio of advanced technology systems that capture and reuse or sequester carbon dioxide from coal-fired energy systems on a commercial scale.

2009 Results

Met
Commentary: The Clean Coal Power Initiative Round 3 (CCPI-3) Funding Opportunity Announcement DE-PS26-08NT43181 was issued on August 11, 2008, and applications were received on January 20, 2009. In accordance with the Evaluation and Selection Plan, the qualifying proposals were reviewed by a Merit Review Board. Applications were subject to technical, financial, budget, and environmental evaluations. The results of these evaluations were presented to the Selection Official, and two project selections were announced on July 1, 2009. The projects selected under CCPI-3 in FY2009 will demonstrate the technical feasibility of capturing carbon dioxide emissions from coal-fueled power systems, and test the feasibility of large scale storage of CO₂ in geologic formations.

Future Plans / Explanation of storage or beneficial reuse technologies that target to achieve 90 percent capture efficiency for carbon dioxide to enable subsequent commercial deployment in the coal fired utility industry.

Shortfalls: Documentation supporting the completion of this annual target includes the CCPI-3 Funding Opportunity Announcement and the TechLine documenting project selections. Documentation related to the CCPI-3 solicitation such as the Merit Review Board Chairman's report and the Selection Statement is procurement sensitive and is on file with the Contracting Officer.

Supporting Documentation:

Associated Performance in Prior Years

Not Met
FY 2008: Complete CCPI Round 3 solicitation, proposal evaluations and project selections to assemble the initial portfolio of advanced technology systems that sequester carbon dioxide to encourage the Nation's energy industry to identify and cost share the best emerging new coal-based power generating technology.

Met
FY 2007: Make go/no go decisions regarding continuation applications for projects awarded under Round 1 & 2 CCPI.

Met
FY 2007: Award CCPI-2 projects based on decisions made in FY2006

Met
FY 2006: Made go/no go decisions regarding award of cooperative agreements for all projects selected under Round 2 CCPI.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

Fuels

Measure: Complete long term testing of bench scale WGS membrane reactor systems that demonstrate hydrogen production of 30% over the equilibrium limitation while maintaining 95% hydrogen purity to develop more affordable methods to extract commercial grade Hydrogen.

2009 Results

Commentary: Met During FY09, successful hydrogen separation membrane testing was conducted by Eltron Research, United Technologies and Worcester Polytechnic Institute. Testing has been conducted in the presence of sulfur impurities, using mixed gas feeds (H₂, CO, CO₂, H₂O) and at engineering prototype scale. Experiments utilizing mixed gas feeds have demonstrated the ability of these reactors to simultaneously promote the Water Gas Shift Reaction and achieve hydrogen separation. Under mixed gas conditions, a hydrogen flux of at least 340 standard cubic feet per hour per square foot (scfh/ft²) was observed with hydrogen purity of 99.99%, which both exceeds DOE's 2010 and 2015 H₂ flux and purity targets. The objective of the work conducted under the Hydrogen from Coal Program is to produce hydrogen, as an alternative fuel, from domestic coal resources in an efficient and environmentally friendly manner. The work supports GPRA Unit Program Goal 1.2.08, Near-Zero Atmospheric Emissions Coal- Based Electricity and Hydrogen Production.

Future Plans / Explanation of Shortfalls: By the end of 2016, the activity will prove the feasibility of a 60 percent efficient, near-zero emissions, advanced coal-fueled power facility that produces and utilizes hydrogen from coal for electricity generation.

Supporting Documentation: Accomplishments for the Hydrogen from Coal Program are also summarized in the multi-year plan: "Hydrogen from Coal Program - Research, Development and Demonstration Plan for the Period 2009 through 2016" issued in September 2009. The 2009 multi-year plan is available to the public on the NETL web site (http://www.netl.doe.gov/technologies/hydrogen_clean_fuels/refshelf/pubs/2009_Draft_H2fromCoal_Sept30_final_hires_cover.pdf) and is also accessible from the DOE/FE web site

Associated Performance in Prior Years

FY 2008:	Met	Develop more affordable methods to extract commercial grade Hydrogen (H ₂) by designing and building a bench scale prototype system that combines multiple gas separation process and meets or exceeds hydrogen separation target of 95% purity.
FY 2007:	Met	Develop industry standards for the design and operation of a scale-up reactor for simultaneous production of additional hydrogen and its separation in accordance with the standards and requirements in the RD&D plan.
FY 2006:	Met	Developed industry standards for the design and operation of a bench scale advanced hydrogen separation system, identify such standards and requirements in the RD&D plan, and conduct initial tests of a prototype unit to validate design parameters.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure, Energy

Gasification - Cost

\$1760/kW capital cost of advanced, coal-based, gasification energy plants (in 2007 dollars).

Measure: Performance is measured by validating technology improvements in gasifier feed systems, gasifier, gas cleanup, air separation and turbine technology.

2009 Results

Commentary: Met Systems engineering studies coordinated by NETL have shown that when incorporated into the IGCC process flow sheet, technology advancements in the Advanced Power System Program result in 44% thermal efficiency at a capital cost of \$1,629/kW (in 2007 dollars)

Future Plans / Explanation of Shortfalls: By 2012, advanced IGCC technologies will be integrated at pilot scale with CO₂ separation, capture, and storage into “near-zero” atmospheric emissions configurations that can ultimately provide electricity with less than a 10 percent increase in the busbar cost of electricity relative to 2003 technology baseline, without carbon capture and storage.

Supporting Documentation: The preliminary results from the 2009 Coal Performance Rating Tool (PART) Status Report being prepared by Noblis. The final report will be issued in the near future.

Associated Performance in Prior Years

FY 2008: Met \$1840/kW capital cost of advanced, coal-based, gasification energy plants (in 2007 dollars). Performance is measured by validating technology improvements in gasifier feed (oxidizer and/or fuel), gasifier, gas cleanup, air separation, and turbine technology.

FY 2007: Met Validate technology improvements in gasifier feed (oxidizer and/or fuel), gasifier, gas cleanup and turbine technology that translate to a system with 42% efficiency at a capital cost of \$1150/kW (in 2003 dollars) and progress toward the 2010 goal of an advanced coal-based power system capable of achieving 45-50% efficiency at a capital cost of \$1000/kW (in 2003 dollars) or less.

FY 2006: Met Begin construction and testing of advanced gas separation technologies. In FY 2006, the Gasification Technologies program will move gas separation, including ceramic membrane, hydrogen separation, CO₂ hydrate formation and ceramic membrane air separation, closer to commercialization, eventually leading to capital cost reductions of \$60-\$80 per kW from the baseline of \$1200/kW (in 2003 dollars) for IGCC systems and efficiency improvements of >1 efficiency points.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

	Office: Fossil Energy	
	Program: Zero Emissions Coal-Based Electricity & Hydrogen Production	
Secretarial Priority Supported:	Clean, Secure Energy	
	<p>Gasification - Efficiency 44% efficiency from advanced, coal-based, gasification energy plants. Efficiency is the percent of fuel energy converted to electricity. Progress is measured by validating technology improvements in gasifier feed systems, gasifier, gas cleanup, air separation, and turbine technology.</p>	
	<u>2009 Results</u>	
Commentary:	Met	Systems engineering studies coordinated by NETL have shown that when incorporated into the IGCC process flow sheet, technology advancements in the Advanced Power System Program result in 44% thermal efficiency at a capital cost of \$1,629/kW.
Future Plans / Explanation of Shortfalls:		By 2012, advanced IGCC technologies will be integrated at pilot scale with CO2 separation, capture, and storage into “near-zero” atmospheric emissions configurations that can ultimately provide electricity with less than a 10 percent increase in the busbar cost of electricity relative to 2003 technology baseline, without carbon capture and storage.
Supporting Documentation:		The preliminary results from the 2009 Coal Performance Rating Tool (PART) Status Report being prepared by Noblis. The final report will be issued in the near future.
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	Efficiency from advanced, coal-based, gasification energy plants (efficiency is the percent of fuel energy converted to electricity) capable of achieving 43% efficiency by validating technology improvements in gasifier feed (oxidizer and/or fuel), gasifier, gas cleanup and turbine technology to ensure availability of affordable, environmentally responsible domestic energy.
FY 2007:	Met	Validate technology improvements in gasifier feed (oxidizer and/or fuel), gasifier, gas cleanup and turbine technology that translate to a system with 42% efficiency at a capital cost of \$1150/kW (in 2003 dollars) and progress toward the 2010 goal of an advanced coal-based power system capable of achieving 45-50% efficiency at a capital cost of \$1000/kW (in 2003 dollars) or less.
FY 2006:	Met	Begin construction and testing of advanced gas separation technologies. In FY 2006, the Gasification Technologies program will move gas separation, including ceramic membrane, hydrogen separation, CO2 hydrate formation and ceramic membrane air separation, closer to commercialization, eventually leading to capital cost reductions of \$60-\$80 per kW from the baseline of \$1200/kW (in 2003 dollars) for IGCC systems and efficiency improvements of >1 efficiency points.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

	Office:	Fossil Energy
	Program:	Zero Emissions Coal-Based Electricity & Hydrogen Production
Secretarial Priority Supported:		Clean, Secure Energy
		Innovations for Existing Plants
Measure:		Initiate laboratory through pilot-scale development of advanced carbon dioxide (CO ₂) capture technologies and continue current research on CO ₂ capture technologies applicable to the existing coal-fired power generation fleet that are capable of 90% carbon capture while achieving less than a 65% increase in cost of energy when compared to a conventional non-capture coal-fired power plant.
		<u>2009 Results</u>
Commentary:	Met	In 2009, research and development of CO ₂ capture technologies continued the progress toward meeting the Department of Energy's goals. Several laboratory and pilot-scale experiments were initiated in order to evaluate and confirm the performance of these technologies. Nearly 500 tons of sub-bituminous coal was utilized in a successful oxy-combustion pilot test campaign conducted by Alstom in their retrofit 15 megawatt thermal tangentially fired boiler simulation facility. This test furthers the development of a technology that produces high CO ₂ concentrations in power plant flue gas and therefore minimizes CO ₂ purification prior to storage.
Future Plans / Explanation of Shortfalls:		Continue to conduct laboratory through pilot-scale tests of advanced post-and oxy-combustion capture technologies that show, through engineering and systems analyses studies, continued achievement toward the goal of 90 percent CO ₂ capture at no more than a 35% percent increase in cost of electricity at pilot scale by 2015.
Supporting Documentation:		Documentation to support the Annual Target: UOP commercialization plan, Alstom, Air Products, GE FY09 quarter 4 status report.
		<u>Associated Performance in Prior Years</u>
FY 2008:	Met	"Program activity will be redirected to the development of technology to reduce CO ₂ emissions from pulverized coal (PC) power plants. Annual performance targets are under development." The measure subsequently developed is: "Ensure a low cost option for reducing green house gases and allow continued use of the Nation's most abundant fossil resource by validating technology improvements of an advanced power plant with 90% carbon capture that can be extrapolated and translates to an electricity cost increase of 40% when compared to a conventional non-capture power plant."
FY 2007:	Met	Validate technology improvements for mercury capture technology that translate to 50-75% capture at 50-75% of the 2003 cost of conventional technology of \$50,000 to \$70,000 per pound of mercury captured
FY 2006:	Met	Conducted initial pilot scale slipstream field test of at least one technology capable of 90% mercury removal.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

SECA Fuel Cells - Capital Costs (Stack Modules)

Measure: \$165/kW capital cost of solid oxide fuel cell (SOFC) stack modules. Projected stack manufacturing cost is measured by validating technology improvements to the SECA fuel cell stack to reduce the cost and environmental impact of new clean coal fired plants (Integrated Gasification Combined Cycle plants).

2009 Results

Commentary: Met Delphi, as a solid oxide fuel cell (SOFC) technology development subcontractor for the Solid State Energy Conversion Alliance (SECA) Industry Team led by UTC, designed, fabricated and tested a 5-cell short stack based upon the latest Gen 4 scaled cells. The tests demonstrated a power density of 496mW/cm². Based upon this performance, system and cost analysis predicts a high-volume manufacturing cost of \$163.22/kW. Furthermore, Versa Power Systems, as a SOFC technology development subcontractor for the SECA Industry Team led by FuelCell Energy, designed, fabricated and tested a 92-cell stack based upon the latest TSCII scaled cells. The tests demonstrated a power density of 393mW/cm².

Future Plans / Explanation of Shortfalls: The Fuel Cells activity, by 2015, will have tested multi-MW-class, coal and carbon capture fuel cell systems with a minimum 50 percent HHV efficiency, emissions of less than 0.5ppm nitrogen oxides, and suitable for integration with high efficiency gasification. These systems will be capable of low cost power generation with 99% carbon capture in preparation for deployment in full scale central power generation. Shortfalls: These direct carbon capture systems capable of 50 to 60 percent HHV efficiency when integrated with gasification.

Supporting Documentation: Letters from FuelCell Energy, Inc. (9/29/09, Hossein Ghezeli-Ayagh) and UTC Power Corporation (9/29/09, Dave Brengel).

Associated Performance in Prior Years

FY 2008: Met Capital cost of solid oxide fuel cell (SOFC) stack modules reduced to at least \$225/kW of projected manufacturing costs by validating technology improvements to the SECA fuel cell stack to reduce the cost and environmental impact of new clean coal fired plants (Integrated Gasification Combined Cycle plants).

FY 2007: Met Validate technology improvements to the SECA fuel cell stack that reduce projected stack manufacturing costs to at least \$250/kW.

FY 2006: Met Four SECA industry teams completed phase I prototype validation demonstrating SECA phase I efficiency and cost goals. Incorporate seal and interconnect concepts into fuel cell stacks and perform initial tests.

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office:	Fossil Energy
Program:	Zero Emissions Coal-Based Electricity & Hydrogen Production
Secretarial Priority Supported:	Clean, Secure Energy
Measure:	SECA Fuel Cells - Power Density 300 mW/cm ² Economic Power Density of solid oxide fuel cell (SOFC) with specific size and fuel type, SOFC on syngas fuel in short stack test system to reduce the cost and environmental impact of new clean coal fired plants (Integrated Gasification Combined Cycle plants).
	<u>2009 Results</u>
Commentary:	Met Delphi, as a SOFC technology development subcontractor for the Solid State Energy Conversion Alliance (SECA) Industry Team led by UTC Power, designed, fabricated and tested a 5-cell short stack based upon the latest Gen 4 scaled cells. The tests demonstrated a power density of 496mW/cm ² . Furthermore, Versa Power Systems, as a SOFC technology development subcontractor for the SECA Industry Team led by FuelCell Energy, designed, fabricated and tested a 92-cell stack based upon the latest TSCII scaled cells. The tests demonstrated a power density of 393mW/cm ² .
Future Plans / Explanation of Shortfalls:	The Fuel Cells activity, by 2015, will have tested multi-MW-class, coal and carbon capture fuel cell systems with a minimum 50 percent HHV efficiency, emissions of less than 0.5ppm nitrogen oxides, and suitable for integration with high efficiency gasification. These systems will be capable of low cost power generation with 99% carbon capture in preparation for deployment in full scale central power generation.
Supporting Documentation:	These direct carbon capture systems capable of 50 to 60 percent HHV efficiency when integrated with gasification. Letters from FuelCell Energy, Inc. (9/29/09, Hossein Ghezeli-Ayagh) and UTC Power Corporation (9/29/09, Dave Brengel).
	<u>Associated Performance in Prior Years</u>
FY 2008:	Met 250 mW/cm ² Economic Power Density of solid oxide fuel cell (SOFC) with specific size and fuel type, SOFC on syngas fuel in full system test to reduce the cost and environmental impact of new advanced coal fired plants (Integrated Gasification Combined Cycle)
FY 2007:	N/A
FY 2006:	N/A

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

Office: Fossil Energy

Program: Zero Emissions Coal-Based Electricity & Hydrogen Production

Secretarial Priority Supported: Clean, Secure Energy

Operational Efficiency

Measure: Administrative costs as a percentage of total program costs: less than 13 percent.

2009 Results

Commentary: Unknown Program did not execute the operational efficiency measure for FY 2009; program does not use this measure to determine how efficiently it operates.

Future Plans / Explanation of Shortfalls: DOE will work with OMB to formulate a supportable, substantive operational efficiency measure for the FY 2012 budget.

Supporting Documentation:

Associated Performance in Prior Years

FY 2008: Not Met Administrative costs as a percentage of total program costs: less than 17 percent.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.fossil.energy.gov>

FY 2009 Performance Measures

	Office: Nuclear Energy	
	Program: National Nuclear Infrastructure	
Secretarial Goal(s) Supported:	Clean, Secure Energy	
	Cost and Schedule Baseline Variance	
Measure:	To ensure unique nuclear facilities are available to support critical Departmental missions, achieve cumulative variance of less than 10 percent from cost and schedule baselines at Idaho National Laboratory for Idaho Facilities Management program facilities and activities (which include facilities used by the Radiological Facilities Management program), consistent with safe operations.	
	<u>2009 Results</u>	
Commentary:	Met	The Idaho Facilities Management program achieved an overall year-end earned value of 8.84% behind schedule and 4.32% under cost. The overall values included a substantial amount of level-of-effort scope and were within the target variance range. The project performance sub-set of the IFM program, however, was found to be 12.3% behind schedule and 7.32% under budget and reflect individual values that have a high degree of variation in project performance. Specifically, 13 of 25 projects underway at the close of FY 2009 exceed the earned value variance target for both cost and schedule. These project performance values support program conclusions that concerns exist in IFM project planning. The program also found weaknesses in project execution contributing to these performance levels. Planning processes developed for FY 2010 execution and out-year planning are expected to address these weaknesses.
Future Plans / Explanation of Shortfalls:		Activities will be tracked through spending plan schedules and the accomplishment of associated milestones. NE will continue applying earned value management system performance measurement tools to IFM projects, where improvement is expected as a result of improvements made to the project planning process in FY 2009.
Supporting Documentation:		Monthly Idaho Facilities Management Reports; Program Manager Performance Certification Memorandum.
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	To ensure unique nuclear facilities are available to support critical Departmental missions, achieve cumulative variance of less than 10 percent from cost and schedule baselines at Idaho National Laboratory for Idaho Facilities Management program facilities and activities (which include facilities used by the Radiological Facilities Management program), consistent with safe operations.
FY 2007:	Met	Consistent with safe operations, achieve cumulative variance of less than 10% from each of the cost and schedule baselines for the Radiological Facilities Management (RFM) and Idaho Facilities Management (IFM) programs at INL.
FY 2006:	Met	Consistent with safe operations, achieve cumulative variance of less than 10 percent from each of the cost and schedule baselines for the Reactor Technology Complex and the Materials and Fuels Complex.

Additional Information

Program Office: <http://www.ne.doe.gov/facilitiesManagement/neFacMgmtOverview.html>

FY 2009 Performance Measures

Office: Nuclear Energy

Program: National Nuclear Infrastructure

Secretarial Goal(s)
Supported: Clean, Secure Energy

Facility Operability Index

Ensure unique nuclear facilities are available to support critical departmental missions, maintain a facility
Measure: operability index of 0.9 for key Idaho Facilities Management, and Radiological Facilities Management program facilities.

2009 Results

Idaho Facilities Management - The Idaho Facilities Management (IFM) Facility Operability Index (FOI) was 0.95 for FY 2009. This measure reflects the availability of the Advanced Test Reactor as scheduled and the successful accomplishment of a broad range of facility and programmatic milestones, most notably the irradiation of experiments that met six program requirements.

Commentary: Met

Space and Defense - Through September 2009, the Space and Defense program achieved an overall FOI of greater than 0.9 for the fiscal year. The Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) completed assembly and most acceptance testing.

Idaho Facilities Management - Facility Operability Index (FOI) achievement in FY 2009 reflects successful accomplishment of a wide variety of program and project performance. While this index met program needs in FY 2009, the program will transition to a facility focused performance metric that more closely tracks facility (and capability) availability with customer expectations in FY 2010. The IFM Facility Availability Percentages developed for FY 2010 are based on adherence to planned operational (and capability availability) schedules, and will better reflect the level of the program's performance.

Future Plans /
Explanation of

Shortfalls: Space and Defense - This measure will continue to be used in FY 2010. It will continue to track capabilities that support the Mars Science Laboratory mission and other activities in coordination with Los Alamos National Laboratory and Oak Ridge National Laboratory. The program is planning an infrastructure review that will focus on its current capabilities, and it is anticipated that this review will result in a revised operability index for the program in the future.

Supporting Monthly reports from four National Laboratories (Idaho, Los Alamos, Oak Ridge, and Brookhaven);
Documentation: Isotope Business Office, and Program Manager Performance Certification Memorandum.

Associated Performance in Prior Years

FY 2008:	Met	To ensure unique nuclear facilities are available to support critical Departmental missions, maintain a facility operability index of 0.9 for key Idaho Facilities Management and Radiological Facilities Management program facilities.
FY 2007:	Met	Maintain operability of key Radiological Facilities Management and Idaho Facilities Management-funded facilities to enable accomplishment of Nuclear Energy, other DOE and Work-for-Others milestones by achieving a Facility Operability Index (FOI) of 0.9 or greater.
FY 2006:	Met	Maintain operability of Radiological Facilities Management and Idaho Facilities Management-funded facilities to enable accomplishment of Nuclear Energy, other DOE and Work-for-Others milestones by achieving a Facility Operability Index of 0.9.

Additional Information

Program Office: <http://www.ne.doe.gov/facilitiesManagement/neFacMgmtOverview.html>

FY 2009 Performance Measures

Office: Nuclear Energy

Program: New Nuclear Generation Technologies

Secretarial Goal(s)
Supported: Clean, Secure Energy

Fuel Cycle Research and Development

Measure: Support the development of advanced technologies to close the fuel cycle by performing specific used fuel separations, transmutation fuels and fast reactor research and development activities in support of the Advanced Fuel Cycle Initiative.

2009 Results

Commentary: Met In FY 2009, the Office of Fuel Cycle Research and Development (FCR&D) met its annual target by conducting R&D in used fuel separations, transmutation fuels, and fast reactors. Results and activities for FY 2009 are documented in a report titled: Fuel Cycle Research and Development Summary of Accomplishments for Fiscal Year 2009. The report discusses FY 2009 research accomplishments associated with the major elements of the FCR&D program including: transmutation fuels development; separations and waste forms development; transmutation systems; materials protection; accountability and control technology development; advanced modeling and simulation; and systems analysis.

Future Plans / Development (FCR&D). The mission of Fuel Cycle Research and Development (R&D) Program is to develop nuclear fuel and waste management technologies that will enable a safe, secure, and economic fuel cycle and research option for the storage and disposal of nuclear waste.
Shortfalls:

Supporting Monthly program reports and documentation validating specific milestones; Program Manager Certification Documentation: Memorandum.

Associated Performance in Prior Years

FY 2008:	Met	Create a technology development document on recycling technology options, including their readiness and risks, the state of technology development achieved to date, future research and development, and economic evaluations needed to achieve the GNEP vision.
FY 2007:	Met	Complete research and development activities, focused on advanced fuel separations technology development and demonstration, to support the Secretary of Energy's determination of the need for a second geologic repository for spent nuclear fuel by FY 2008.
FY 2006:	Met	Complete research and development activities that allow the AFCI program to support the Secretary of Energy's determination of the need for a second geologic repository for spent nuclear fuel by FY 2008.

Additional Information

Program Office: <http://www.ne.doe.gov/AFCI/neAFCI.html>

FY 2009 Performance Measures

Office:	Nuclear Energy	
Program:	New Nuclear Generation Technologies	
Secretarial Goal(s) Supported:	Clean, Secure Energy	
Measure:	Generation IV Research and Development Activities Determine a path forward for the design and construction of an NGNP by 2011 by partnering with private industry on its development, performing environmental assessment activities, and continuing with the research, analysis, design, and licensing - activities needed to identify the preferred and alternative technologies for the reactor system, including examination of fuel and graphite materials.	
<u>2009 Results</u>		
Commentary:	Met	The NGNP Conceptual Design Funding Opportunity Announcement (FOA) was successfully issued in the fourth quarter. All program milestones were met and deliverables were completed on schedule and submitted to the Department of Energy (DOE) for review. The FOA will facilitate the extension of the application of nuclear energy into the broader industrial and transportation sectors, reducing fuel use and pollution and improving on the inherent safety of existing commercial light water reactor technology.
Future Plans / Explanation of Shortfalls:	The program is positioned to meet all Phase 1 Energy Policy Act 2005 deliverables on schedule. It is anticipated that conceptual design work will be completed by the end of September 2010 and DOE expects to initiate a Nuclear Energy Advisory Committee (NEAC) review of the NGNP in September 2010.	
Supporting Documentation:	Program reports and documentation validating specific milestones; Program Manager Performance Certification Memorandum.	
<u>Associated Performance in Prior Years</u>		
FY 2008:	Met	Determine a path forward for the design and construction of a next generation nuclear power plant (NGNP) by 2011 by submitting a Next Generation Nuclear Plant (NGNP) licensing strategy to Congress and completing NGNP conceptual design technology selection studies.
FY 2007:	Met	Complete Generation IV Research and Development Activities.
FY 2006:	Met	Complete Gen IV research and development activities to inform a design selection for the next generation nuclear power plant by FY 2011.

Additional Information

Program Office: <http://www.ne.doe.gov/genIV/neGenIV1.html>

FY 2009 Performance Measures

Office: Nuclear Energy

Program: New Nuclear Generation Technologies

Secretarial Goal(s)
Supported: Clean, Secure Energy

Nuclear Hydrogen Initiative (NHI) Research and Development Activities

Measure: Select a hydrogen production technology by 2011 that will be demonstrated in a pilot-scale experiment by conducting thermochemical and high-temperature steam electrolysis integrated laboratory-scale experiments.

2009 Results

Commentary: Met The NHI program concluded experiments during FY 2009 on the High Temperature Electrolysis, Sulfur-Iodine Thermochemical, and Hybrid Sulfur hydrogen production technologies.

Future Plans /
Explanation of
Shortfalls: This program was terminated at the end of FY 2009. Funding was not requested to continue the NHI program into FY 2010. This measure will be discontinued.

Supporting Program reports and documentation validating specific milestones; Program Manager Performance
Documentation: Certification Memorandum.

Associated Performance in Prior Years

FY 2008:	Met	Select a hydrogen production technology by 2011 that will be demonstrated in a pilot scale experiment by conducting integrated laboratory-scale experiments on sulfur-iodine, thermochemical and high temperature electrolysis processes.
FY 2007:	Met	Complete NHI research and development activities focused on thermochemical and high temperature electrolysis (HTE) processes to support the Department's selection of a hydrogen production technology in 2011.
FY 2006:	Met	Complete development of key technologies and infrastructure requirements in preparation for the thermochemical and high temperature electrolysis integrated laboratory-scale experiments.

Additional Information

Program Office: <http://www.ne.doe.gov/NHI/neNHI.html>

FY 2009 Performance Measures

Office:	Nuclear Energy	
Program:	New Nuclear Generation Technologies	
Secretarial Goal(s) Supported:	Clean, Secure Energy	
	Nuclear Power (NP) 2010 Engineering and Licensing Activities	
Measure:	Enable industry to make a decision to build a new nuclear power plant by 2010 by supporting New Nuclear Plant Licensing Demonstration Projects within the planned scope, schedule, and budget of the program, and by administering the Department's standby support program.	
	<u>2009 Results</u>	
Commentary:	Met	In 2009, the NP 2010 program partners continued progress toward their combined goals of achieving two certified GEN III+ reactors designs (the Economic Simplified Boiling Water Reactor and the AP1000) and approval of two construction and operating licenses (COLs). Both NuStart Energy and Dominion Virginia Power (Dominion) worked with NRC to assure that their COL applications will be approved in conjunction with the completion of their associated reactor technology certifications.
Future Plans / Explanation of Shortfalls:		This program will be brought to closure by the end of FY 2010. Construction is expected to begin on the first domestic AP1000 reactor project following the issuance of the Vogtle COL by the NRC in late 2011.
Supporting Documentation:	Program reports and documentation validating specific milestones; Program Manager Performance Certification Memorandum.	
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	Enable industry to make a decision to build a new nuclear power plant by 2010 by supporting New Nuclear Plant Licensing Demonstration Projects and by administering the Department's standby support program.
FY 2007:	Met	Complete NP 2010 engineering and licensing activities, focusing on the resolution of reactor certification and design issues and the preparation and review of Construction and Operation License (COL) applications, to enable an industry decision in 2010 to build a new nuclear power plant.
FY 2006:	Met	Complete engineering and licensing demonstration activities necessary to implement the NP 2010 program in accordance with the principles of project management, to help ensure that program performance goals are achieved on schedule and within budget.

Additional Information

Program Office: <http://www.ne.doe.gov/np2010/neNP2010a.html>

FY 2009 Performance Measures

Office: Nuclear Energy

Program: New Nuclear Generation Technologies

Secretarial Goal(s)
Supported: Clean, Secure Energy

Total NE Administrative Overhead Costs

Measure: Maintain total administrative overhead costs in relation to total R&D program costs of less than 8 percent.

2009 Results

Commentary: Met For FY 2009, the Office of Nuclear Energy maintained a total administrative overhead cost efficiency of 7.83% in relation to total R&D program costs, which is under the annual target of 8%. Achievement of the annual target shows that R&D program management costs are being effectively controlled.

Future Plans /
Explanation of
Shortfalls: Effectively controlling overhead costs is important to the Office of Nuclear Energy. This measure will continue to be tracked in FY 2010.

Supporting
Documentation: Quarterly Measure Calculation and Program Manager Performance Certification Memorandum.

Associated Performance in Prior Years

FY 2008:	Met	Maintain total administrative overhead costs in relation to total program costs of less than eight percent.
FY 2007:	Met	Maintain total administrative overhead costs in relation to total program costs less than 8%.
FY 2006:	Met	Maintain total administrative overhead costs in relation to total R&D program costs of less than 8 percent. (Baseline for administrative overhead rate is currently being validated).

Additional Information

Program Office: <http://www.ne.doe.gov/>

FY 2009 Performance Measures

Office: Energy Information Administration

Program: Energy Information Administration

Secretarial Goal Supported: Clean, Secure Energy

Cost Savings Realized From Surveys

Measure: Cost savings realized from a subset of surveys, released on schedule, without any decrease in accuracy. Target: Actual cost will be less than the baseline adjusted for inflation.

2009 Results

Commentary: Met EIA was able to operate one of its major surveys, the Annual Survey of Domestic Oil and Gas Reserve, in an efficient manner and was able to limit cost increases.

Future Plans /

Explanation of Shortfalls: EIA will continue to operate in an efficient manner, and will monitor costs.

Supporting Documentation: Internal tracking. Costs are tracked by the office(s) responsible for the survey(s) and stored by the Statistics and Methods Group within EIA.

Associated Performance in Prior Years

FY 2008: Met Cost savings realized from a subset of surveys, released on schedule, without any decrease in accuracy.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: www.eia.doe.gov

FY 2009 Performance Measures

Office: Energy Information Administration

Program: Energy Information Administration

Secretarial Goal Supported: Clean, Secure Energy

Quality of EIA Information Products

Measure: Quality of EIA Information Products: 90 percent or more of customers are satisfied or very satisfied with the quality of EIA information.

2009 Results

Commentary: Met EIA believes that the ratings and comments from our customers provide us with important insights into how our information is used, who the customers are, what they are looking for, and areas for future improvements. This feedback helps the program to continue to provide high-quality and relevant information.

Future Plans /

Explanation of Shortfalls: EIA has conducted customer surveys annually for over 12 years and plans to continue to do so.

Shortfalls:

Supporting Documentation: EIA conducted the survey with OMB approval and the results are proof that the survey was conducted. The results are stored in the files of the National Energy Information Center office in EIA.

Associated Performance in Prior Years

FY 2008: Met Quality of EIA Information Products: 90 percent or more of customers are satisfied or very satisfied with the quality of EIA information.

FY 2007: Met Complete customer satisfaction survey.

FY 2006: Met Quality of EIA Information Products: 90 percent or more of customers are satisfied or very satisfied with the quality of EIA information. Results: In FY 2006, 93 percent of customers were satisfied or very satisfied with the quality.

Additional Information

Program Office: www.eia.doe.gov

FY 2009 Performance Measures

Office: Energy Information Administration

Program: Energy Information Administration

Secretarial Goal Supported: Clean, Secure Energy

Timeliness of EIA Information Products

Measure: Timeliness of EIA Information Products: 95 percent of selected EIA recurring products meet their release date targets (all product types).

2009 Results

Commentary: Met Many energy markets rely on EIA data being available on schedule, and by meeting these needs, EIA helps to promote efficient energy markets and, to a lesser extent, sound policy making and public understanding. Together, these help to promote a diverse supply and delivery of reliable, affordable, and environmentally sound energy, both now and in the future.

Future Plans / Explanation of Shortfalls: EIA is committed to providing our customers with information on schedule, and plans to continue to monitor this measure.

Supporting Documentation: Internal tracking: EIA selected which products to track, established a schedule, and is tracking the actual and scheduled release dates. The Statistics and Methods Group within EIA verifies data and calculations and stores the file.

Associated Performance in Prior Years

FY 2008: Met Timeliness of EIA Information Products: 95 percent of selected EIA recurring products meet their release date targets (all product types).

FY 2007: Met Products meeting release schedules.

FY 2006: Met Timeliness of EIA Information Products: 90 percent of selected EIA recurring products meet their release date targets (all product types). Results: In FY 2006, 94 percent of products met their release date targets.

Additional Information

Program Office: www.eia.doe.gov

FY 2009 Performance Measures

4. National Security

Office:	National Nuclear Security Administration
Program:	Office of the Administrator
Secretarial Goal Supported:	National Security
	Federal Administration Costs
Measure:	Maintain the Office of the Administrator federal administrative costs as a percentage of total Weapons Activities and National Nuclear Security Administration program costs at less than 6%. (Efficiency Measure)
	FY 2009 target: 5.9%
	<u>2009 Results</u>
Commentary:	Exceeded NNSA exceeded the annual target of 5.9%. Actual Year End Results: The Office of the Administrator Federal administrative costs as a percentage of total Weapons Activities and National Nuclear Security Administration program costs is 5%. This result is important because it demonstrates a prudent use of valuable resources.
Future Plans / Explanation of Shortfalls:	The annual target of 5.9% will remain unchanged for FY 2010.
Supporting Documentation:	DOE accounting report; Excel spreadsheet with percent calculations
	<u>Associated Performance in Prior Years</u>
FY 2008:	N/A
FY 2007:	N/A
FY 2006:	N/A

Additional Information

Program Office: <http://hq.na.gov/>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Office of the Administrator

Secretarial Goal Supported: National Security

Project Management Career Development Program Certifications

Cumulative percent of active NNSA projects, which are managed by a Federal Project Director, certified at Measure: the appropriate level through the Project Management Career Development Program (Long-term Output)

FY 2009 target: 74%

2009 Results

Commentary: Exceeded **NNSA exceeded the cumulative target** of 74%. Actual Year End Results: 76% of NNSA's active capital asset projects are managed by an appropriately certified Federal Project Director. This result is important because DOE Order 413.3A requires that all active NNSA projects be managed by a Federal Project Director (FPD) certified to the appropriate level.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 80% in FY 2010.

Shortfalls:

Supporting Documentation: NNSA Federal Project Directors List; Master Spreadsheet POCs (2009 09 30) .pdf files

Associated Performance in Prior Years

FY 2008: NA

FY 2007: NA

FY 2006: NA

Additional Information

Program Office: <http://hq.na.gov/>

FY 2009 Performance Measures

Office: National Nuclear Security Administration		
Program: Directed Stockpile Work		
Secretarial Goal Supported:	National Security	
Annual Warheads Certification		
Annual percentage of warheads in the Stockpile that is safe, secure, reliable, and available to the		
Measure:	President for deployment. (Annual Outcome)	
FY 2009 Target: 100%		
<u>2009 Results</u>		
Commentary:	Met	Achieved 100% assurance that weapons in the stockpile are safe, secure, reliable and available to the President for deployment. This result is important because it ensures the overall availability of the nuclear weapons stockpile for the nation's nuclear deterrent.
Future Plans / Explanation of Shortfalls:	The FY 2010 annual target will remain at 100%.	
Supporting Documentation:	Annual Assessment Report: -Laboratory-published Warhead Annual Assessment Reports -Annual Laboratory Director Annual Assessment Letters -Report on Stockpile Assessment -Annual Certification Memorandum to the President (Secretaries of Defense & Energy) Weapon Reliability Reports (Biannually) Significant Finding Investigation Reports (Quarterly) Weapon Yield Certification Letter End-of-Year Reconciliation Report	
FY 2008:	Met	Annual percentage of warheads in the Stockpile that are safe, secure, reliable, and available to the President for deployment (Annual Outcome) FY 2008 target: 100%
FY 2007:	Met	Annual percentage of warheads in the Stockpile that are safe, secure, reliable, and available to the President for deployment (Annual Outcome) FY 2007 target: 100%
FY 2006:	Met	Assure that 100 percent of warheads in the Stockpile are safe, secure, reliable, and available to the President for deployment (NA GG 1.27.08)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Directed Stockpile Work

Secretarial Goal Supported: National Security

B61-7/11 LEP

Measure: Cumulative percentage of progress in completing NWC-approved B61-7/11 LEP activity (Long-term Output). FY 2009 target: 100%

2009 Results

Commentary: Met Achieved the cumulative target of 100% (increase of 10%) in accordance with the B61-7/11 baseline schedule. This result is important because, by extending the life of the B61-7/11 for the U.S. Air Force, the NNSA has demonstrated its ability to meet DoD requirements and national security needs on schedule.

Future Plans / Explanation of Shortfalls: The cumulative target of 100% has been achieved; therefore this target is complete.

Supporting Documentation: B61 7/11 ALT 357 CSA LEP NNSA Program Plan (revised under Enhanced Management Guidelines)
Production and Planning Directive (P&PD)
B61 7/11 Program Control Documents
B61 7/11 LEP Integrated Master Schedule
B61 7/11 LEP Selected Acquisition Report (SAR)
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress in completing NWC-approved B61-7/11 LEP activity (Long-term Output) FY 2008 target: 90%

FY 2007: Met Cumulative percentage of progress in completing NWC-approved B61-7/11 LEP activity (Long-term Output) (2.1.26.04)

FY 2006: Not Met Complete 40 percent (cumulative) of the Nuclear Weapons Council (NWC) B61-7/11 Life Extension Program (LEP) activity (NA GG 1.27.06)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office:	National Nuclear Security Administration
Program:	Directed Stockpile Work
Secretarial Goal Supported:	National Security
	LEP Production Costs
Measure:	Cumulative percent reduction in projected W76-1 warhead production costs per warhead from established validated baseline, as computed and reported annually by the W76 LEP Cost Control Board. (Efficiency Measure)
	FY 2009 target: 1.0%
	<u>2009 Results</u>
Commentary:	Not Met Did not achieve the cumulative target of 1.0% reduction of projected W76 production cost per warhead from the established baseline. Based on current recovery schedule, achieved a .8% reduction of production cost per warhead. This result is important because the NNSA must demonstrate the ability to achieve cost-effective Life Extension Programs within Defense Programs.
Future Plans / Explanation of Shortfalls:	This target is behind schedule because of unanticipated cost increases in FY 2007, FY 2008, and FY 2009 (resulting from materials and component technical issues and the resulting design changes, as well as increasing M&O healthcare and compensation costs) that have been passed on to the LEP by the M&O contractors. Because the target was missed in the past two years, the cost increases will have to be offset by future efficiencies elsewhere in the W76-1 production program during the next thirteen years. The FY 2010 annual target will remain at 1%.
Supporting Documentation:	W76-1 LEP Project Execution Plan (revised under Enhanced Management Guidelines) W76-1 LEP Cost Control Board Reports W76-1 LEP Selected Acquisition Report (SAR)
	<u>Associated Performance in Prior Years</u>
FY 2008:	Not Met Cumulative percent reduction in projected W76 warhead production costs per warhead from established validated baseline, as computed and reported annually by the W76 LEP Cost Control Board (EFFICIENCY MEASURE) FY 2008 target: 1%
FY 2007:	Not Met Cumulative percent reduction in projected W76 warhead production costs per warhead from established validated baseline, as computed and reported annually by the W76 LEP Cost Control Board (EFFICIENCY MEASURE) FY 2007 target: . 5%
FY 2006:	N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Directed Stockpile Work

Secretarial Goal Supported: National Security

Stockpile Maintenance

Measure: Annual percentage of items supporting Enduring Stockpile Maintenance completed (Annual percentage of prior-year non-completed items completed). (Annual Output)

FY 2009 target: 95% (100%)

2009 Results

Commentary: Met Achieved the annual target of completing 95% (100% of prior year) of scheduled stockpile maintenance. This result is important because it keeps active nuclear weapons fully operational, if needed by the President.

Future Plans / Explanation of Shortfalls: The annual target will remain constant at 95% (100%) in FY 2010.

End-of-Year Reconciliation Report
Limited Life Component Exchange, including DoD shipping schedules/database

Supporting Program Control Document(s) (PCDs)
Documentation: Quarterly Surveillance Backlog Report (From NA-122)
Approved Authorization Basis Document
Nuclear Safety Research & Development Working Group Report

Associated Performance in Prior Years

FY 2008:	Met	Annual percentage of items supporting the Enduring Stockpile Maintenance completed (and Annual percentage of prior-year non-completed items completed) (Annual Output) FY 2008 target: 95% (100%)
FY 2007:	Met	Annual percentage of items supporting Enduring Stockpile Maintenance completed (Annual percentage of prior-year non-completed items completed) (Annual Output) FY 2007 target: 95% (100%)
FY 2006:	Not Met	Complete 95 percent of items supporting Enduring Stockpile Maintenance (complete 100 percent of prior-year non-completed items) (Annual Output) FY 2006 target: 95% (100%)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Directed Stockpile Work

Secretarial Goal Supported: National Security

W76-1 Life Extension Program (LEP)

Cumulative percentage of progress in completing Nuclear Weapons Council (NWC)-approved

Measure: W76-1 Life Extension Program (LEP) activity. (Long-term Output)

FY 2009 target: 48%

2009 Results

Commentary: Met Achieved the cumulative annual target of 48% (schedule increase of 4% over prior year) in accordance with the current W76-1 baseline schedule. This result is important because extending the life of the W76-1, a weapon system for Navy submarines, is on a highly success-oriented refurbishment schedule to meet DoD requirements and national security needs.

Future Plans /

Explanation of Shortfalls: The annual target will increase to 52% in FY 2010.

Shortfalls:

W76-1 LEP Project Execution Plan (revised under Enhanced Management Guidelines)
Production and Planning Directive (P&PD)

Supporting Documentation: W76-1 Program Control Documents

W76-1 LEP Full-Scale Engineering Development Schedule

W76-1 LEP Selected Acquisition Report (SAR)

NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008:	Met	Cumulative percentage of progress in completing Nuclear Weapons Council (NWC)-approved W76-1 Life Extension Program (LEP) activity (Long-term Output) FY 2008 target: 44%
FY 2007:	Not Met	Cumulative percentage of progress in completing Nuclear Weapons Council (NWC)-approved W76-1 Life Extension Program (LEP) activity (Long-term Output) FY 2007 target: 39%
FY 2006:	Met	Complete 29 percent progress (cumulative) for Weapons Council (NWC)-approved W76-1 Life Extension Program (LEP) activities (NA GG 1.27.04)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Science Campaign

Secretarial Goal Supported: National Security

First Principles Physics Models

Cumulative percentage of progress in replacing key empirical parameters in the nuclear explosive package assessment with first principles physics models assessed by validation with experiment.

Measure: (Long-term Outcome)

FY 2009 target: 50%

2009 Results

Commentary: Met Achieved 92% of the cumulative target of 50% by achieving 46% progress in replacing key empirical parameters in the nuclear explosive package assessment with first principles physics models assessed by validation with experiment. This result is important because it will improve nuclear weapon certification confidence.

Future Plans /

Explanation of The cumulative target will increase to 60% in FY 2010.

Shortfalls:

Predictive Capability Framework

Supporting Milestone Reporting Tool

Documentation: White Paper on Quantification of Margins and Uncertainty Performance Measure

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Science Campaign

Secretarial Goal Supported: National Security

JASPER Facility Experiments

Measure: Annual average cost per test, expressed in terms of thousands of dollars, of obtaining plutonium experimental data on the Joint Actinide Shock Physics Experimental Research (JASPER) facility to support primary certification models. (Efficiency Measure)

FY 2009 target: \$340K

2009 Results

Commentary: Met Achieved the annual target of annual average cost of \$340k per test of obtaining plutonium experimental data on the JASPER facility. Note: Cost per shot is not dependent on total number of shots or total facility operations cost. This result is important because it demonstrates program efficiencies for required JASPER experiments.

Future Plans / Explanation of Shortfalls: This performance metric will be replaced in 2010.

Supporting Documentation: Reports for the measure are provided by LLNL at the end of each Quarter. Data submitted is verified with LLNL POC by program staff. Log books supporting each test are available at LLNL for review by program manager/staff NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Annual average cost per test, expressed in terms of thousands of dollars, of obtaining plutonium experimental data on the Joint Actinide Shock Physics Experimental Research (JASPER) facility to support primary certification models (EFFICIENCY MEASURE) FY 2008 target: \$340K

FY 2007: Met Annual average cost per test, expressed in terms of thousands of dollars, of obtaining plutonium experimental data on the Joint Actinide Shock Physics Experimental Research (JASPER) facility to support primary certification models (EFFICIENCY MEASURE) (2.1.27.06) FY 2007 target: \$360K

FY 2006: Met Achieve a \$380 thousand average annual cost per test of obtaining plutonium experimental data on the Joint Actinide Shock Physics Experimental Research (JASPER) facility to support primary certification models. (NA GG 1.28.06)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Science Campaign

Secretarial Goal Supported: National Security

Key Extreme Experiments

Cumulative percentage of progress towards achievement of key extreme experimental conditions of matter needed for predictive capability for nuclear weapons performance. (Long-term

Measure: Outcome)

FY 2009 target: 25%

2009 Results

Commentary: Met Achieved the cumulative target of 25% progress towards achievement of key extreme experimental conditions of matter needed for predictive capability for nuclear weapons performance. This result is important because it will improve nuclear weapon certification confidence.

Future Plans /

Explanation of The annual target will increase to 35% in FY 2010.

Shortfalls:

Predictive Capability Framework

Supporting Milestone Reporting Tool

Documentation: White Paper on Extreme Conditions Performance Measure

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Science Campaign

Secretarial Goal Supported: National Security

Test Readiness

Measure: Readiness, measured in months, to conduct an underground nuclear test as established by current NNSA policy. (Long-term Outcome)

FY 2009 target: 24-36

2009 Results

Commentary: Met Achieved the annual target of 24-36 month readiness to conduct an underground nuclear test. This result is important because it means that the United States has maintained a credible capability to test nuclear weapons, if required by the President..

Future Plans / Explanation of Shortfalls: This activity will be removed from the Science Campaign in FY 2010 and transferred to the Readiness in Technical Base and Facilities program and will not appear as a budget measure beyond FY 2009.

Milestones to support the performance measure are documented in the Campaign's plans. FY 2005 UGT Readiness Assessment (BN-LN005-0039) & FY 2007 UGT Readiness Assessment

Supporting Documentation: Annual Test Scenarios and Capabilities Report (SRD)
Annual Test Readiness Completion Report
Monthly and Quarterly progress reports/reviews
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Readiness, measured in months, to conduct an underground nuclear test as established by current NNSA policy (Long-term Outcome) FY 2008: 24-36 months

FY 2007: Met Readiness, measured in months, to conduct an underground nuclear test as established by current NNSA policy (Long-term Outcome) (2.1.27.03) FY 2007 target: 24 months

FY 2006: Met Maintain a 24 month readiness to conduct an underground nuclear test as established by current NNSA policy (NA GG 1.28.03)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Engineering Campaign

Secretarial Goal Supported: National Security

Nuclear Survivability

Cumulative percentage completion of design and qualification tools for meeting requirements for survivability in intense radiation environments needed for future alterations or modifications to

Measure: replace the existing proof-testing approach that uses significant amounts of highly enriched uranium, measured by the number of milestones, in the implementation plan, completed. (Long-term Output) FY 2009 target: 56%

2009 Results

Commentary: Met Achieved the cumulative target by completing 56% of design and qualification tools for meeting requirements for survivability in intense radiation environments needed for future alterations or modifications to replace the existing proof-testing approach. This result is important because the development of the tools is needed to assess whether the non-nuclear components of weapons in the future stockpile will meet nuclear survivability requirements.

Future Plans / Explanation of Shortfalls: The annual target will increase to 65% in FY 2010.

Supporting Documentation: Supporting schedule and milestones in approved program plans
Program reports of specific accomplishment
Program-specific quarterly review briefings
Weighted statistical tool used to calculate overall milestone scope accomplishment
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of completion of design and qualification tools for meeting requirements for survivability in intense radiation environments needed for future alterations or modifications to replace the existing proof-testing approach that uses significant amounts of highly enriched uranium, measured by the number of milestones in the implementation plan, completed (Long-term Output) FY 2008 target: 48%

FY 2007: Met Cumulative percentage of completion of design and qualification tools for meeting requirements for survivability in intense radiation environments needed by RRW and any future alts or mods to replace the existing proof-testing approach that uses dangerous amounts of highly radioactive materials, measured by the number of milestones, in the implementation plan, completed (Long-term Output) (2.1.28.05)FY 2007 target: 40%

FY 2006: Met Achieve cumulative 27 percent of progress towards meeting goals identified in the Nuclear Survivability Annex of the Engineering Campaign Program Plan and effectiveness tools and technologies (Long-term Output) (NA GG 1.29.05)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Engineering Campaign

Secretarial Goal Supported: National Security

Enhanced Surety

Measure: Cumulative percentage of progress towards an improved initiation system to meet nuclear detonation safety requirements for future alterations or modifications to stockpiled weapons, measured by the number of milestones, in the implementation plan, completed. (Long-term Output)

FY 2009 target: 35%

2009 Results

Commentary: Met
Achieved the cumulative target of 35% of progress towards an improved initiation system to meet nuclear detonation safety requirements for future alterations or modifications to stockpiled weapons. This result is important because new components and materials will enable future systems and stockpiled weapons, subjected to alterations or modifications, to better satisfy surety requirements outlined in departmental directives, and provide for a safer and more secure stockpile.

Future Plans /

Explanation of Shortfalls: The annual target will increase to 40% in FY 2010

Supporting schedule and milestones in approved program plans

Program reports of specific accomplishment

Supporting Program-specific quarterly review briefings

Documentation: Weighted statistical tool used to calculate overall milestone scope accomplishment

NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Engineering Campaign

Secretarial Goal Supported: National Security

Ion Beam Laboratory

Measure: Cumulative percentage of the Ion Beam Laboratory (IBL) project completed (total project cost), while maintaining a Cost Performance Index (CPI) of 0.9-1.5. (Efficiency Measure)

FY 2009 target: 31%

2009 Results

Commentary: Exceeded Exceeded the cumulative target of 31% by completing a cumulative 38.3% of the Ion Beam Laboratory (IBL) project. This result is important because a key facility will be provided to support major campaign efforts.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 62% in FY 2010.

IBL Monthly Report

Supporting Documentation: DOE Project Assessment and Reporting System (PARS) reports providing official project status to the DOE Deputy Secretary and NNSA Administrator

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Engineering Campaign

Secretarial Goal Supported: National Security

Enhanced Surveillance

Cumulative percentage of progress towards completion of aging models and assessments, diagnostics, and tools needed for science-based lifetime predictions of specific weapon

Measure: components and for transformation to more predictive, stockpile surveillance, measured by the number of milestones, in the implementation plan, completed. (Long-term Output)

FY 2009 target: 53%

2009 Results

Commentary: Met Achieved the cumulative target of 53% progress towards completion of aging models and assessments, diagnostics, and tools needed for science-based lifetime predictions of specific weapon components and for transformation to more predictive stockpile surveillance. This result is important because this year's work enables earlier identification of stockpile aging concerns, reduces the uncertainties in the assessment of stockpile health, assists in decisions for stockpile refurbishment, and provides tools for transforming to more predictive means to assess the stockpile.

Future Plans /

Explanation of Shortfalls: The cumulative target will increase to 57% in FY 2010.

Supporting schedule and milestones in approved program plans
Program reports of specific accomplishment

Supporting Program-specific quarterly review briefings

Documentation: Weighted statistical tool used to calculate overall milestone scope accomplishment
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress towards completion of aging models and assessments, diagnostics, and tools needed for science-based lifetime predictions of specific weapon components and for transformation to more predictive stockpile surveillance, measured by the number of milestones, in the implementation plans completed (Long-term Output)

FY 2007: Met Cumulative percentage of aging models, diagnostics, and tools needed for science-based lifetime predictions of specific components and a reduction in system-level stockpile surveillance testing, measured by the number of milestones, in the implementation plans completed (Long-term Output) (2.1.28.03) FY 2007 target: 40%

FY 2006: Met Achieve cumulative 32 percent of delivery of lifetime assessments, predictive aging models, and surveillance diagnostics, as documented in the Engineering Campaign Program Plan (Long-term Output) (NA GG 1.29.02)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Engineering Campaign

Secretarial Goal Supported: National Security

Weapon Systems Engineering Assessment Technology

Measure: Cumulative percentage of progress towards system engineering methodology for assessing and predicting the effects of large thermal, mechanical, and combined forces on nuclear weapons for future alterations or modifications, measured by the number of experimental data sets, in the implementation plan, completed. (Long-term Output)

FY 2009 target: 54%

2009 Results

Commentary: Met Achieved the cumulative target of 54% of progress towards system engineering methodology for assessing and predicting the effects of large thermal, mechanical, and combined forces on nuclear weapons for future alterations or modification. This result is important because these data sets will help develop the tools and technologies to validate structural and thermal models used by the Engineering Campaign to support the stockpile and will help the development of improved qualification tools and methodologies for the future stockpile.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 61% in FY 2010.

Supporting Documentation: Supporting schedule and milestones in approved program plans
Program reports of specific accomplishment
Program-specific quarterly review briefings
Weighted statistical tool used to calculate overall milestone scope accomplishment
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress towards system engineering methodology for assessing and predicting the effects of large thermal, mechanical, and combined forces on nuclear weapons for future alterations or modifications, measured by the number of experimental data sets, in the implementation plan, completed (Long-term Output) FY 2008 target: 53%

FY 2007: Met Cumulative percentage of progress towards system engineering methodology for assessing and predicting the effects of large thermal, mechanical, and combined forces on nuclear weapons for the RRW and any future alts or mods, measured by the number of experimental data sets, in the implementation plan, completed (Long-term Output) (2.1.28.04) FY 2007 target: 45%

FY 2006: Met Achieve cumulative 37 percent of completed data sets used in developing tools and technologies to validate structural and thermal models with well-defined ranges of applicability and qualified uncertainties in accordance with the Engineering Campaign Program Plan.

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/The_Stockpile.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign

Secretarial Goal Supported: National Security

Demonstrate Ignition at National Ignition Facility

Measure: Cumulative percentage of progress towards demonstrating ignition (simulating fusion conditions in a nuclear explosion) at the National Ignition Facility (NIF) to increase confidence in modeling nuclear weapons performance (Long-term Outcome)

FY 2009 target: 93%

2009 Results

Commentary: Met Achieved the cumulative target of 93% (increase of 7%) of progress towards demonstrating ignition at the NIF. This result is important because demonstrating ignition will increase confidence in the ability to certify weapons performance through computational models without weapon testing.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 100% in FY 2010, completing this metric.

Supporting Documentation: Program and Project schedule and milestones are detailed in Program & Project plans
Program & Project monthly reports
DOE Project Assessment and Reporting System (PARS) database/status
JASON Review, 2006
On-site observation of the ongoing work by the HQ Program Manager/staff
Lehman Reviews, 2005 & 2006
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress towards demonstrating ignition (simulating fusion conditions in a nuclear explosion) at the National Ignition Facility (NIF) to increase confidence in modeling weapons performance (Long-term Outcome) FY 2008 target: 86%

FY 2007: Met Cumulative percentage of progress towards demonstrating ignition (simulating fusion conditions in a nuclear explosion) at the National Ignition Facility (NIF) to increase confidence in modeling weapons performance (Long-term Outcome) FY 2007 target: 80%

FY 2006: Not Met Cumulative percentage of progress towards demonstrating ignition (simulating fusion conditions in a nuclear explosion) at the National Ignition Facility (NIF) to increase confidence in modeling weapons performance (Long-term Outcome) FY 2006 target: 73%

Additional Information

Program Office: <http://www.nnsa.doe.gov/defense.htm#1>

FY 2009 Performance Measures

Office:	National Nuclear Security Administration	
Program:	Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign	
Secretarial Goal(s) Supported:	National Security	
	National Ignition Facility (NIF) Construction	
Measure:	Cumulative percentage of construction completed on the 192-laser beam NIF. (Long-term Output)	
	FY 2009 target: 100%	
	<u>2009 Results</u>	
Commentary:	Met	This target is complete. Received CD4 approval on March 27, 2009. This result is important because it measures progress towards the construction of the NIF that is required to demonstrate ignition.
Future Plans / Explanation of Shortfalls:	The goal for this metric has been successfully achieved; therefore, will not be reported in future years.	
Supporting Documentation:	<ul style="list-style-type: none">- Project schedule and milestones are detailed in Project Plan- Project monthly reports- DOE Project Assessment and Reporting System (PARS) database/status- On-site observation of the ongoing work by the HQ Program Manager/staff- NA-10 Milestone Reporting Tool (MRT) status reports	
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	Cumulative percentage of construction completed on the 192-laser beam NIF (Long-term Output) FY 2008 target: 98%
FY 2007:	Met	Cumulative percentage of construction completed on the 192-laser beam NIF (Long-term Output) FY 2007 target: 94%
FY 2006:	Met	Complete cumulative 87 percent of the construction of the 192-laser beam National Ignition Facility (NIF) (NA GG 1.30.02)

Additional Information

Program Office: <http://www.nnsa.doe.gov/defense.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign

Secretarial Goal Supported: National Security

National Ignition Facility (NIF) Equipment Fabricated

Cumulative percentage of equipment fabricated to support ignition experiments at NIF. (Long-term Output)
Measure: term Output)

FY 2009 target: 95%

2009 Results

Commentary: Met Achieved the cumulative target of 95% of equipment fabricated to support ignition experiments at NIF. This result is important because user optics and cryogenic target systems are required for ignition experiments, and ignition diagnostics are required to obtain ignition experimental data for the Stockpile Stewardship Program. Future Plans: For FY 2010 the target will increase to 100%.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 100%. in FY 2010, completing this metric.

Supporting Documentation: -Program schedule and supporting milestones are in program plans
-Monthly NIC/program reports
-Lehman Reviews, 2005 & 2006
-NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of equipment fabricated to support ignition experiments at National Ignition Facility (NIF) (Long-term Output) FY 2008 target: 82%

FY 2007: Met Cumulative percentage of equipment fabricated to support ignition experiments at NIF. This result is important because user optics and cryogenic target systems are required for ignition experiments, and ignition diagnostics are required to obtain ignition experimental data for the Stockpile Stewardship Program (Long-term Output) FY 2007 target: 63%

FY 2006: Met Cumulative percentage of equipment fabricated to support ignition experiments at NIF (Long-term Output) FY 2006 target: 45%

Additional Information

Program Office: <http://www.nnsa.doe.gov/defense.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign

Secretarial Goal Supported: National Security

Stockpile Stewardship Experiments at ICF Facilities

Annual number of days available to conduct stockpile stewardship experiments, totaled for all ICF facilities (Annual Output)

FY 2009 target: 200

2009 Results

Commentary: Exceeded Exceeded the target of 200 days. The combined total for OMEGA and Z facilities is 516. This result is important because the NNSA Science, ASC, and Engineering Campaigns use the ICF facilities for experiments to obtain required stockpile stewardship data.

Future Plans /

Explanation of Shortfalls: The goal for this metric has been successfully achieved; therefore, will not be reported in future years.

Supporting Documentation: -Program schedule and supporting milestones are in program plans
-E-mail reports from site facilities supported by experimental logs
-NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Exceeded Annual number of days available to conduct stockpile stewardship experiments totaled for all ICF facilities (Annual Output) FY 2008 target: 240

FY 2007: Met Annual number of days available to conduct stockpile stewardship experiments, totaled for all ICF facilities (Annual Output) FY 2007 target: 270

FY 2006: Met Provide 400 days to conduct stockpile stewardship experiments, totaled for all Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign facilities (NA GG 1.30.04)

Additional Information

Program Office: <http://www.nnsa.doe.gov/defense.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Inertial Confinement Fusion Ignition and High Yield (ICF) Campaign

Secretarial Goal Supported: National Security

Z Facility Experiments

Annual average hours per experiment required by the operational crew to prepare the Z facility for an experiment (Efficiency Measure)

FY 2009 target: 9.5

2009 Results

Commentary: Exceeded Exceeded the target of 9.5 hours. Average for Q1-Q4 was 8.17 hours, exceeding the target. This result is important because a reduction in Z experimental preparation time may allow 2 shots per day, making it possible to obtain required additional and/or earlier data at reduced cost.

Future Plans /

Explanation of Shortfalls: The goal for this metric has been successfully achieved; therefore, will not be reported in future years.

Supporting Documentation: Program schedule and supporting milestones are in program plans
E-mail reports from site facilities supported by experimental logs
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Exceeded Annual average hours per experiment required by the operational crew to prepare the Z facility for an experiment (EFFICIENCY MEASURE) FY 2008 target: 11

FY 2007: Not Met Annual average hours per experiment required by the operational crew to prepare the Z facility for an experiment (EFFICIENCY MEASURE) FY 2007 target: 11

FY 2006: Met Achieve an average of 11 hours per experiment required by the operational crew to prepare the Z facility for an experiment (NA GG 1.30.05)

Additional Information

Program Office: <http://www.nnsa.doe.gov/defense.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Advanced Simulation and Computing (ASC) Campaign

Secretarial Goal Supported: National Security

Adoption of ASC Modern Codes

Measure: The cumulative percentage of simulation runs that utilize modern ASC-developed codes on ASC computing platforms as measured against the total of legacy and ASC codes used for stockpile stewardship activities. (Long-term Outcome)

FY 2009 target: 80%

2009 Results

Commentary: Met Achieved the cumulative percentage of 80% (increase of 8%) of simulation runs that utilize modern ASC-developed codes. This result is important because it demonstrates the adoption of the modern codes for improved assessment and certification of the nuclear stockpile.

Future Plans /

Explanation of Shortfalls: The cumulative target will increase to 85% in FY 2010.

Shortfalls:

Supporting Documentation: Periodic reports to HQ Program Manager from responsible site concerning specific deliverables NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008:	Met	The cumulative percentage of simulation runs that utilize modern ASC-developed codes on ASC computing platforms, as measured against the total of legacy and ASC codes used for stockpile stewardship activities (Long-term Outcome) FY 2008 target: 72%
FY 2007:	N/A	
FY 2006:	N/A	

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Advanced Simulation and Computing (ASC) Campaign

Secretarial Goal Supported: National Security

ASC Impact on SFI Closure

Measure: The cumulative percentage of nuclear weapon Significant Finding Investigations (SFIs) resolved through the use of modern (non-legacy) ASC codes, measured against all codes used for SFI resolution. (Long-term Outcome)

FY 2009 target: 50%

2009 Results

Commentary: Met Achieved the cumulative percentage of 50% (increase of 13%) of nuclear weapon SFIs resolved through the use of modern ASC codes. This result is important because it demonstrates the impact of the modern codes for improved assessment and certification of the nuclear weapons stockpile.

Future Plans /

Explanation of The cumulative target will increase to 60% in FY 2010.

Shortfalls:

Supporting Laboratory reports to HQ Program Manager

Documentation: NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met The cumulative percentage of Nuclear Weapon Significant Finding Investigations (SFIs) resolved through the use of modern (non-legacy) ASC codes, measured against all codes used for SFI resolution (Long-term Outcome) FY 2008 target: 37%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Advanced Simulation and Computing (ASC) Campaign

Secretarial Goal Supported: National Security

Code Efficiency

The cumulative percentage of simulation turnaround time reduced while using modern ASC

Measure: codes. (Efficiency Measure)

FY 2009 target: 13%

2009 Results

Commentary: Met Maintained the cumulative percentage of 26% (increase of 13%) of simulation turnaround time reduced. This result is important because it demonstrates the impact of investment in computer science on the efficiency of the modern codes performance.

Future Plans /

Explanation of The cumulative target will increase to 15% in FY 2010.

Shortfalls:

Supporting Laboratory reports to HQ Program Manager

Documentation: NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met The cumulative percentage of simulation turnaround time reduced while using modern ASC codes (EFFICIENCY MEASURE) FY 2008 target: 13%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Advanced Simulation and Computing (ASC) Campaign

Secretarial Goal Supported: National Security

Reduced Reliance on Calibration

Measure: The cumulative percentage reduction in the use of calibration “knobs” to successfully simulate nuclear weapons performance. (Long-term Outcome)

FY 2009 target: 25%

2009 Results

Commentary: Met Achieved the cumulative percentage of 25% (increase of 9%) of reduction in the use of calibration “knobs.” This result is important because it continues the maturation of the modern codes provided to users to support stockpile certification.

Future Plans /

Explanation of Shortfalls: The cumulative target will increase to 30% in FY 2010.

Supporting Laboratory Reports to HQ Program Manager

Documentation: NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met The cumulative percentage reduction in the use of calibration “knobs” to successfully simulate the nuclear weapons performance (Long-term Outcome) FY 2008 target: 16%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Readiness Campaign

Secretarial Goal Supported: National Security

Critical Capabilities Deployed

Measure: Cumulative number of critical immediate and urgent capabilities deployed to support our Directed Stockpile Work (DSW) customer's nuclear weapon refurbishment needs derived from the Production Readiness Assessment Plan. (Long-term Output)

FY 2009 target: 24

2009 Results

Commentary: Met Met the cumulative target of 24 critical immediate and urgent capabilities deployed. This result is important because it is required to support immediate and urgent nuclear weapon refurbishment needs.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 25 in FY 2010.

Supporting Documentation: -Milestones supporting the performance measure are documented in the Campaign's plans
-Site acceptance reports or other appropriate documentation (if classified, cover pages submitted including applicable document record numbers and information on how to obtain a copy of the report)
-Weekly/monthly site status calls with the Federal Program Manager
-Submittal of copies of Qualification Engineering Releases (QERs)
-Federal Program Manager/staff confirm completion during site visits and Program Reviews by observation of the capability in use
-NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative number of critical immediate and urgent capabilities deployed to support our Directed Stockpile Work (DSW) customer's nuclear weapon refurbishment needs derived from the Production Readiness Assessment Plan (Long-term Output) FY 2008 target: 22

FY 2007: Met Cumulative number of critical immediate and urgent capabilities deployed to support our Directed Stockpile Work (DSW) customer's nuclear weapon refurbishment needs derived from the Production Readiness Assessment Plan. (Long-term Output) (2.1.32.01) FY 2007 target: 20

FY 2006: Met Deploy cumulative 15 critical capabilities to support our Directed Stockpile Work (DSW) customer's immediate and urgent nuclear weapon refurbishment needs derived from the Production Readiness Assessment Plan (NA GG 1.33.01)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Readiness Campaign

Secretarial Goal Supported: National Security

Percentage of Investment

Measure: Percentage of annual investment in the ADAPT, Stockpile Readiness, Nonnuclear Readiness, and High Explosive and Weapons Operations subprograms in development of capabilities that forecast within three years of production deployment operational cost savings of at least two times the development and deployment cost compared to pre-deployment operations. (Efficiency Measure)

FY 2009 target: 2.5%

2009 Results

Commentary: Met Met the annual target of 2.5% investment in the ADAPT, Stockpile Readiness, Nonnuclear Readiness, and High Explosive and Weapons Operations subprograms in development. This result is important because it supports the transformation of the nuclear weapons complex into an agile and more responsive enterprise with lower production and operating costs.

Future Plans /

Explanation of Shortfalls: The annual target will remain at 2.5% in FY 2010.

Shortfalls:

Supporting Documentation: Spreadsheet documenting ADAPT Savings, HEWO Savings, NNR Savings, and SR Savings.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.doe.gov/defense_programs/production_technology.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration	
Program: Readiness Campaign	
Secretarial Goal Supported:	National Security
Reduce Cycle Times	
The number of capabilities deployed every other year to stockpile programs that will reduce cycle times at least by 35% (against baselined agility and efficiency) (Annual Outcome)	
Measure: times at least by 35% (against baselined agility and efficiency) (Annual Outcome)	
FY 2009 target: 1	
<u>2009 Results</u>	
Commentary:	Met Met the target of deploying one capability in FY 2009 that will reduce cycle times at least by 35%. This result is important because it is required to support immediate and urgent nuclear weapon refurbishment needs.
Future Plans / Explanation of program will deploy a single cycle time improvement capability every other year through the conclusion of Shortfalls: FY 2011.	
<ul style="list-style-type: none"> -Milestones supporting the performance measure are documented in the Campaign's plans -Site acceptance reports or other appropriate documentation (if classified, cover pages submitted including applicable document record numbers and information on how to obtain a copy of the report) 	
Supporting Documentation:	<ul style="list-style-type: none"> -Weekly/monthly site status calls with the Federal Program Manager -Submittal of copies of Qualification Engineering Releases (QERs) -Federal Program Manager/staff confirm completion during site visits and Program Reviews by observation of the capability in use -NA-10 Milestone Reporting Tool (MRT) status reports
<u>Associated Performance in Prior Years</u>	
FY 2008:	Met The number of capabilities deployed every other year to stockpile programs that will reduce cycle times at least by 35% (against baselined agility and efficiency) (Annual Outcome) FY 2008 target: 0
FY 2007:	Met The number of capabilities deployed every other year to stockpile programs that will reduce cycle times at least by 35% (against baselined agility and efficiency) (Annual Outcome) FY 2007 target: 1
FY 2006:	N/A

<u>Additional Information</u>	
Program Office: http://nnsa.doe.gov/defense_programs/production_technology.htm	

FY 2009 Performance Measures

	Office: National Nuclear Security Administration	
	Program: Readiness Campaign	
Secretarial Goal Supported:	National Security	
	Tritium Production	
	Cumulative number of Tritium-Producing Burnable Absorber Rods irradiated in Tennessee Valley Authority reactors to provide the capability of collecting new tritium to replace inventory for the	
Measure:	nuclear weapons stockpile (Long-term Output)	
	FY 2009 target: 960	
	<u>2009 Results</u>	
Commentary:	Met	Met the cumulative target of 960 TPBARs (increase of 240 TPBARs) irradiated in TVA reactors. This result is important because irradiation of Tritium Producing Burnable Absorber Rods is essential for the establishment of an assured domestic source of tritium to meet the continuing needs of the nuclear weapons stockpile.
Future Plans / Explanation of Shortfalls:	The annual cumulative target will remain at 960 in FY 2010 because the irradiation of TPBARs occurs every 18 months.	
Supporting Documentation:	<ul style="list-style-type: none"> -Milestones supporting the performance measure are documented in the Campaign's plans -Site acceptance reports or other appropriate documentation (if classified, cover pages submitted including applicable document record numbers and information on how to obtain a copy of the report) -Weekly project status calls with the Federal Program Manager -End of cycle reports submitted by the Tennessee Valley Authority (TVA) -Quarterly Project Reviews (attended by TVA) -NA-10 Milestone Reporting Tool (MRT) status reports 	
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Met	Cumulative number of Tritium-Producing Burnable Absorber Rods (TPBARs) irradiated in Tennessee Valley Authority reactors to provide the capability of collecting new tritium to replace inventory for the nuclear weapons stockpile (Long-term Output) FY 2008 target: 720
FY 2007:	Met	Cumulative number of Tritium-Producing Burnable Absorber Rods irradiated in Tennessee Valley Authority reactors to provide the capability of collecting new tritium to replace inventory for the nuclear weapons stockpile. (Long-term Output) (2.1.32.03) FY 2007 target: 480
FY 2006:	Met	Irradiate cumulative 240 Tritium-Producing Burnable Absorber Rods in Tennessee Valley Authority reactors to provide the capability of collecting new tritium to replace inventory for the nuclear weapons stockpile. (NA GG 1.33.03)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/asc.htm

FY 2009 Performance Measures

	Office: National Nuclear Security Administration	
	Program: Readiness in Technical Base & Facilities (Operations)	
Secretarial Goal Supported:	National Security	
	Facility Condition Index (FCI) for Mission Critical Facilities	
Measure:	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance costs per replacement plant value, for all mission-critical facilities and infrastructure (Annual Outcome)	
	FY 2009 target: 5%	
	<u>2009 Results</u>	
Commentary:	Exceeded	Exceeded the annual target by reducing the aggregate Facility Condition Index (FCI) for all mission critical facilities and infrastructure to 3.37%. This result is important because it demonstrates progress in improved facilities conditions and increased operational effectiveness and efficiency.
Future Plans / Explanation of Shortfalls:	The annual target will remain at 5% in FY 2010.	
Supporting Documentation:	Milestones supporting the performance measure are documented in the program and site RTBF plans Ten Year Planning Guidance and Ten Year Site Plans DOE Facility Information Management System (FIMS) database NA-10 Milestone Reporting Tool (MRT) status reports	
	<u>Associated Performance in Prior Years</u>	
FY 2008:	Exceeded	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance costs per replacement plant value, for all mission-critical facilities and infrastructure (EFFICIENCY MEASURE) FY 2008 target: 5%
FY 2007:	Met	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard is below 5%) (EFFICIENCY MEASURE) FY 2007 target: 6.8%
FY 2006:	Met	Achieve a NNSA complex-wide aggregate Facility Condition Index (FCI) of less than 7.4 percent, as measured by deferred maintenance per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard is below 5 percent). (NA GG 1.33.03)

Additional Information

Program Office: http://nnsa.doe.gov/defense_programs/production_technology.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Readiness in Technical Base and Facilities (Operations)

Secretarial Goal Supported: National Security

Facility Condition Index (FCI) for Mission Dependent Not Critical Facilities

Measure: Annual NNSA complex-wide aggregate Facility Condition Index, as measured by deferred maintenance costs per replacement plant value, for all mission-dependent, not critical facilities and infrastructure. (Annual Outcome)

FY 2009 target: 8.75%

2009 Results

Commentary: Exceeded Exceeded the annual target by reducing the aggregate Facility Condition Index (FCI) for all mission dependent, not critical facilities and infrastructure to 6.91%. This result is important because it demonstrates progress in improved facilities conditions and increased operational effectiveness and efficiency.

Future Plans /

Explanation of Shortfalls: The annual target will decrease to 8.6% in FY 2010.

Shortfalls:

-Milestones supporting the performance measure are documented in the program and site RTBF plans

Supporting -Ten Year Planning Guidance and Ten Year Site Plans

Documentation: -DOE Facility Information Management System (FIMS) database

-NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance per replacement plant value, for all mission-dependent, not critical facilities and infrastructure (Annual Outcome) FY 2008 target: 8.25%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/facilities_operations.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Readiness in Technical Base and Facilities (RTBF)

Secretarial Goal Supported: National Security

Major Construction Projects

Measure: Execute construction projects within approved costs and schedules, as measured by the total percentage of projects with total estimated cost (TEC) greater than \$20M with a schedule performance index (ratio of actual work performed to scheduled work) and a cost performance index (ratio of actual cost of work performed to budgeted cost of work) between 0.9-1.15 (Efficiency Measure)

FY 2009 target: 90%

2009 Results

Commentary: Not Met Did not achieve the annual target of 90%. Six of nine (67%) projects meet the criteria, therefore achieved 74% of the target. Of nine projects: The Ion Beam Laboratory (IBL) Project outperformed expectations and has a cumulative SPI of 1.24 (>1.15). The High Pressure Fire Loop (HPFL) Project has a cumulative CPI of 1.26 (>1.15), thus outperforming expectations. The TA-55 Reinvestment Phase I Project is slightly behind schedule with a cumulative SPI of 0.88 (<0.90). This result is important because it demonstrates effective program management over multiple projects and improved efficiencies.

Future Plans / Explanation of Shortfalls: No additional action is necessary for any of the three projects. The TA-55 Reinvestment Phase I Project has implemented a recovery schedule and is on track to complete four months early. Project performance will be monitored to ensure continued improvement. The annual target will remain at 90% in FY 2010.

Supporting Documentation: - Baselined schedules and major decision points for projects are in individual project plans
- Monthly project progress reports that include Earned Value Management (EVM) data
- DOE Project Assessment and Reporting System (PARS) reports
- NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Not Met Execute construction projects within approved costs and schedules, as measured by the total percentage of projects with total estimated cost (TEC) greater than \$20 million with a schedule performance index (ratio of actual cost of work performed to scheduled work) and a cost performance index (ratio of actual cost of work performed to budgeted cost of work) between 0.9-1.15 (EFFICIENCY MEASURE) FY 2008 target: 85%

FY 2007: Met Annual percentage of baselined construction projects with total estimated cost (TEC) greater than \$20M with actual schedule performance index (SPI) of 0.9-1.15 and cost performance index (CPI) of 0.9-1.15, as measured against approved baseline definitions (Annual Output) (2.1.33.04) FY 2007 target: 80%

FY 2006: Met Achieve a cumulative 75 percent of baselined construction projects with total estimated cost (TEC) greater than \$20M with an actual schedule performance index (SPI) of 0.9-1.15 and a cost performance index (CPI) of 0.9-1.15, as measured against approved baseline definitions (NA GG 1.34.04)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/facilities_operations.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Readiness in Technical Base and Facilities (Operations)

Secretarial Goal Supported: National Security

Mission-Essential Facilities

Enable NNSA missions by providing operational facilities to support nuclear weapon dismantlement, life extension, surveillance, and research and development activities, as measured

Measure: by the percent of scheduled versus planned days mission-critical and mission-dependent facilities are available without missing key deliverables. (Annual Outcome)

FY 2009 target: 95%

2009 Results

Commentary: Met Achieved the annual target of 95%. This result is important because mission essential facilities are needed to support critical nuclear weapons stockpile work.

Future Plans /

Explanation of Shortfalls: The annual target will remain at 95% in FY 2010.

Shortfalls:

Supporting Documentation: Milestones supporting the performance measure are documented in the program and site RTBF plans
Quarterly reports from M&O Contractors
NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Exceeded Enable NNSA missions by providing operational facilities to support nuclear weapon dismantlement, life extension, surveillance, and research and development activities, as measured by percent of scheduled versus planned days mission-critical and mission-dependent facilities are available without missing key deliverables (Annual Outcome) FY 2008 target: 95%

FY 2007: Met Annual percentage of scheduled days that mission-essential facilities are available (Annual Output) FY 2007 target: 90%

FY 2006: Met Mission-essential facilities are available 90 percent of the scheduled days (NA GG 1.34.01)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/facilities_operations.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Secure Transportation Asset (STA)

Secretarial Goal Supported: National Security

Federal Agents/Couriers

Measure: Cumulative number of Federal Agents at the end of each year (Long-term Output)

FY 2009 target: 390

2009 Results

Commentary: Met Achieved a cumulative total of 379 Agents (97% of the 390 target). This result is important because it is a key milestone in reaching the efficient balance of Agents, equipment, and vehicles to support material consolidation and future NNSA shipping requirements. It also marks the completion of a long-term goal to increase the Agent Force to 5 operational units.

Future Plans / Explanation of Shortfalls: The goal has been accomplished; therefore this measure will no longer be tracked.

-Milestones supporting the performance measure are documented in the program's plans.
-Federal Personnel database/reports

Supporting OST Staffing Report

Documentation: Certification statement/email from OST Federal HR Manager
-NA-10 Milestone Reporting Tool (MRT) status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative number of Federal Agents at the end of each year (Long-term Output) FY 2008 target: 385

FY 2007: Not Met Cumulative number of Federal Agents at the end of each year (Long-term Output) (2.1.34.05) FY 2007 target: 335355

FY 2006: Not Met End the year with 355 Federal Agents (NA GG 1.36.05)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/secure_transportation.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration		
Program: Secure Transportation Asset (STA)		
Secretarial Goal Supported:	National Security	
Safeguard Transporters (SGTs)		
Measure:	Cumulative number of Safeguard Transporters (SGTs) in operation (Long-term Output)	
FY 2009 target: 45		
<u>2009 Results</u>		
Commentary:	Met	Fully achieved the cumulative target of 45 SGTs (increase of 3) in operation. This result is important because it marks the completion of a long-term goal to increase the SGT capability, which directly supports the increase of STA mission capacity.
Future Plans / Explanation of Shortfalls:	The goal has been accomplished; therefore this measure will no longer be tracked.	
Supporting Documentation:	Milestones supporting the performance measure are documented in the program's plans. KCP Production Certification NA-15 Delivery Acceptance Documentation NA-10 Milestone Reporting Tool (MRT) status reports Certification statement/email from OST Federal Engineer	
<u>Associated Performance in Prior Years</u>		
FY 2008:	Met	Cumulative number of Safeguard Transporters (SGTs) in operation (Long-term Output) FY 2008 target: 42
FY 2007:	Met	Cumulative number of Safeguard Transporters (SGTs) in operation (Long-term Output) (2.1.34.4) FY 2007 target: 38
FY 2006:	Met	Have a cumulative 36 Safeguard Transporters (SGTs) in operation (NA GG 1.36.04)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/secure_transportation.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Secure Transportation Asset (STA)

Secretarial Goal Supported: National Security

Safe and Secure Shipments

Measure: Annual percentage of shipments completed safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material (Annual Outcome)

FY 2009 target: 100%

2009 Results

Commentary: Met Fully achieved the annual target of completing 100% of shipments safely and securely. This result is important because it indicates mission accomplishment, especially in light of the increased risks and threats to the nuclear security enterprise.

Future Plans / Explanation of Shortfalls: The annual target will remain at 100% in FY 2010.

Supporting Documentation: Milestones supporting the performance measure are documented in the program's plans
Completed DOE NRC Forms 741
Completed DOE Forms 60 or DoD Forms 1911
AL Forms 5600 A/B
DOE ORPS reports
NA-10 Milestone Reporting Tool (MRT) status reports
Certification Statement from the Manager, Program Office for Mission Operations
Certification statement/email from OST Federal Engineer

Associated Performance in Prior Years

FY 2008: Met Annual percentage of shipments completed safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material (Annual Outcome) FY 2008 target: 100%

FY 2007: Met Annual percentage of shipments completed safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material (Annual Outcome) (2.1.34.01) FY 2007 target: 100%

FY 2006: Met Complete 100 percent of the shipments safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material (NA GG 1.36.01)

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/secure_transportation.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Secure Transportation Asset (STA)

Secretarial Goal Supported: National Security

Delivery Timeliness

Measure: Annual percentage of Transportation Shipping Requests (TSRs) delivered by the scheduled delivery date (Efficiency Measure)

FY 2009 target: Baseline

2009 Results

Commentary: Met Completed the baseline evaluation for this measure. This result is important because the new measure will show the efficient use of resources to meet the customer shipping requirements.

Future Plans /

Explanation of Shortfalls: The annual target will be 90% in FY 2010.

Shortfalls:

Completed OST Form 1540.5 (Transportation Shipping Requests), maintained by the Office of Mission Operations.

Supporting Military Transportation Orders (MTO), maintained by the Office of Mission Operations.

Documentation: Shipment and TSR Database (extracts from TSRs and MTOs), maintained by the Office of Mission Operations

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/secure_transportation.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Secure Transportation Asset (STA)

Secretarial Goal Supported: National Security

Unit Readiness

Measure: Annual percentage of Unit Readiness to perform assigned convoy mission-weeks (Efficiency Measure)

FY 2009 target: Baseline

2009 Results

Commentary: Met Fully developed the criteria, methodology, and calculations for this new readiness measure. This result is important because the measure type will showshow the management efforts to improve the readiness level of Federal Agents and will provide a predictable transportation capability.

Future Plans /

Explanation of Shortfalls: The annual target will be 80% and the measure type will be changed to long-term output in FY 2010.

Supporting Documentation: NA-15 Predictive Mission Schedule spreadsheet, maintained by the Office of Mission Operations

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://nnsa.energy.gov/defense_programs/secure_transportation.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nuclear Weapons Incident Response (NWIR)

Secretarial Goal Supported: National Security

Emergency Operations Readiness Index

Emergency Operations Readiness Index measures the overall organizational readiness to respond to and mitigate radiological or nuclear incidents worldwide (This Index is measured from 1 to 100 with higher numbers meaning better readiness--the first three quarters will be expressed as the

Measure: readiness at those given points in time where as the year end will be expressed as the average readiness for the year's four quarters) (Efficiency Measure)

FY 2009 target: 91

2009 Results

Commentary: Met Achieved the annual target of an Emergency Operations Readiness Index of 91 out of 100 (4Q index of 91). This result is important because it assesses emergency response readiness and helps program managers identify and fix deficiencies within key elements of the program.

Future Plans /

Explanation of Shortfalls: The target will be maintained at 91 in FY 2010.

Shortfalls:

Supporting Documentation: ARMS Reports; Weekly Meetings; Daily situational reports; Daily Infrastructure reports; ARMS website <https://arms.orau.gov/>; After action reports – evaluators; After action reports – controllers; State, local, & federal reports validating our response efforts; Task Orders/Work Authorizations

Associated Performance in Prior Years

FY 2008: Met Emergency Operations Readiness Index measures the overall organizational readiness to respond to and mitigate radiological or nuclear incidents worldwide. (This Index is measured from 1 to 100 with higher numbers meaning better readiness--the first three quarters will be expressed as the readiness at those given points in time where as the year end will be expressed as the average readiness for the year's four quarters) (EFFICIENCY MEASURE) FY 2008 target: 91

FY 2007: Met Emergency Operations Readiness Index measures the overall organizational readiness to respond to and mitigate radiological or nuclear incidents worldwide. (This Index is measured from 1 to 100 with higher numbers meaning better readiness--the first three quarters will be expressed as the readiness at those given points in time where as the year end will be expressed as the average readiness for the year's four quarters). (EFFICIENCY MEASURE). (2.1.35.1) FY 2007 target: 91

FY 2006: Not Met Achieve an Emergency Operations Readiness Index of at least 91 percent. The index measures the overall organizational readiness to respond to and mitigate radiological or nuclear incidents worldwide. (This index is measured from 1 to 100 with higher numbers meaning better readiness). (NA GG 1.37.01)

Additional Information

Program Office: http://www.nnsa.energy.gov/emergency_ops/index.htm

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Facilities and Infrastructure Recapitalization Program (FIRP)

Secretarial Goal Supported: National Security

Deferred Maintenance

Measure: Deferred Maintenance Reduction: Annual dollar value and cumulative percentage of legacy deferred maintenance baseline of \$900 million, funded for elimination by FY 2013 (Annual Outcome)

FY 2009 target: \$62M (80%)

2009 Results

Commentary: Exceeded Exceeded the annual target by funding the elimination of \$75.7M with a cumulative result of 82% based on a revised deferred maintenance baseline of \$900M (target was \$62M (80%)). This result is important because it demonstrates progress in improving nuclear weapons complex facilities conditions by reducing the deferred maintenance backlog.

Future Plans /

Explanation of Shortfalls: The annual dollar value and cumulative percentage target will increase to \$52M (86%) in FY 2010.

Supporting Documentation: FIRP Work Authorizations

Documentation: Site Program Reviews

Associated Performance in Prior Years

FY 2008: Exceeded Annual dollar value and cumulative percentage of FY 2003 deferred maintenance baseline of \$900 million, funded for elimination by FY 2013 (Long-term Output) FY 2008 target: \$80M (64%)

FY 2007: Met Annual dollar value and cumulative percentage of FY 2003 deferred maintenance baseline of \$1.2 billion, funded for elimination by FY 2013 (Long-term Output) FY 2007 target: \$60M (38%)

FY 2006: Met Annual dollar value; and cumulative percentage of FY 2003 deferred maintenance baseline of \$1.2 billion; funded for elimination by FY 2009 (Long-term Output) FY 2006 target: \$60M (28%)

Additional Information

Program Office: <http://www.nnsa.doe.gov/infrastructure.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Facilities and Infrastructure Recapitalization Program (FIRP)

Secretarial Goal Supported: National Security

Facility Condition Index (FCI) for Mission Critical Facilities

Measure: Mission-critical Facilities: Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance costs per replacement plant value, for all mission-critical facilities and infrastructure. (Jointly with Readiness in Technical Base and Facilities) (Efficiency Measure)

FY 2009 target: 5%

2009 Results

Commentary: Exceeded Exceeded the annual target by reducing the aggregate Facility Condition Index (FCI) for all mission critical facilities and infrastructure to 3.37%. This result is important because it demonstrates progress in improved facilities conditions and increased operational effectiveness and efficiency.

Future Plans / Explanation of Shortfalls: This metric will be replaced by a new efficiency measure in FY 2010.

Supporting Documentation: Facilities Information Management System (FIMS) – Database
FIMS Site Validations

Associated Performance in Prior Years

FY 2008:	Exceeded	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance costs per replacement plant value, for all mission-critical facilities and infrastructure (EFFICIENCY MEASURE) FY 2008 target: 5%
FY 2007:	Met	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard is below 5%) (EFFICIENCY MEASURE) FY 2007 target: 6.8%
FY 2006:	Met	Achieve a NNSA complex-wide aggregate Facility Condition Index (FCI) of less than 7.4 percent, as measured by deferred maintenance per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard is below 5 percent). (NA GG 1.38.03)

Additional Information

Program Office: <http://www.nnsa.doe.gov/infrastructure.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Facilities and Infrastructure Recapitalization Program (FIRP)

Secretarial Goal Supported: National Security

Facility Condition Index (FCI) for Mission Dependent Not Critical Facilities

Mission-dependent Facilities: Annual NNSA complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance costs per replacement plant value, for all mission-dependent, not critical facilities and infrastructure. (Jointly with Readiness in Technical Base and Facilities) (Efficiency Measure)

FY 2009 target: 8.75%

2009 Results

Commentary: Exceeded Exceeded the annual target by reducing the aggregate Facility Condition Index (FCI) for all mission dependent, not critical facilities and infrastructure to 6.91%. This result is important because it demonstrates progress in improved facilities conditions and increased operational effectiveness and efficiency.

Future Plans / Explanation of Shortfalls: The annual target will decrease to 8.6% This metric has been replaced by a new efficiency measure in FY 2010.

Supporting Documentation: Facilities Information Management System (FIMS) – Database
FIMS Site Validations

Associated Performance in Prior Years

FY 2008:	Met	Annual NNSA complex-wide aggregate Facility Index (FCI), as measured by deferred maintenance per replacement plant value, for all mission dependent, not critical facilities and infrastructure (EFFICIENCY MEASURE) FY 2008 target: 8.25%
FY 2007:	N/A	
FY 2006:	N/A	

Additional Information

Program Office: <http://www.nnsa.doe.gov/infrastructure.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Environmental Projects and Operations (EPO)

Secretarial Goal Supported: National Security

Environmental Monitoring and Remediation

Measure: Annual percentage of environmental monitoring and remediation deliverables that are required by regulatory agreements to be conducted at NNSA sites that are executed on schedule and in compliance with all acceptance criteria. (Annual Output)

FY 2009 target: 95%

2009 Results

Commentary: Exceeded Exceeded the annual target of 95% by submitting on schedule and in compliance 95100% of the regulatory required environmental and monitoring remediation deliverables. This result is important because it prevents notices of violation, fines, and loss of confidence by the regulators often associated with late and insufficient deliverables.

Future Plans / Explanation of Shortfalls: The annual target will remain at 95% in FY 2010.

RCRA Permits; monthly and annual reports to regulatory agencies; Compliance Monitoring Plans; Field Logs; Sampling Paperwork; LTS program plan status reports to the site offices Kansas City Plant - RCRA Permit

Supporting Documentation: Lawrence Livermore National Laboratory - monthly reports and an annual report with regard to the remedies. It was negotiated later, and documented in meeting minutes, that the site reduce the reporting requirement to quarterly and an annual report. The current schedule for submission is found in the LLNL Compliance Monitoring Plan.

SNL - Field work required for the deliverables is documented in field logs; applicable sampling paperwork is generated to ensure legally defensible data is generated; waste generation logs LTES Program Plan Status Reports to DOE/SSO; LTES/LTS quarterly update of Performance Evaluation Plan deliverables; CAMU Vadose Zone Monitoring System Annual Monitoring Results Report; SNL Annual Groundwater Monitoring Report; Consolidated Environmental Restoration Quarterly Reporting to New Mexico Environment Department.

Associated Performance in Prior Years

FY 2008: Exceeded Annual percentage of environmental monitoring and remediation deliverables that are required by regulatory agreements to be conducted at NNSA sites that are executed on schedule and in compliance with all acceptance criteria (Annual Output) FY 2008 target: 95%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/infrastructure.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Environmental Projects and Operations (EPO)

Secretarial Goal Supported: National Security

NNSA Long- term Stewardship Program

Measure: Cumulative cost savings totaling 12% over six years for the NNSA Long Term Stewardship program demonstrated by comparison of the actual annual costs of performing the Stewardship activities at a site as compared to the budgeted annual costs of performing these same activities using Earned Value Management (EVM) principles with a target savings of 2% per year. (Efficiency Measure)

FY 2009 target: 2%

2009 Results

Commentary: Exceeded Exceeded the annual target of reducing the cost of performing Long-Term Stewardship activities versus the budgeted annual costs of performing these same activities by 16%. This result is important because it challenges the NNSA sites performing LTS activities to perform the same amount of work for these activities at a reduced cost.

Future Plans / Explanation of Shortfalls: The large apparent cost savings shown is due to delays in receiving regulatory approval for well replacements and in completing the environmental restoration activities, which did not allow for all planned LTS activities to be completed during FY 2009 and thus resulting in lower than expected costs in FY 2009.

Shortfalls: Future year performance of these deferred activities will normalize the apparent cost savings. The annual target will remain at 2% in FY 2010.

Contractor controlled Excel spreadsheet, continuously updated, tracking expenditures for each item of the LTS Program activity; budget tracking system; accounting system (Reportville); contractor time cards; invoices. KCP - Honeywell FM&T (Contractor) Excel spreadsheet, continuously updated, tracking expenditures for each item of the LTS Program activity.

Supporting Documentation: LLNL - Tracked in LLNL's budget tracking system.

SNL - LTS project controls baseline and supporting documentation that was reviewed during the LTS program review in September 2007. SNL accounting system (Reportville). SNL and contractor time cards. Sub-contractor invoices (i.e., for completed field work etc.).

Associated Performance in Prior Years

FY 2008: Met Cumulative cost savings totaling 10% over five years for the NNSA Long Term Stewardship program demonstrated by comparison of the actual annual costs of performing the Stewardship activities at a site as compared to the budgeted annual costs of performing these same activities using Earned Value Management (EVM) principles with a target savings of 2% per year (EFFICIENCY MEASURE) FY 2008 target: 2%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/infrastructure.htm#1>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Defense Nuclear Security

Secretarial Goal Supported: National Security

Graded Security Protection

Cumulative percentage of progress, measured in milestones completed, towards implementation
Measure: of all Graded Security Protection (GSP) Policy at NNSA sites. (Long-term Output)

FY 2009 target: 100%

2009 Results

Commentary: Met Fully achieved the annual target of 100% completion of the milestones. Progress measured in milestones towards implementing all GSP policies at the NNSA sites was accomplished for this year and was tracked in a Gant Chart from start to finish. This result is important to successfully implement security improvements that will keep the NNSA sites among the best defended and secure facilities in the world.

Future Plans /
Explanation of Shortfalls: The annual target will be 50% of FY 2010 Implementation Milestones for FY 2010.

Supporting Documentation: DNS Graded Security Protection (GSP) Policy Program Management Plan Quarterly status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress, measured in milestones completed towards implementation of all Design Basis Threat (DBT) policies at NNSA sites (Long-term Output)
FY 2008 target: 100%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Defense Nuclear Security

Secretarial Goal Supported: National Security

Elite Forces

Measure: Cumulative percentage of completion towards modernizing the National Nuclear Security Administration's protective forces in accordance with Tactical Response Force (TRF), as known as "Elite Forces", requirements. (Long-term Output)

FY 2009 target: 40%

2009 Results

Commentary: Met Achieved the annual target of completing 40% of activities towards modernizing the NNSA's protective forces. This result is important to successfully implement security improvements that will keep the NNSA sites among the best defended and secure facilities in the world.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 60% in FY 2010.

Supporting Documentation: DNS Tactical Response Force (TRF) Implementation Plan

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Defense Nuclear Security

Secretarial Goal Supported: National Security

Standardize Procurement Process

Measure: Standardize the procurement process for security equipment, such as vehicles, weapons, ammunition across the National Nuclear Security Administration Defense Nuclear Security complex by 2010. (Annual Output)

FY 2009 target: 50%

2009 Results

Commentary: Exceeded Exceeded the annual target by 10% by completing 60% of activities associated with standardizing the procurement process and security equipment due to progress with ammunition and uniform standardization. This result is important to successfully implement security that will keep the NNSA sites secure.

Future Plans / Explanation of Shortfalls: The cumulative target will increase to 100% in FY 2010

Supporting Documentation: Quarterly Status Updates

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Cyber Security

Secretarial Goal Supported: National Security

Cyber Certification and Accreditation

Annual number of NNSA information assets reviewed for certification and accreditation.

Measure: (Efficiency Measure)

FY 2009 target: 35

2009 Results

Commentary: Met Completed the annual target of Certification and Accreditations by completing 35 packages by September 30, 2009. This result is important because it provided the OCIO with the evidence that NNSA systems, applications and networks have met the certification and accreditation outlined in policy.

Future Plans / Explanation of Shortfalls: The annual target will increase to 40 in FY 2010.

Supporting Documentation: Certification and Accreditation Plans

Associated Performance in Prior Years

FY 2008: Exceeded Annual number of NNSA information assets reviewed for certification and accreditation (EFFICIENCY MEASURE) FY 2008 target: 30

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Cyber Security

Secretarial Goal Supported: National Security

Cyber Security Reviews

Measure: Annual average percentage of Cyber Security reviews conducted by the Office of Health, Safety and Security (HSS) at NNSA sites that resulted in the rating of “effective” (based on last HSS review at each site over 2 Cyber Security topical areas). (Long-term Outcome)

FY 2009 target: 100%

2009 Results

Commentary: Met Achieved the annual target of an HSS rating of effective on 100% of cyber security elements at NNSA. This result is important because it ensures that NNSA system and network have met their certification and accreditation requirements as outlined in DOE, NNSA and Federal policy.

Future Plans / Explanation of Shortfalls: The target of 100% will remain unchanged for FY 2010.

Supporting Documentation: HSS Final Assessment Report

Associated Performance in Prior Years

FY 2008: Met Annual average percentage of Cyber Security reviews conducted by the Office of Health, Safety and Security (HSS) at NNSA sites that resulted in the rating of “effective” (based on the last HSS review at each site over 2 Cyber Security topical areas) (Long-term Output) FY 2008 target: 100%

FY 2007: Met Cumulative percentage of Cyber Security reviews conducted by the Office of Independent Oversight and Performance Assurance (OA) at NNSA sites that resulted in the rating of “effective” (based on the last OA review at each site over 2 Cyber Security topical areas) (Long-term Output) FY 2007 target: 57%

FY 2006: Not Met Ensure that 57 percent of the Cyber Security reviews conducted by the Office of Independent Oversight and Performance Assurance (OA) at NNSA sites receive at least a rating of “effective” (based on last OA review at each site over 2 Cyber Security topical areas). (NA GG 1.39.04)

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Cyber Security

Secretarial Goal Supported: National Security

Cyber Security Site Assessment Visits (SAV)

Measure: Annual percentage of Cyber Security Site Assessment Visits (SAV) conducted by the Office of the Chief Information Officer (OCIO) Cyber Security Program Manager (CSPM) at NNSA sites that resulted in the rating of "effective". (Annual Output)

FY 2009 target: 100%

2009 Results

Commentary: Met Achieved the annual target of an OCIO rating of effective on 100% of cyber security assessments conduct at 4 NNSA field sites. The third quarter site assessment has been completed with an effective rating at KCP. This result is important because these assessments will provide the OCIO with evidence that each site has implement cyber security policies and procedures as outlined.

Future Plans /

Explanation of Shortfalls: The target of 100% will remain unchanged for FY 2010.

Shortfalls:

Supporting Documentation: OCIO Site Assessment Visit Report

Documentation: Cyber Security Check List

Associated Performance in Prior Years

FY 2008: Not Met Cumulative percentage of planned Cyber Security Site Assessment Visit (SAV) conducted by the Office of the Chief Information Officer (OCIO) Cyber Security Program Manager (CSPM) at NNSA sites that resulted in a rating of "effective." (Long-term Output) FY 2008 target: 100%

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/security.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Independent Merit Review

Cumulative percentage of active research projects for which an independent R&D merit review of the project's scientific quality and mission relevance has been completed during the second year of effort (and again within each subsequent three year period for those projects found to be of merit). (Efficiency Measure)

FY 2009 target: 100%

2009 Results

Commentary: Met Achieved the cumulative target of 100% of active research projects receiving independent merit reviews. This result is important because it verifies scientific quality and mission relevance of each research project.

Future Plans /

Explanation of The annual target of 100% will remain unchanged in FY 2010.

Shortfalls:

Supporting - Quarterly reports

Documentation: - Annual independent review status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of active research projects for which an independent R&D merit review of the project's scientific quality and mission relevance has been completed during the second year of effort (and again within each subsequent three year period for those projects found to be of merit) (EFFICIENCY MEASURE) FY 2008 target: 100%

FY 2007: Met Cumulative percentage of active research projects for which an independent R&D merit assessment of the project's scientific quality and mission relevance has been completed during the second year of effort (and again within each subsequent three year period for those projects found to be of merit) (EFFICIENCY MEASURE). (2.2.39.5) FY 2007 target: 100%

FY 2006: Met Achieve 100 percent (cumulative) on active research projects for which an independent R&D peer assessment of the project's scientific quality and mission relevance has been completed during the second year of effort (and again within each subsequent three year period for those projects found to be of merit). (NA GG 2.40.05)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Merit Reviewed Journals/ForumsFora

Annual number of articles published in merit reviewed professional journals/forums fora
Measure: representing leadership in advancing science and technology knowledge. (Annual Output)

FY 2009 target: 200

2009 Results

Commentary: Exceeded Exceeded the annual target of 200 merit-reviewed publications by achieving 331. This result is important because it demonstrates the program is a leader in advancing nonproliferation science and technology knowledge.

Future Plans /

Explanation of Shortfalls: The annual target of 200 merit-reviewed publications will remain unchanged in FY 2010.

Shortfalls:

Supporting Documentation: -Quarterly reports/papers
-Annual peer-review publications
-Other forums fora reports

Associated Performance in Prior Years

FY 2008: Exceeded Annual number of articles published in merit reviewed professional journals/forums representing leadership in advancing science and technology knowledge (Annual Output) FY 2008 target: 200

FY 2007: Met Annual number of articles published in merit reviewed professional journals/ forums representing leadership in advancing science and technology knowledge (Annual Output) (2.2.39.6) FY 2007 target: 200

FY 2006: Met Publish 200 articles in peer reviewed professional journals/ forums representing leadership in advancing science and technology knowledge. (NA GG 2.40.06)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Plutonium Production Detection

Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Plutonium Production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document"). (Long-term Outcome)

FY 2009 target: 30%

2009 Results

Commentary: Met Achieved the annual target of 30% cumulative progress towards demonstrating the next generation of technologies to detect plutonium production activities. This result is important because it increases the U.S. capability to detect clandestine nuclear weapons production activities.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 50% in FY 2010.

Supporting

-Program Plan/Roadmap document

Documentation: -Memorandum for Record (unclassified, located in R&D, certified by ADA)

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Plutonium Production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) FY 2008 target: 25%

FY 2007: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Plutonium production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) (2.2.39.2) FY 2007 target: 20%

FY 2006: Met Progress 10 percent (cumulative) toward demonstrating the next generation of technologies and methods to detect Plutonium Reprocessing activities. (NA GG 2.40.02)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Research and Development Detonation Detection

Measure: Annual index that summarizes the status of all NNSA nuclear detonation detection research and development (R&D) deliveries that improve the nation's ability to detect nuclear explosions (Annual Output)

FY 2009 target: 90%

2009 Results

Commentary: Met Achieved the annual target of 90% of Nuclear Detonation Detection (NDD) deliveries that improve the nation's ability to detect nuclear explosions. This result is important because it tracks timeliness for delivery of NDD products within customer timelines/schedules, and identifies potential impacts on the nation's ability to detect nuclear detonations.

Future Plans / Explanation of Shortfalls: The annual target of 90% will remain unchanged in FY 2010.

Supporting Documentation: -Quarterly reports
-Final delivery transmittal letters to user agencies for satellite payloads ('Consent to Ship' letters)
-Integrated Research Product Releases

Associated Performance in Prior Years

FY 2008: Met Annual index that summarizes the status of all NNSA nuclear detonation detection R&D deliveries that improve the nation's ability to detect nuclear explosions (Annual Output) FY 2008 target: 90%

FY 2007: Met Annual index that summarizes the status of all NNSA nuclear explosion monitoring R&D deliveries that improve the nation's ability to detect nuclear explosions (Annual Output). (2.2.39.4) FY 2007 target: 90%

FY 2006: Met Achieve a 90 percent on an annual index that summarizes the status of all NNSA nuclear explosion monitoring (NEM) R&D deliveries that improve the nation's ability to detect nuclear explosions. (NA GG 2.40.04)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Special Nuclear Material Detection

Measure: Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Special Nuclear Material movement. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document"). (Long-term Outcome)

FY 2009 target: 33%

2009 Results

Commentary: Met Achieved the target of 33% cumulative progress towards demonstrating the next generation of technologies to detect Special Nuclear Material (SNM) movement. This result is important because it improves U.S. capability to detect the illicit transport and diversion of SNM.

Future Plans / Explanation of Shortfalls: The cumulative target will be increased to 60% in FY 2010.

Supporting Documentation: -Program Plan/Roadmap document
-Memorandum for Record (unclassified, located in R&D, certified by ADA)

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Special Nuclear Material movement. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) FY 2008 target: 27%

FY 2007: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Special Nuclear Material movement. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) FY 2007 target: 20%

FY 2006: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Special Nuclear Material movement. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) FY 2006 target: 10%

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and Verification Research and Development

Secretarial Goal Supported: National Security

Uranium-235 Production Detection

Measure: Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Uranium-235 Production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document"). (Long-term Outcome)

FY 2009 target: 25%

2009 Results

Commentary: Met Achieved the annual target of 25% cumulative progress towards demonstrating the next generation of technologies to detect uranium production activities. This result is important because it increases the U.S. capability to detect clandestine nuclear weapons production activities.

Future Plans / Explanation of Shortfalls: The cumulative target will be increased to 30% in FY 2010.

Supporting Documentation: Program Plan/Roadmap document
Memorandum for Record (unclassified, located in R&D, certified by ADA)

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Uranium-235 Production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) FY 2008 target: 20%

FY 2007: Met Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect Uranium-235 production activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document") (Long-term Outcome) (2.2.39.1) FY 2007 target: 15%

FY 2006: Not Met Progress 10 percent (cumulative) toward demonstrating the next generation of technologies and methods to detect Uranium-235 Enrichment activities. (NA GG 2.40.01)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na22_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Elimination of Weapons-Grade Plutonium Production (EWGPP)

Secretarial Goal Supported: National Security

Constructing Zheleznogorsk Fossil Plant

Measure: Cumulative percentage of progress towards constructing a fossil plant in Zheleznogorsk, facilitating the shut-down of one weapons-grade plutonium production reactor. (Long-term Output)

FY 2009 target: 70%

2009 Results

Commentary: Exceeded Exceeded the cumulative target of 70% completion in FY 2009 by achieving 71% completion. This result is important because completion of the fossil fuel plant will replace energy capacity from the last Russian plutonium production reactors, allowing it to be shutdown and the production of weapons-grade plutonium to be eliminated.

Future Plans / Explanation of Shortfalls: The cumulative target will be increased to 98% in FY 2010.

Supporting Documentation: Zheleznogorsk Monthly Progress and Cost Performance Report

Associated Performance in Prior Years

FY 2008: Not Met Cumulative percentage of progress towards constructing a fossil plant in Zheleznogorsk, facilitating the shut down of one weapons-grade plutonium production reactor (Long-term Output) FY 2008 target: 62.6%

FY 2007: Met Cumulative percentage of progress towards constructing a fossil plant in Zheleznogorsk shutting down one weapons-grade plutonium production reactor (Long-term Output) FY 2007 target: 33.6%

FY 2006: Met Complete 9.6 percent (cumulative) of the construction of a fossil plant in Zheleznogorsk, shutting down one weapons-grade plutonium production reactor. (NA GG 2.42.03)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20/ewgpp.shtml>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Elimination of Weapons-Grade Plutonium Production (EWGPP)

Secretarial Goal Supported: National Security

Cost Performance Index (CPI) for Zheleznogorsk Fossil Plant

Annual Costs Performance Index (CPI) for Zheleznogorsk construction as measured by the ratio of budgeted costs of work scheduled to actual costs of work performed. (Efficiency Measure)

FY 2009 target: 1.0

2009 Results

Commentary: Met Achieved the annual target, although fell behind the standard EVMS cost performance index of 1.0 indicating the project is within budget by achieving a cost performance index of 0.93. This result is important because it is part of the mission need to shut down the last three plutonium–production reactors in Russia.

Future Plans / Explanation of Shortfalls: The annual target of 1.0 CPI will remain unchanged in FY 2010.

Supporting Documentation: Zheleznogorsk Monthly Progress and Cost Performance Report

Associated Performance in Prior Years

FY 2008: Met Annual Costs Performance Index (CPI) for Seversk construction as measured by the ratio of budgeted costs of work performed to actual costs of work performed (EFFICIENCY MEASURE) FY 2008 target: 1.0

FY 2007: Met Annual Cost Performance Index (CPI) for Seversk construction as measured by the ratio of budgeted cost of work performed to actual cost of work performed (EFFICIENCY MEASURE). (2.2.40.2) FY 2007 target: 1.0

FY 2006: Met Achieve a 1.0 Annual Costs Performance Index (CPI) for Seversk construction as measured by the ratio of budgeted costs of work performed to actual costs of work performed. (NA GG 2.42.02)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20/ewgpp.shtml>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Elimination of Weapons-Grade Plutonium Production (EWGPP)

Secretarial Goal Supported: National Security

Refurbishing Seversk Fossil Plant

Measure: Cumulative percentage of progress towards refurbishing a fossil plant in Seversk facilitating the shut-down of two weapons-grade plutonium production reactors. (Long-term Output)

FY 2009 target: 100%

2009 Results

Commentary: Met Achieved the cumulative percentage of 100% of the fossil plant refurbishment with full completion of U.S. contribution. The two Seversk reactors were shut down ahead of schedule in April and June 2008. This result is important because completion of the fossil plant will complete the closeout phase of the project.

Future Plans /

Explanation of Shortfalls: The goal of this measure has been accomplished; therefore, it is not applicable in FY 2010.

Supporting Documentation: Seversk Monthly Progress and Cost Performance Report

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of progress towards refurbishing a fossil plant in Seversk, shutting down two weapons-grade plutonium production reactors (Long-term Output) FY 2008 target: 90%

FY 2007: Met Cumulative percentage of progress towards refurbishing a fossil plant in Seversk shutting down two weapons-grade plutonium production reactors (Long-term Output) FY 2007 target: 72%

FY 2006: Not Met Complete 55 percent (cumulative) of the refurbishment of a fossil plant in Seversk, shutting down two weapons-grade plutonium production reactors. (NA GG 2.42.01)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20/ewgpp.shtml>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Elimination of Weapons-Grade Plutonium Production (EWGPP)

Secretarial Goal Supported: National Security

Russian Weapons-Grade Plutonium Production

Annual percentage of Russian weapons-grade plutonium production capability eliminated from its

Measure: 2003 baseline of 1.2 MT/yr (0.4 MT per reactor). (Long-term Outcome)

FY 2009 target: 67%

2009 Results

Commentary: Met Fully achieved the annual target of 67% reduction in the production of weapons-grade plutonium. Two of the three reactors were shut down ahead of schedule in April and June 2008. This result is important because it is part of the mission need to shut down the last three plutonium-production reactors in Russia.

Future Plans /

Explanation of Shortfalls: The annual target of 67% will remain unchanged in FY 2010.

Supporting Documentation: Seversk Monthly Reports No. 57 dated May 27, 2008 and No. 59 dated July 21, 2008 PLEASE ADDRESS.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20/ewgpp.shtml>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and International Security (N&IS)

Secretarial Goal Supported: National Security

Elimination of Russian Highly Enriched Uranium (HEU)

Annual number of special monitoring visits completed to the four Russian processing facilities that downblend highly enriched uranium (HEU) to low-enriched uranium to monitor and confirm Measure: the permanent elimination of 30 metric tons of Russian HEU from the Russian weapons stockpile under the HEU Purchase Agreement. (Annual Output)

FY 2009 target: 24

2009 Results

Commentary: Met Fully achieved the annual target of 24 special monitoring visits to the four Russian uranium-processing facilities subject to the 1993 Highly Enriched Uranium (HEU) Purchase Agreement. This result is important because confidence-building monitoring activities conducted in Russia provide assurance that the Russian Federation is eliminating excess weapons-usable material, thereby adhering to its nonproliferation obligations under the HEU Purchase Agreement.

Future Plans /

Explanation of Shortfalls: The annual target of 24 will remain unchanged in FY 2010.

Supporting Documentation: Sandia National Laboratories database records and original input documents
Physical examination of processing facilities
International Nuclear Export Control program database records and original input documents

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20/ewgpp.shtml>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and International Security (N&IS)

Secretarial Goal Supported: National Security

Global Initiatives to Prevent Proliferation (GIPP) Non-USG Project Funding

Measure: Cumulative percentage of non-USG (private sector and foreign government) project funding contributions obtained relative to cumulative USG GIPP funding contributions. (Efficiency Measure)

FY 2009 target: 81%

2009 Results

Commentary: Met Fully achieved the cumulative target of 81% project funding contributions obtained relative to cumulative USG GIPP funding contributions. This result is important because it maximizes non-USG funding sources to prevent the migration of weapons of mass destruction scientists and personnel to terrorist organizations and states of concern.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 82% in FY 2010.

Shortfalls:

Supporting Documentation: -Data in project management database (entered by National Labs)

Documentation: -Annual USIC survey of members

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative percentage of non-USG (private sector and foreign government) project funding contributions obtained relative to cumulative USG GIPP funding contributions (EFFICIENCY MEASURE) FY 2008 target: 78%

FY 2007: Met Cumulative percentage of non-USG (private sector and foreign government) project funding contributions obtained relative to cumulative USG GIPP funding contributions. (EFFICIENCY MEASURE). (2.2.41.3) FY 2007 target: 75%

FY 2006: Met The cumulative percentage of non-United States Government (non-USG) (private sector and foreign government) project funding contributions obtained relative to cumulative USG Global Initiatives to Prevent Proliferation (GIPP) funding contributions is 70 percent. (NA GG 2.44.03)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na24_index.shtml

FY 2009 Performance Measures

Office:	National Nuclear Security Administration
Program:	Nonproliferation and International Security (N&IS)
Secretarial Goal Supported:	National Security
	Nuclear Export Control Program
Measure:	Cumulative number of countries where International Nuclear Export Control program is engaged that have export control systems that meet critical requirements. (Long-term Outcome)
	FY 2009 target: 9
	<u>2009 Results</u>
Commentary:	Met Fully achieved the cumulative target of 9 countries having export control systems that meet critical requirements. This result is important because it demonstrates the number of countries that, through engagement by INECP (1) have control lists consistent with the WMD regimes; (2) conduct outreach to producers and trans-shippers of WMD-related commodities; (3) engage in the sharing of information between technical experts, license reviewers, and front-line enforcers; and (4) have customized WMD Commodity Identification Training materials and technical guides.
Future Plans / Explanation of Shortfalls:	The cumulative target will be increased to 11 in FY 2010.
Supporting Documentation:	International Nuclear Export Control program database records and original input documents Sandia National Laboratories database records and original input documents
	<u>Associated Performance in Prior Years</u>
FY 2008:	N/A
FY 2007:	N/A
FY 2006:	N/A

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na24_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and International Security (N&IS)

Secretarial Goal Supported: National Security

Russian Weapons-Usable Highly Enriched Uranium (HEU) Eliminated

Measure: Cumulative metric tons of Russian weapons-usable HEU that U.S. experts have confirmed as permanently eliminated from the Russian stockpile under the HEU Purchase Agreement. (Long-term Outcome)

FY 2009 target: 372

2009 Results

Commentary: Exceeded Exceeded the cumulative target of 372 metric tons (MT) by confirming the elimination of an additional 33 MT of HEU in FY 2009, resulting in cumulative total of 375 MT. This result is important because it provides assurance that weapons-grade material is being eliminated from Russia's stockpile and is no longer available for use in the nuclear weapons program.

Future Plans / Explanation of Shortfalls: The cumulative target will be increased to 402 MT in FY 2010 in support of the long term target of 500 MT by 2013.

Supporting Documentation: -Status Report on U.S.-Russian Megatons to Megawatts Program (www.usec.com)
-Russian HEU to LEU Contract Summary of Shipments, Amounts, Value, Payments, and Schedule (provided by USEC)
-Russian HEU to LEU Contract Summary based on Fiscal Year (provided by SAIC)
-Monitoring visit trip reports, process declarations, and mass flow reports

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative metric tons of Russian weapons-usable HEU that U.S. experts have confirmed as permanently eliminated from the Russian stockpile under the HEU Purchase Agreement (Long-term Outcome) FY 2008 target: 342

FY 2007: Met Cumulative metric tons of Russian weapons-usable HEU that U.S. experts have confirmed as permanently eliminated from the Russian stockpile under the HEU Purchase Agreement. (Long-term Outcome). (2.2.41.1) FY 2007: 312

FY 2006: Met Eliminate 282 metric tons (cumulative) of Russian weapons-usable Highly Enriched Uranium (HEU) which U.S. experts have confirmed as permanently removed from the Russian stockpile under the HEU Purchase Agreement. (NA GG 2.44.01)

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na24_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Nonproliferation and International Security (N&IS)

Secretarial Goal Supported: National Security

Safeguards Systems

Annual number of safeguards systems deployed and used in international regimes and other countries that address an identified safeguards deficiency. (Annual Output)

Measure:

FY 2009 target: 3

2009 Results

Commentary: Met Fully achieved the annual target of 3 safeguards systems deployed and used in international regimes and other countries. This result is important because it allows international regimes and countries to properly account for and control nuclear materials to prevent use in illicit activities.

Future Plans /

Explanation of Shortfalls: The annual target will increase to 4 in FY 2010.

Shortfalls:

Supporting Documentation: Shipping Records, Technical reports produced as a result of the technology being transferred and Monthly Reports (generated for each of the countries INECP works with.).

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: http://www.nnsa.doe.gov/na%2D20/na24_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Highly Enriched Uranium (HEU) Conversion to Low Enriched Uranium (LEU)

Cumulative metric tons of Highly-Enriched Uranium converted to Low- Enriched Uranium.

Measure: (Long-term Outcome)

FY 2009 target: 11.7

2009 Results

Commentary: Met Fully achieved the annual target by blending down a cumulative total of 11.7 metric tons (MTs) of HEU to LEU. This result is important because it prevents the theft/diversion of excess HEU.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 12.6 in FY 2010.

Supporting

-Monthly U.S. monitoring visits to the downblending sites to validate process results

Documentation: -Contract deliverable downblending and monthly status reports

Associated Performance in Prior Years

FY 2008: Met Cumulative metric tons of HEU converted to LEU (Long-term Outcome) FY 2008 target: 11.0

FY 2007: Met Cumulative metric tons of HEU converted to LEU (Long-term Outcome) FY 2007 target: 9.5

FY 2006: Not Met Convert 8.6 metric tons (cumulative) of highly enriched uranium (HEU) to low enriched uranium (LEU). (NA GG 2.46.03)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Material Protection, Control, and Accountability (MPC&A) Upgrades

Measure: Cumulative number of warhead sites with completed MPC&A upgrades. (Long-term Output)

FY 2009 target: 73

2009 Results

Commentary: Met Fully achieved the cumulative target of completing MPC&A upgrades at 73 warhead sites. This result is important because it prevents the theft/diversion of vulnerable nuclear weapons for use by terrorists.

Future Plans / Explanation of Shortfalls: Accomplished the long-term goal of completing MPC&A upgrades at 73 warhead sites by FY 2009. Therefore, this metric will not be reported in future years.

Supporting Documentation: -Monthly progress reports
-Assurance site visits
-Contract deliverables and in-progress reviews

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative number of warhead sites with completed MPC&A upgrades (Long-term Output)
FY 2008 target: 64

FY 2007: Met Cumulative number of warhead sites with completed MPC&A upgrades. (Long-term Output).
(2.2.42.2) FY 2007 target: 58

FY 2006: Met Complete 53 security upgrades at warhead sites. (NA GG 2.46.02)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Material Protection, Control, and Accountability (MPC&A) Regulations

Measure: Cumulative number of MPC&A regulations in the development phase for the Russian Federation and FSU countries. (Long-term Output)

FY 2009 target: 165

2009 Results

Commentary: Met Achieved 98% of the annual target by placing a cumulative total of 165 regulations in the development phase for the Russian Federation and FSU countries. This result is important because it prevents the theft/diversion of excess HEU.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 194 in FY 2010.

Shortfalls:

Supporting Documentation: Regulatory team-maintained database to track development and adoption of each MPC&A regulation by task order and date.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Material Protection, Control and Accountability (MPC&A) Upgrades - Buildings

Cumulative number of buildings containing weapons usable material with completed MPC&A

Measure: upgrades. (Long-term Output)

FY 2009 target: 210

2009 Results

Commentary: Met Fully achieved the cumulative target by completing MPC&A upgrades at a cumulative total of 210 buildings. This result is important because it prevents the theft/diversion of vulnerable nuclear weapons for use by terrorists.

Future Plans / Explanation of Shortfalls: The cumulative target will be increased to 213 in FY 2010.

Supporting Documentation: -Statements of Work and Contracts for Security Upgrade Construction and System Installation
-Progress Reports from Contractors and Russian Sites
-Assurance Visit Reports
-Monthly Reports by Project
-Quarterly Reports by Project
-Annual Close-Out Reports by Project
-Metric Information Management On-line Database

Associated Performance in Prior Years

FY 2008:	Met	Cumulative number of buildings containing weapons-usable material with completed MPC&A upgrades (Long-term Output) FY 2008 target: 191
FY 2007:	Met	Cumulative number of buildings with weapons-usable material secured. (EFFICIENCY MEASURE). (2.2.42.1) FY 2007 target: 190
FY 2006:	Met	Secure 175 (cumulative) buildings with weapons-usable material. (NA GG 2.46.01)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Megaports with Host Country Cost Sharing

Cumulative number of Megaports with host country cost-sharing, resulting in less cost to the U.S.

Measure: program (estimated cost sharing value) (Efficiency Measure)

FY 2009 target: 8/\$40M

2009 Results

Commentary: Not Met Slightly behind in achieving the annual target of 8 Megaports with \$40M in host country cost sharing by having a cumulative total of 7 Megaports with \$36.8M in host country cost sharing. This result is important because these cost sharing agreements result in reduced costs for the U.S. Second Line of Defense Program.

The program did not complete one port in the fourth quarter of FY 2009 due to schedule delays at Future Plans / Manzanillo, Mexico. Design approvals were completed and contracts issues have been resolved. The Explanation of program expects the port to be completed in the first quarter of FY 2010. The cumulative target will be Shortfalls: increased to 12/\$66M in FY 2010.

Supporting Documentation: Schedules, trip reports, acceptance testing documentation

Associated Performance in Prior Years

FY 2008: Not Met Cumulative number of Megaports with host country cost sharing, resulting in decreased costs to the US program (estimated cost sharing value) (EFFICIENCY MEASURE) FY 2008 target: 5 (\$24M)

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: International Nuclear Materials Protection and Cooperation

Secretarial Goal Supported: National Security

Second Line of Defense (SLD) Sites

Cumulative number of Second Line of Defense (SLD) sites with nuclear detection equipment installed (Cumulative number of Megaports completed). (Long-term Output)

FY 2009 target: 312 (28)

2009 Results

Commentary: Exceeded Exceeded the cumulative target by completing installations of radiation detection equipment at a cumulative total of 335 sites (including 27 Megaports). This result is important because it provides host governments with the technical means to detect, deter and interdict illicit trafficking of nuclear and other radioactive materials.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 369 (43) in FY 2010.

Shortfalls:

Supporting Documentation: Schedules, trip reports, acceptance testing documentation

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative number of Second Line of Defense (SLD) sites with nuclear detection equipment installed (Cumulative number of Megaports completed) (Long-term Output) FY 2008 target: 224 (23)

FY 2007: Not Met Cumulative number of Second Line of Defense (SLD) sites with nuclear detection equipment installed. (Cumulative number of Megaports completed) (Long-term Output). (2.2.42.4) FY 2007 target: 173 (12)

FY 2006: Not Met Install 114 (cumulative) Second Line of Defense (SLD) sites with nuclear detection equipment installed. (Complete a cumulative 10 Megaports.) (NA GG 2.46.04)

Additional Information

Program Office: <http://www.nnsa.doe.gov/na%2D20>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Fissile Materials Disposition

Secretarial Goal Supported: National Security

Mixed Oxide (MOX) Fuel Fabrication Facility

Cumulative percentage of the design, construction, and cold start-up activities completed for the

Measure: Mixed Oxide (MOX) Fuel Fabrication Facility. (Long-term Output)

FY 2009 target: 39%

2009 Results

Commentary: Met Achieved the cumulative target by completing a total of 38.3% of the facility and equipment design, construction, and cold start-up activities for the MOX facility. This result is important because it demonstrates progress toward the Department's goal of disposing of 34 metric tons of surplus U.S. weapons-grade plutonium.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 49% in FY 2010.

Supporting Documentation: Earned Value Management System (EVMS) data from MOX FFF Monthly Status Report - Earned value determined through physical examination, observation, computation, and inspection; as well as original documents such as a signed statement or email verifying target completion.

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of the design, construction, and cold start-up activities completed for the Mixed Oxide (MOX) Fuel Fabrication Facility (Long-term Output) FY 2008 target: 30%

FY 2007: Met Cumulative percentage of the design, construction, and cold start-up activities completed for the Mixed Oxide (MOX) Fuel Fabrication Facility (Long-term Output) (2.2.43.1) FY 2007 target: 24%

FY 2006: Met Complete 17 percent (cumulative) of the Mixed Oxide (MOX) Fuel Fabrication facility and equipment design, construction, and cold start-up activities. (NA GG 2.47.01)

Additional Information

Program Office: <http://www.nnsa.doe.gov/nuclear/nonrpoliferation/1977.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Fissile Materials Disposition

Secretarial Goal Supported: National Security

U.S. Highly Enriched Uranium (HEU) Downblended

Cumulative amount of surplus U.S. highly enriched uranium (HEU) down-blended or shipped for
Measure: down-blending. (Efficiency Measure)

FY 2009 target: 125 MT

2009 Results

Commentary: Exceeded Exceeded the cumulative target by down-blending or shipping for down-blending 127.4 cumulative metric tons of surplus U.S. HEU. This result is important because it is contributing to the Department's goal of disposing of surplus U.S. HEU.

Future Plans /
Explanation of Shortfalls: The cumulative target will be increased to 130 MT in FY 2010.

Supporting Documentation: BWXT Y-12 monthly program status documents - Physical examination and inspection as documented in material control and accounting data forms and reports that the site is required to maintain under Special Nuclear Materials handling/shipping requirements; Original documents such as a signed statement or email verifying target completion.

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative amount of surplus U.S. highly enriched uranium (HEU) down-blended or shipped for down-blending (EFFICIENCY MEASURE) FY 2008 target: 112MT

FY 2007: Met Cumulative amount of surplus U.S. highly enriched uranium (HEU) down-blended or shipped for down-blending (EFFICIENCY MEASURE). (2.2.43.3) FY 2007 target: 103MT

FY 2006: Met The cumulative amount of surplus U.S. highly enriched uranium (HEU) down -blended or shipped for down -blending is 93 metric tons. (NA GG 2.47.03)

Additional Information

Program Office: [http://www.nsa.doe.gov/nuclear nonproliferation/1977.htm](http://www.nsa.doe.gov/nuclear%20nonproliferation/1977.htm)

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Fissile Materials Disposition

Secretarial Goal Supported: National Security

Waste Solidification Building (WSB)

Cumulative percentage of the design, construction, and cold start-up activities completed for the

Measure: Waste Solidification Building (WSB). (Long-term Output)

FY 2009 target: 30%

2009 Results

Commentary: Not Met Slightly behind schedule in achieving the cumulative target by completing a total of 26.4% of the facility and equipment design, construction, and cold start-up activities for the WSB. This result is important because it demonstrates progress toward the Department's goal of disposing of 34 metric tons of surplus U.S. weapons-grade plutonium.

Future Plans / Explanation of Shortfalls: The annual target was slightly missed because long-lead equipment procurements, fabrication of the cementation units, and balance of plant construction activities had not been performed as early as originally planned. However, vendor and subcontractor completion dates remain unchanged and no impact to the project completion date is expected. The cumulative target will be increased to 55% in FY 2010.

Supporting Documentation: EVMS and cost data from the WSB consolidated monthly status reports - Earned value determined through physical examination, observation, computation, and inspection; as well as Original documents such as a signed statement or email verifying target completion.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: [http://www.nnsa.doe.gov/nuclear nonrpoliferation/1977.htm](http://www.nnsa.doe.gov/nuclear%20nonrpoliferation/1977.htm)

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Global Threat Reduction Initiative (GTRI)

Secretarial Goal Supported: National Security

Highly Enriched Uranium (HEU) Reactors Converted or Shutdown

Measure: Cumulative HEU reactors converted or shutdown prior to conversion (Long-term Outcome)

FY 2009 target: 68

2009 Results

Commentary: Met

Met the annual target by converting or verifying the shutdown of a cumulative 68 HEU reactors; a cumulative total of 67 research reactors (98.5%) have been converted or verified as shutdown. In the first quarter, one new research reactor was verified as shutdown prior to conversion. In the second quarter, no additional reactors were converted or shutdown prior to conversion. In the third quarter, one additional research reactor, IRT-200 in Bulgaria, was shut down prior to conversion. In the fourth quarter, three additional research reactors were converted (University of Wisconsin, BRR in Hungary, and NRAD in Idaho). Through September 2009, a cumulative total of 67 research reactors have been converted or verified as shutdown prior to conversion (an additional five reactors converted or verified as shutdown prior to conversion in FY 2009). This result is important because to date conversion of these reactors has resulted in HEU avoidance of ~335/kg per year.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 73 in FY 2010.

Shortfalls:

Supporting Documentation: -GTRI Scorecard
-Written Notification of conversion
-Conversion Report

Associated Performance in Prior Years

FY 2008:	Met	Cumulative HEU reactors converted or shut down (Long-term Outcome) FY 2008 target: 62
FY 2007:	Met	Cumulative HEU reactors converted or verified as shutdown (Long-term Outcome). (2.2.44.1) FY 2007 target: 53
FY 2006:	Not Met	Convert 46 (cumulative) targeted research/test reactors from highly enriched uranium (HEU) to low enriched uranium fuel (LEU). (NA GG 2.64.01)

Additional Information

Program Office: http://www.nnsa.doe.gov/Na-20/na21_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Global Threat Reduction Initiative (GTRI)

Secretarial Goal Supported: National Security

Nuclear Material Removed

Cumulative number of kilograms of vulnerable nuclear material (HEU and plutonium) removed or disposed (Efficiency Measure)

FY 2009 target: 2,311

2009 Results

Commentary: Exceeded

Exceeded (100.2%) the annual target of removing a cumulative total of 2,311 kilograms of HEU and plutonium; a cumulative total of 2,317 kilograms have been removed. In the first quarter, an additional 154.5 kilograms of HEU were removed from Hungary and 6.9 kilograms of HEU were removed from Canada. In the second quarter, no additional kilograms of HEU and plutonium were removed. In the third quarter, an additional 73.7 kilograms of HEU were removed from Kazakhstan, 53.8 kilograms of HEU were removed from Romania, 14.6 kilograms of HEU were removed from Australia, and 29.0 kilograms of plutonium were removed from Italy. In the fourth quarter, an additional 18.0 kilograms of HEU were removed from Hungary, 11.6 kilograms of HEU were removed from Italy, and 4.8 kilograms of HEU were removed from Taiwan. Through September 2009, a cumulative total of 2,316.6 kilograms of HEU and plutonium have been removed (an additional 367 kilograms in FY 2009). This result is important because this effort will minimize the amount of weapons-usable material around the world.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 2,913 in FY 2010.

Shortfalls:

Supporting Documentation: -GTRI Scorecard
-Notification of removal
-Remove Report

Associated Performance in Prior Years

FY 2008:	Met	Cumulative kilograms of nuclear material (HEU and plutonium) removed or disposed (Long-term Outcome) FY 2008 target: 2,133
FY 2007:	Met	Cumulative kilograms of nuclear material (HEU and plutonium) removed or disposed (Long-term Outcome). (2.2.44.2) FY 2007 target: 1,671
FY 2006:	Not Met	Repatriate 232 (cumulative) kilograms of fresh highly enriched uranium and/or spent fuel from Soviet-supplied research reactors to Russia. (NA GG 2.64.02)

Additional Information

Program Office: http://www.nnsa.doe.gov/Na-20/na21_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Global Threat Reduction Initiative (GTRI)

Secretarial Goal Supported: National Security

Nuclear and Radiological Sites Protected

Cumulative number of buildings with high priority nuclear and radiological materials secured.

Measure: (Long-term Outcome)

FY 2009 target: 694

2009 Results

Commentary: Exceeded Exceeded (101.6%) the annual target of securing a cumulative total of 694 buildings with high-priority nuclear and radiological materials; a cumulative total of 705 buildings have been secured. In the first quarter, an additional 21 international buildings and two domestic buildings were secured. In the second quarter, an additional 22 international and 11 domestic buildings were secured. In the third quarter, an additional two international and one domestic buildings was secured. In the fourth quarter, an additional 84 international buildings and 48 domestic buildings were secured. Through September 2009, a cumulative total of 705 buildings have been secured (an additional 191 buildings in FY 2009). This result is important because it reduces the risk posed by nuclear and radiological materials worldwide that could be used in crude nuclear bombs and radiological dispersal devices.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 818 in FY 2010.

Shortfalls:

-GTRI Scorecard

-Monthly notification of protection

Supporting

-Work team reports

Documentation:

-Global Threat Reduction Initiative Programmatic Guidelines for Site Prioritization and Protection Implementation

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative high priority international radiological sites protected (Long-term Outcome) FY 2008 target: 730

FY 2007: Met Cumulative high priority radiological sites protected (Long-term Outcome). (2.2.44.4) FY 2007 target: 590

FY 2006: Met Secure 498 (cumulative) high priority sites with vulnerable radiological material. (NA GG 2.64.05)

Additional Information

Program Office: http://www.nnsa.doe.gov/Na-20/na21_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Global Threat Reduction Initiative (GTRI)

Secretarial Goal Supported: National Security

Radiological Sources Removed

Cumulative number of excess domestic radiological sources removed or disposed. (Long-term Measure: Outcome)

FY 2009 target: 22,000

2009 Results

Commentary: Exceeded Exceeded (104.6%) the annual target of removing a cumulative total of 22,000 excess domestic radiological sources; a cumulative total of 23,014 sources have been removed. In the first quarter, an additional 1,656 sources were removed. In the second quarter, an additional 931 sources were removed. In the third quarter, an additional 1,309 sources were removed. In the fourth quarter, an additional 462 sources were removed. Through September 2009, a cumulative total of 23,014 sources have been removed (an additional 4,358 sources in FY 2009). This result is important because it minimizes the amount of excess and unwanted radioactive material that could be used in radiological dispersal devices.

Future Plans /

Explanation of Shortfalls: The cumulative target will be increased to 24,500 in FY 2010.

Shortfalls:

-GTRI Scorecard

-Monthly notification of removals

Supporting

-Work team reports

Documentation:

-Radiological recovery life cycle plan

-GTRI website <http://osrp.lanl.gov/>

Associated Performance in Prior Years

FY 2008: Exceeded Cumulative U.S. radiological sources removed or disposed (Long-term Outcome) FY 2008 target: 17,500

FY 2007: Met Cumulative U.S. radiological sources removed or disposed (Long-term Outcome). (2.2.44.3) FY 2007 target: 15,455

FY 2006: Met 7,115 (cumulative) fuel assemblies containing U.S.-origin spent fuel returned from foreign research reactors. (NA GG 2.64.03)

Additional Information

Program Office: http://www.nnsa.doe.gov/Na-20/na21_index.shtml

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Naval Reactors

Secretarial Goal Supported: National Security

A1B Reactor Plant Design

Cumulative percentage of completion on the next-generation aircraft carrier reactor plant design.

Measure: (Long-term Outcome)

FY 2009 target: 88%

2009 Results

Commentary: Met

Achieved 100% of the annual target by completing a cumulative 88% of the next-generation aircraft carrier reactor plant design. This result is important because it provides the Navy with next-generation aircraft carrier propulsion plant technology that increases core energy, provides nearly three times the electric plant generating capability and will require half of the reactor department sailor's needed as compared to today's CVNs.

Future Plans / Explanation of Shortfalls: The annual target will be increased to 91% in FY 2010 in support of the long-term target of completing 100% of the next-generation aircraft carrier reactor plant design by 2015.

Supporting Documentation: CVN 21 Propulsion Plant Planning Estimate & Actual Reporting

Associated Performance in Prior Years

FY 2008: Met Cumulative percentage of completion on the next-generation aircraft carrier reactor plant design (Long-term Outcome) FY 2008 target: 85%

FY 2007: Met Cumulative percentage of completion on the next-generation aircraft carrier reactor plant design (Long-term Outcome) (2.3.45.3) FY 2007 target: 80%

FY 2006: Met Complete 75 percent of the next-generation aircraft carrier reactor plant design. (NA GG 3.49.03)

Additional Information

Program Office: <http://www.nnsa.doe.gov/navalreactors.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Naval Reactors

Secretarial Goal Supported: National Security

Fleet Reactor Plant Operations

Cumulative miles steamed, in millions, of safe, reliable, militarily effective nuclear propulsion plant operation supporting National security requirements. (Long-term Outcome)

FY 2009 target: 142

2009 Results

Commentary: Met Achieved 100% of the annual target by completing 142 million cumulative miles safely steamed. This result is important because it measures the safety and reliability of operating nuclear propulsion plants.

Future Plans / Explanation of Shortfalls: The annual target will be increased to 144 million miles in FY 2010 in support of the long-term target of 154 million miles safely steamed by 2015.

Supporting Documentation: Commissioned Ship Operating Reports

Associated Performance in Prior Years

FY 2008: Met Cumulative miles steamed, in millions, of safe, reliable, militarily effective nuclear propulsion plant operation supporting National security requirements (Long-term Outcome) FY 2008 target: 140

FY 2007: Met Cumulative miles steamed, in millions, of safe, reliable, militarily effective nuclear propulsion plant operation supporting National security requirements (Long-term Outcome). (2.3.45.1) FY 2007 target: 138

FY 2006: Met Achieve 134 million miles (cumulative) of safe, reliable, militarily effective nuclear propulsion plant operation supporting National security requirements. (NA GG 3.49.01)

Additional Information

Program Office: <http://www.nnsa.doe.gov/navalreactors.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Naval Reactors

Secretarial Goal Supported: National Security

Naval Reactors Facility Condition Index (FCI)

Measure: Annual Naval Reactors complex-wide aggregate Facility Condition Index (FCI), as measured by deferred maintenance per replacement plant value for all program facilities and infrastructure. (Annual Output)

FY 2009 target: 4%

2009 Results

Commentary: Met Achieved 100% of the annual target by achieving a Facility Condition Index (FCI) of less than 4%. This result is important because it assesses the operational condition of program facilities to ensure program infrastructure is maintained in order to accomplish mission activities in the safest, most reliable, most effective, and most efficient manner.

Future Plans / Explanation of Shortfalls: The annual target will remain constant in FY 2010 at achieving a FCI of less than 4%.

Supporting Documentation: Deferred maintenance and plant replacement value reported in FIMS

Associated Performance in Prior Years

FY 2008: Exceeded Annual Naval Reactors complex-wide aggregate Facility Condition Index, as measured by deferred maintenance per replacement plant value for all program facilities and infrastructure (Annual Output) FY 2008 target: 5%

FY 2007: Met Annual Naval Reactors complex-wide aggregate Facility Condition Index, as measured by deferred maintenance per replacement plant value for all program facilities and infrastructure. (Annual Output). (2.3.45.7) FY 2007 target: 5%

FY 2006: Met Achieve a five percent annual Naval reactors complex-wide aggregate Facility Condition Index, as measured by deferred maintenance per replacement plant value for all program facilities and infrastructure. (NA GG 3.49.06)

Additional Information

Program Office: <http://www.nnsa.doe.gov/navalreactors.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Naval Reactors

Secretarial Goal Supported: National Security

Program Operations

Measure: Annual percentage of program operations that have no adverse impact on human health or the quality of the environment. (Annual Outcome)

FY 2009 target: 100%

2009 Results

Commentary: Met Achieved 100% of the annual target by ensuring that 100% of program operations have no adverse impact on human health or the quality of the environment. This result is important because it assesses human health and environmental risks associated with program operations.

Future Plans / Explanation of Shortfalls: The annual target will remain constant in FY 2010 at ensuring 100% of program operations have no adverse impact on human health or the quality of the environment.

Supporting Documentation: Annual Monitoring Report

Associated Performance in Prior Years

FY 2008: Met Annual percentage of Program operations that have no adverse impact on human health or the quality of the environment (Annual Outcome) FY 2008 target: 100%

FY 2007: Met Annual percentage of Program operations that have no adverse impact on human health or the quality of the environment (Annual Outcome) (2.3.45.5) FY 2007 target: 100%

FY 2006: Met Achieve 100 percent of Program operations that have no adverse impact on human health or the quality of the environment. (NA GG 3.49.04)

Additional Information

Program Office: <http://www.nnsa.doe.gov/navalreactors.htm>

FY 2009 Performance Measures

Office: National Nuclear Security Administration

Program: Naval Reactors

Secretarial Goal Supported: National Security

Utilization of Test Reactor Plants

Measure: Annual utilization factor for operation of test reactor plants. (Efficiency Measure)

FY 2009 target: 90%

2009 Results

Commentary: Exceeded Exceeded the annual target by achieving a utilization rate of 91%. Does not reflect a Naval Reactors directed hold on prototype operations to improve staff performance and training. This result is important because it represents a cost-effective way of training Naval nuclear plant operators.

Future Plans / Explanation of Shortfalls: The annual target will remain constant in FY 2010 at achieving a minimum utilization rate of 90% for the operation of test reactor plants.

Supporting Documentation: Prototype Annual Activity Schedule & Actual Reporting

Associated Performance in Prior Years

FY 2008: Exceeded Annual utilization factor for operation of test reactor plants (EFFICIENCY MEASURE) FY 2008 target: 90%

FY 2007: Met Annual utilization factor for operation of test reactor plants (EFFICIENCY MEASURE). (2.3.45.6) FY 2007 target: 90%

FY 2006: Met Achieve a 90 percent utilization factor for operation of test reactor plants. (NA GG 3.49.05)

Additional Information

Program Office: <http://www.nnsa.doe.gov/navalreactors.htm>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

EM Efficiency Measure

Measure: Remain within the limits of no greater than a 10% negative cost and schedule variance for the overall cost weighted mean cost and schedule performance indices for the 80 operating projects and nine line item projects that are baselined and under configuration control.

2009 Results

Commentary: Met The EM program has met its annual efficiency goal since its inception in FY 2006. The FY09 actual CPI was 0.98 and the SPI was 0.96.

Future Plans / Explanation of Shortfalls: The Department will continue to strive towards the continued efficiency in its cleanup activities while maintaining the health and safety of its workers and the general public.

Supporting Documentation: Earned value data reported monthly by sites into IPABS.

Associated Performance in Prior Years

FY 2008: Met Remain within the limits of no greater than a 10% negative cost and schedule variance for the overall cost - weighted mean cost and schedule performance indices for the 80 operating projects and nine line item projects that are baselined and under configuration control.

FY 2007: Met Remain within the limits of no greater than a 10% negative cost and schedule variance for the overall cost - weighted mean cost and schedule performance indices for the 80 operating projects and nine line item projects that are baselined and under configuration control. FY 2007 Results: The cost - weighted mean cost performance index 1.01. The cost - weighted mean schedule performance index 0.99

FY 2006: Met Remain within the limits of no greater than a 10 percent negative cost and schedule variance for the over all cost - weighted mean cost and schedule performance indices for the 80 operating projects and nine line item projects that are baselined and under configuration control.

Additional Information

Program Office: <http://www.em.doe.gov/pages/emhome.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

Enriched Uranium Containers Packaged for Disposition

Measure: Package for disposition a cumulative total of 7,549 containers of enriched uranium.

2009 Results

Commentary: Exceeded Packaged for disposition a cumulative total of 7,629 containers. This is an increase of 81 containers over the FY 2008 actual total.

Future Plans / Explanation of Shortfalls: Future work on this measure will include activities for the SRS from additional quantities of enriched uranium being added to the DOE/TVA blend-down agreement.

Supporting Documentation: Shipping Manifests and Disposal Records.

Associated Performance in Prior Years

FY 2008:	Met	Packaged for disposition a cumulative total of 7,548 containers of enriched uranium.
FY 2007:	Met	Packaged for disposition a cumulative total of 6,972 containers of enriched uranium.
FY 2006:	Met	Packaged for disposition a cumulative total of 5,877 containers of enriched uranium.

Additional Information

Program Office: <http://www.em.doe.gov/pages/emhome.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

High-Level Waste Packaged for Disposition

Measure: Package for disposition a cumulative total of 3,060 containers of high-level waste.

2009 Results

Commentary: Exceeded Packaged for disposition a cumulative total of 3,070 containers of high-level waste. This is an increase of 196 containers over the FY 2008 actual total. The positive variance is due to excellent feeding and pouring operations and the increased facility pouring time for the Defense waste processing facility at the SRS.

Future Plans / Future work on this measure will include ongoing activities at the Defense Waste Processing Facility at the Explanation of SRS. The Office of River Protection is currently designing and constructing the Waste Treatment Plant to

Shortfalls: package Hanford high-level waste for final disposition.

Supporting Documentation: Quality Assurance Inspection Records for waste packaging.

Associated Performance in Prior Years

FY 2008:	Met	Packaged for disposition a cumulative total of 2,874 containers of high-level waste.
FY 2007:	Met	Packaged for disposition a cumulative total of 2,675 containers of high-level waste.
FY 2006:	Met	Packaged for disposition a cumulative total of 2,477 containers of high-level waste.

Additional Information

Program Office: <http://www.em.doe.gov/pages/emhome.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

Nuclear Facilities

Measure: Complete a cumulative total of 91 nuclear facilities.

2009 Results

Commentary: Exceeded Completed a cumulative total of 93 nuclear facilities. This is an increase of 4 facilities over the cumulative total of 89 facilities completed at the end of FY 2008.

Future Plans / Explanation of Shortfalls: Future work on this measure will include activities dedicated to the decontamination and decommissioning of facilities throughout the complex.

Supporting Documentation: Decommissioning Project Final Report. State and federal regulator acceptance of completion report.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.em.doe.gov/pages/emhome.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

Radioactive Facilities

Measure: Complete a cumulative total of 358 radioactive facilities.

2009 Results

Commentary: Exceeded Completed a cumulative total of 363 radioactive facilities. This is an increase of 15 nuclear facilities over the FY 2008 actual. Completing this work demonstrates the ability of the EM program to deliver significant reduction in environmental, safety, and security risks.

Future Plans / Explanation of Shortfalls: Future work on this measure will include activities dedicated to the decontamination and decommissioning of nuclear facilities throughout the complex.

Supporting Documentation: Decommissioning Project Final Report. State and federal regulator acceptance of completion report.

Associated Performance in Prior Years

FY 2008: Met Completed a cumulative total of 348 radioactive facilities.

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.em.doe.gov/pages/emhome.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

Release Site Remediation Completions

Measure: Complete remediation work at a cumulative total of 6,831 release sites.

2009 Results

Commentary: Not Met Completed remediation work at a cumulative total of 6,788 release sites. Negotiations with regulators for the EM sites are ongoing to insure final approval, which is required for the site to be counted as complete.

Future Plans / Explanation of Shortfalls: Future work on this measure will include activities aimed at completing remediation work throughout the complex. Shortfall due to incomplete negotiations with regulators to determine site completion.

Supporting Documentation: State and federal regulator acceptance of the Remedial Action Report.

Associated Performance in Prior Years

FY 2008:	Not Met	Completed remediation work at a cumulative total of 6,772 release sites.
FY 2007:	Met	Completed remediation work at a cumulative total of 6,463 release sites.
FY 2006:	Met	Completed remediation work at a cumulative total of 6,069 release sites.

Additional Information

Program Office: <http://www.em.doe.gov/Pages/BudgetPerformance.aspx>

FY 2009 Performance Measures

Office: Environmental Management

Program: Environmental Management

Secretarial Goal Supported: National Security

TRU Waste Disposition

Measure: Disposition of a cumulative total of 62,429 cubic meters of transuranic waste consisting of a cumulative total of 199 cubic meters of Remote Handled TRU (RH-TRU) and cumulative total of 62,230 cubic meters of Contact Handled TRU (CH-TRU). This is an increase of 8,990 cubic meters of Contact Handled TRU from the FY 2008 actual of 53,240 cubic meters of CH-TRU removed from inventory as well as an increase of 127 cubic meters from the FY 2008 actual of 72 cubic meters of RH-TRU removed from inventory.

2009 Results

Commentary: Exceeded Disposition of a cumulative total of 63,586 cubic meters of transuranic waste consisting of a cumulative total of 130 cubic meters of Remote Handled TRU (RH-TRU) and cumulative total of 63,456 cubic meters of Contact Handled TRU (CH-TRU).

Future Plans / Explanation of Shortfalls: Future work on this measure will include activities throughout the complex. This will include ongoing shipments of both contact-handled as well as remote-handled TRU waste.

Supporting Documentation: Shipping Manifests.

Associated Performance in Prior Years

FY 2008: Not Met Disposition of a cumulative total of 53,312 cubic meters of transuranic waste consisting of 72 cubic meters of Remote Handled TRU and 53,240 cubic meters of Contact Handled TRU.

FY 2007: Met Disposition of a cumulative total of 43,701 cubic meters of transuranic waste at the Waste Isolation Pilot Plant.

FY 2006: Not Met Disposition of a cumulative total of 55,211 cubic meters of transuranic waste at the Waste Isolation Pilot Plant.

Additional Information

Program Office: <http://www.em.doe.gov/Pages/BudgetPerformance.aspx>

FY 2009 Performance Measures

Office: Civilian Radioactive Waste Management

Program: Civilian Radioactive Waste Management

Secretarial Goal Supported: National Security

Repository Facilities and Infrastructure

Measure: The M&O contract has been let and the required statement of work for the new M&O contract that included a section on construction mobilization establishing all of the critical elements necessary to support readying the site for repository construction was part of the contract. Impacts to future goals will be determined by final appropriation.

2009 Results

Commentary: Met The M&O contract was let and the required statement of work for the new M&O contract that included a section on construction mobilization establishing all of the critical elements necessary to support readying the site for repository construction was part of the contract.

Future Plans / Explanation of Shortfalls: N/A

Supporting Documentation: Backup from Construction management and Site Operations office.

Associated Performance in Prior Years

FY 2008: N/A

FY 2007: N/A

FY 2006: N/A

Additional Information

Program Office: <http://www.ocrwm.doe.gov/>

FY 2009 Performance Measures

Office: Civilian Radioactive Waste Management

Program: Civilian Radioactive Waste Management

Secretarial Goal Supported: National Security

RW Efficiency Measure

Measure: Maintain ratio of total administrative overhead costs to total program costs of 25%. The higher percentage was suggested by OMB as a more realistic target. This was due to extreme budget shortfalls in direct activity Budget and Reporting areas.

2009 Results

Commentary: Met Total FY2009 administrative overhead costs to total FY2009 program costs were maintained at 25%.

Future Plans / Explanation of Shortfalls: N/A

Supporting Documentation: Spreadsheet that shows totals for the program costs versus totals for administrative elements. It calculates the percentage that administrative elements constitute of the entire program.

Associated Performance in Prior Years

FY 2008: Not Met Maintain total administrative overhead costs in relation to total program costs of less than 22%.

FY 2007: Met Maintain total administrative overhead costs in relation to total program costs of less than 22%.

FY 2006: Data Not Available Reduce the ratio of program direction/contractor management program funding to total program funding by 10% from the FY 2005 baseline ratio of 0.274.

Additional Information

Program Office: <http://www.ocrwm.doe.gov/>

FY 2009 Performance Measures

Office: Legacy Management

Program: Legacy Management

Secretarial Goal Supported: National Security

Maintain the protectiveness of installed environmental remedies

By 2015, demonstrate a reduction in risk at LM sites by employing sound project management, engineering and science-based solutions for long-term surveillance and

Measure: maintenance. The Target is 82 sites where site inspections or other actions will be performed in accordance with individual plans for all sites to ensure continued protectiveness.

2009 Results

Commentary: Exceeded Due to the continuing resolution, the target was held at 82 sites. However, circumstances allowed site inspections for an additional 3 sites. Supporting documentation is located in Legacy Management's Grand Junction Office.

Future Plans / Explanation of This measure will be continued in FY 2010.

Shortfalls:

Supporting Documentation: Supporting documentation is located in Legacy Management's Grand Junction Office.

Associated Performance in Prior Years

FY 2008:	Met	By 2015, demonstrate a reduction in risk at LM sites by employing sound project management, engineering and science-based solutions for long-term surveillance and maintenance. Establishment of this outcome measure centered on the mission of LTS&M activities to focus on maintaining protectiveness of human health and the environment, along with reducing the potential for future risks at LM sites. Measurement of this outcome measure is based on LM meeting permit requirements and not receiving any regulatory fines. The goal is to have zero infractions (LTS&M to remain 100% compliant through FY 2015).
FY 2007:	Met	Maintain the protectiveness of installed environmental remedies through inspections and other actions at 100% of sites within LM's responsibility (70 sites for FY 2007).
FY 2006:	Met	Conduct surveillance and maintenance activities at a cumulative total of 69 sites to ensure the effectiveness of cleanup remedies in accordance with legal agreements, or identify sites subject to additional remedial action in order to ensure effectiveness.

Additional Information

Program Office: <http://www.lm.doe.gov/>

FY 2009 Performance Measures

Office: Legacy Management

Program: Legacy Management

Secretarial Goal Supported: National Security

Surveillance and Maintenance Cost

Reduce the cost of performing long-term surveillance and monitoring activities at sites managed by the Department of Energy's Office of Legacy Management (LM) while

Measure: meeting all regulatory requirements to protect human health and the environment.

Reduction is measured in percent from the life-cycle baseline. Goal is a 20% reduction below the baseline for FY 2007-2011, increasing to a 10% reduction by 2015.

2009 Results

Commentary: Data Not Available The preliminary results indicate the target of 2% cost reduction was exceeded with savings of 3.8%

Future Plans / Explanation of Shortfalls: On track to achieve EOY target. Analyses correspondence with regulator and other activities have occurred which will enable the Office of Legacy Management to achieve this target by EOY.

Supporting Documentation: Supporting documentation is located in Legacy Management's Grand Junction Office.

Associated Performance in Prior Years

FY 2008: Met Reduce the cost of performing long-term surveillance and monitoring activities while meeting all regulatory requirements to protect human health and the environment. Reduction is measured in percent from the life-cycle baseline. Goal is a 2 percent reduction below the baseline for that year.

FY 2007: Met Reduce the cost of performing required long-term surveillance and maintenance activities by 2% while meeting all regulatory requirements. Base is previous year's costs less inflation rate, costs for additional sites, and one-time actions.

FY 2006: N/A

Additional Information

Program Office: <http://www.lm.doe.gov>

Recovery Act Metrics

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Biomass and Biorefinery Systems R&D

Program: **Modify Integrated Biorefinery Solicitation Program for Pilot and Demonstration Scale Biorefineries**

Outcome Expected by End of FY2010: Up to nineteen integrated biorefinery demonstration projects awarded that initiate and encourage commercialization of a 2nd generation biofuels industry leading to green jobs, energy independence and helping to mitigate climate change.

FY2009 Target: Merit review completed for proposed projects.

2009 Results

Commentary: Met Merit reviews were conducted between the first and third of September at the Golden Field Office, covering proposals in all topic areas (1-6).

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Supporting Documentation: FOA #: DE-FOA-0000096

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Biomass and Biorefinery Systems R&D

Program: **Commercial Scale Biorefinery Projects**

Outcome Expected by End of FY2010: Mitigate cost escalation barriers to two of the integrated biorefinery demonstration projects. The success of which will encourage commercialization of a 2nd generation biofuels industry leading to green jobs, energy independence and helping to mitigate climate change.

FY2009 Target: One Phase 2 award negotiated and contracted with increased funding ceilings as appropriate for existing efforts.

2009 Results

Commentary: Not Met
A draft Environmental Impact Statement (EIS) has been published and a public meeting is set for mid-October for one of the projects. Technology Investment Agreement (TIA) negotiations have been initiated. This meets the milestone that the National Environmental Policy Act (NEPA) review is completed sufficiently to have negotiated an award. However, the project has been delayed due to financing issues given current market conditions, and the Statements of Work and terms and conditions of a phase 2 award have been postponed until financing is available to meet cost share requirements.

The Program considers this milestone "partially met." It may be possible to make a conditional award without a Record of Decision (terminology for final EIS). Terms and conditions for the TIA need to be completed.

This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Future Plans / Explanation of Shortfalls: Additional avenues for funding Integrated Biorefinery projects with Recovery Act funds are being analyzed by the Biomass Program. An independent engineering review is scheduled for October in order to position one project for negotiations. Following the public meeting of the draft EIS, comments will be addressed and reconciled in preparation for DOE to make a Record of Decision in April/May 2010. Golden Field Office contracting officials have initiated the request for delegation authority to negotiate and sign a Technology Investment Agreement under Other Transactional authority granted to DOE by EPOA 2005.

Supporting Documentation: Two recipients have submitted a formal request to DOE to proceed with negotiations for an award under Other Transactions authority granted by EPOA 2005. These are business sensitive documents located at the Golden Field Office. A letter certifying their delivery and acceptance by DOE can be provided by a Golden Field Office management official.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Biomass and Biorefinery Systems R&D

Program: **Fundamental Research in Key Program Areas**

Outcome

Expected by End of FY2010: Demonstrate the feasibility of cost-competitive infrastructure compatible advanced biofuels

FY2009 Target: Funds obligated and awarded through advanced biofuels solicitation; statements of work and estimates for the Lawrence Berkeley National Lab (LBNL) and Great Lakes Bioenergy Research Center (GLBRC) finalized.

2009 Results

Commentary: Met Statements of work have been submitted for work at LBNL and GLBRC. GLBRC partners have received their funding and started their sustainability research. Funds have been obligated for the merit review process in line with the Q4 milestone of an open solicitation.

Future Plans / This measure was created to track initial progress for FY2009. The activities for this project continue in FY
Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: FOA #: DE-FOA-0000123

Office: Energy Efficiency and Renewable Energy
Biomass and Biorefinery Systems R&D

Program: **Investigation of intermediate ethanol blends, optimization of E-85 engines, and development of transportation infrastructure**

Outcome

Expected by End of FY2010: Collect sufficient data on the effects of intermediate ethanol blends on vehicles and engines to help EPA make a sound and defensible decision regarding use of these fuels in the market.

FY2009 Target: Competitive solicitation for outreach and refueling infrastructure issued to support refueling components (e.g., dispensers, underground storage tanks, piping) to increase use of renewable fuels in the marketplace.

2009 Results

Commentary: Met A competitive solicitation for outreach and refueling infrastructure was issued on 8/4/2009.

Future Plans / This measure was created to track initial progress for FY2009. The activities for this project continue in FY
Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: FOA #: DE-FOA-0000125

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Solar Energy

Program: **Concentrating Solar Power**

Outcome Expected by End of FY2010: Complete major upgrades to Concentrating Solar Power test facilities at the National Laboratories to ready facilities to support testing of advanced technologies.

FY2009 Target: Complete selection of facility upgrade projects and begin Solar Two decommissioning

2009 Results

Commentary: Not Met Upgrades to the National Solar Thermal Test Facility remain on track. Financial Assistance award was made to Southern California Edison for Solar Two Decommissioning.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Although Merit Review process was completed as scheduled, final selection for the competitive upgrade process has not yet been approved by DOE Executive Leadership at time of reporting.

Supporting Documentation: Signed awards to Sandia National Laboratory and Southern California Edison are on file.

Office: Energy Efficiency and Renewable Energy

Program: **PV Systems Development**
Solar Energy

Outcome Expected by End of FY2010: Complete Stage Gate review for incubator and supply projects to help domestic production capacity and enhance the manufacturing base; identify at least one innovative next-generation photovoltaics concept that could be transitioned to prototype cells and/or processes by 2015.

FY2009 Target: Complete selections of Supply Chain, Incubator/Pre-Incubator and national laboratory project awards

2009 Results

Commentary: Not Met Twenty-four new financial assistance awards were made for Supply Chain activities. Selections were completed for Pre-Incubators. Merit reviews have been completed for all other activities.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Although Merit Review process was completed as scheduled, final selection for the competitive projects had not yet been approved by DOE Executive Leadership at time of reporting.

Supporting Documentation: Signed awards to NREL and the twenty-four recipients of Supply Chain awards are on file.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Solar Energy

Program: **High-Penetration Solar Deployment**

Outcome Expected by End of FY2010: Enhance domestic manufacturing of advanced inverters/controllers with 3 or more companies into pilot production phase. Award and begin 5 to 10 projects to address market barriers inhibiting widespread solar adoption.

FY2009 Target: Complete selection of awards for all sub activities.

2009 Results

Commentary: Not Met Merit review was completed for all competitive opportunities. Solar Energy Grid Integration Systems (SEGIS) project selection was complete and subcontracts have been placed.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress. Announcement and selection delays have impacted schedule. Negotiation strategies for a number of selections will require substantial negotiation and may delay award dates. However, overall objectives remain on track.

Supporting Documentation: Signed award to Sandia for SEGIS is on file. Selection Statement for Solar Market Transformation FOA is on file.

Office: Energy Efficiency and Renewable Energy
Wind Energy

Program: **Wind Energy Technology R&D and Testing**

Outcome Expected by End of FY2010: 3.6 cents/kWh modeled cost of wind power in land-based Class 4 winds.

FY2009 Target: Award grants

2009 Results

Commentary: Not Met Selections have been made and announced, but the awards have not yet been made.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress. Awards are planned for mid-November.

Supporting Documentation: FOA (DE-PS36-09G099009). Procurement sensitive Chair Report on file in Wind and Hydropower Technology Program Program Manager's office. A letter certifying their delivery and acceptance by DOE can be provided by a management official.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: **Wind Turbine Drivetrain Testing Facility**
Wind Energy

Outcome Expected by End of FY2010: The Critical Design Review of a new dynamometer facility capable of testing wind turbine drivetrains of up to 15 MW is complete and construction is ready to commence.

FY2009 Target: FOA completed and selection committee chairman's report issued.

2009 Results

Commentary: Met FOA was released on 6/23/09.

Future Plans / Explanation of FY 2010 and will be monitored with a new performance metric to assess ongoing progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Complete selections and make awards.

Supporting Documentation: FOA (DE-FOA-0000112) Procurement sensitive Chair Report on file in Wind and Hydropower Technology Program Program Manager's office. A letter certifying their delivery and acceptance by DOE can be provided by a management official.

Office: Energy Efficiency and Renewable Energy

Program: **Large Wind Turbine Blade Testing Facility**
Wind Energy

Outcome Expected by End of FY2010: Complete subsurface construction of the facility.

FY2009 Target: Q4 2009 Award a grant/cooperative agreement to MA.

2009 Results

Commentary: Met Non-competitive financial assistance award made to Massachusetts.

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Groundbreaking is scheduled to happen before the end of CY09

Supporting Documentation: Funding letter dated 8/20/09 was sent from Golden authorizing funds to Massachusetts's blade test facility is on file.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy

Program: **Wind Energy Consortia between Institutions of Higher Learning and Industry**
Wind Energy

Outcome
Expected by End of FY2010: Establish two to three Wind University Consortiums and initiate turbine construction in at least one Consortium.

FY 2009 Target: Complete evaluation of Wind University Consortium grants applications.

2009 Results

Commentary: Met Completed evaluation of Wind University Consortium grants applications.

Future Plans / Explanation of FY 2010 and will be monitored with a new performance metric to assess ongoing progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Complete selections and make awards.

Supporting Documentation: FOA (DOE-FOA-0000090) Procurement sensitive Chair Report on file in Wind and Hydropower Technology Program Program Manager's office. A letter certifying their delivery and acceptance by DOE can be provided by a management official.

Office: Energy Efficiency and Renewable Energy
Geothermal Technology

Program: **Geothermal Demonstrations**

Outcome
Expected by End of FY2010: Demonstrate reservoir creation that achieves a flow rate of 17 kg/s.

FY 2009 Target: Select multiple projects at varied geographic and geologic locations.

2009 Results

Commentary: Met Multiple projects selected.

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: Office of Energy Efficiency and Renewable Energy press release on Geothermal Recovery Act Project Selections available at: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=259

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Geothermal Technology

Program: **EGS Technology R&D**

Outcome Expected by End of FY2010: Identify the most promising downhole tools that tolerate temperatures up to 300oC and depths up to 10,000 meters.

FY 2009 Target: Close FOA #09-GO99018 and conduct merit review and rank proposals; fund critical R&D through lab call.

2009 Results

Commentary: Met FOA #09-GO99018 closed 7/17/2009; merit review conducted August 2009. Lab call R&D funded September 2009.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: FOA#09-GO99018

Office: Energy Efficiency and Renewable Energy
Geothermal Technology

Program: **Validation of Innovative Exploration Technologies**

Outcome Expected by End of FY2010: Validation of one new, innovative exploration technology or method by utilizing it to locate a geothermal resource.

FY 2009 Target: Make selections and begin making awards on exploratory projects (20 to 40).

2009 Results

Commentary: Met Twenty-four projects selected; awards pending

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Award negotiations will begin in early FY2010. Finalization of awards in 2nd quarter FY2010.

Supporting Documentation: Office of Energy Efficiency and Renewable Energy press release on Geothermal Recovery Act Project Selections available at: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=259

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Geothermal Technology

Program: **National Geothermal Data System, Resource Assessment and Classification System**

Outcome Expected by End of FY2010: Complete National Geothermal Data System (NGDS) prototype. USGS publish revised Geothermal Resource Assessment Circular. Begin population of NGDS.

FY 2009 Target: National Geothermal Data System – Begin beta testing desktop software to access National Geothermal Data System.

2009 Results

Commentary: Not Met National Geothermal Data System initial design parameters developed, website for sharing project results developed and presentations made to key stakeholders.

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess continued progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess continued progress.

Shortfalls: Desktop software development underway

Supporting Documentation: Boise State University (Recipient) STATEMENT OF PROJECT OBJECTIVES

Office: Energy Efficiency and Renewable Energy
Geothermal Technology

Program: **Ground Source Heat Pumps**

Outcome Expected by End of FY2010: 5 to 10 commercial-scale GHP demonstration projects under contract, 5 to 10 data gathering phase complete for research studies, 1 national certification and accreditation program in place. These demonstration projects will retrofit/incorporate a minimum of 50 tons of heating and cooling capacity.

FY 2009 Target: Complete the Merit Review Committee process.

2009 Results

Commentary: Met Merit Review Committee process completed, thirty-seven projects selected.

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress. This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: Office of Energy Efficiency and Renewable Energy press release on Geothermal Recovery Act Project Selections available at: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=259

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Water Power

Program: **Hydroelectric Facility Modernization Program**

Outcome Expected by End of FY2010: Within two years, all demonstration projects will have successfully proceeded through required pre-operational licensing stages and modernization construction will be underway. Furthermore, 50 percent of them will have fully implemented modification upgrades and will be producing additional hydroelectricity and demonstrating advanced technologies.

FY 2009 Target: Release and review competitive solicitation and selection process for industry-led projects.

2009 Results

Commentary: Met FOA was released on 6/30/09. Evaluation and Selection plan also completed.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Plans: Complete selections and make awards.

Supporting Documentation: FOA (DE-FOA-0000120) Procurement sensitive Chair Report on file in Wind and Hydropower Technology Program Program Manager's office. A letter certifying their delivery and acceptance by DOE can be provided by a management official.

Office: Energy Efficiency and Renewable Energy
Vehicle Technologies

Program: **Lab Call for Facilities and Equipment**

Outcome Expected by End of FY2010: Bring 3-5 new R&D facilities and equipment online to support the Buildings, Vehicle Technologies and other programs.

FY 2009 Target: National Laboratory solicitation issued and initial awards related to new R&D facilities and equipment made.

2009 Results

Commentary: Not Met The merit review for the carbon fiber topic was completed on 9/14/09 and the buildings topic was completed on 9/24/09. The merit review for the buildings topic was completed on 10/8/09. It is expected that awards will be announced by 11/15/09.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: The delays in the End-of-Year Result were due to 1) the solicitation being open for an additional two weeks beyond the original plan and 2) it taking much longer than anticipated to identify and recruit highly qualified external reviewers. It is expected that this delay will not significantly affect the timing of this project.

Supporting Documentation: Office of Energy Efficiency and Renewable Energy Press Release on 11/18/2009 available at: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=270

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Vehicle Technologies

Program: **Battery Manufacturing**

Outcome Expected by End of FY2010: By September 30, 2010, the Electric Drive Vehicle Battery And Component Manufacturing facility projects have completed all design reviews and initiated construction activities for those for which DOE has completed NEPA review. Up to 35 contract awards are anticipated.

FY 2009 Target: By September 30, 2009, announce selections of awards for the “Electric Drive Vehicle Battery And Component Manufacturing” solicitation.

2009 Results

Commentary: Met Announcement of selections was completed on August 5, 2009. Two (2) awards have been negotiated and are in place.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Supporting Documentation: Award Letters on file and Press Release of August 5th, 2009 announcing selections available at: <http://www.energy.gov/news2009/7749.htm>

Office: Energy Efficiency and Renewable Energy
Vehicle Technologies

Program: **Transportation Electrification**

Outcome Expected by End of FY2010: Complete initial Advanced Electric Drive Technology deployments and infrastructure installations for 75 percent of awards.

FY 2009 Target: By September 30, 2009 grant selections are completed and negotiations for awards are underway.

2009 Results

Commentary: Met Announcement of selections was completed on August 5, 2009. Three (3) awards have been negotiated and are in place.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Supporting Documentation: Award Letters on file and Press Release of August 5th, 2009 announcing selections available at: <http://www.energy.gov/news2009/7749.htm>

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Vehicle Technologies

Program: **Clean Cities AFV Grant Program**

Outcome Expected by End of FY2010: Deploy 25 percent of light, medium and heavy duty alternative fuel and advanced technology vehicles (estimated at 7,000-10,000); 25 percent of infrastructure deployment initiated.

FY 2009 Target: Negotiate awards and plan for obligation of funds for grants for deployment of alternative fuel and advanced technology vehicles and infrastructure. Establish timelines for various projects.

2009 Results

Commentary: Met Selections completed August 24, 2009. Announcement completed August 27, 2009. Award negotiations are in process and ongoing.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Supporting Documentation: Press Release of August 26th, 2009 announcing selections available at:
<http://www.energy.gov/news2009/7843.htm>

Office: Energy Efficiency and Renewable Energy
Vehicle Technologies

Program: **Commercial Vehicle Integration (SuperTruck) and Advanced Combustion Engine R&D**

Outcome Expected by End of FY2010: Awardees have completed initial truck design to increase freight efficiency by 50 percent and have validated the design with modeling. Complete engine designs to meet fuel economy goals for light-duty vehicles.

FY 2009 Target: By August 1, 2009, complete DNFA for Automotive X Prize.
By September 30, 2009, close solicitation for passenger and commercial vehicle efficiency improvement.

2009 Results

Commentary: Met Solicitation closed on 9/09/09. Automotive X-Prize DNFA signed on 9/30/09.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Supporting Documentation: FOA # DE-FOA-0000079 and the signed DNFA Memorandum are on file.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Building Technologies

Program: **Advanced Building Systems**

Outcome Expected by End of FY2010: Complete three R&D projects on multiple building components, controls and systems that have the potential for a 70 percent energy reduction in new and existing buildings.

FY 2009 Target: Release and close of FOA and lab call, subsequent review and selection of projects.

2009 Results

Commentary: Met FOA closed on 8/18/2009. Lab Call issued on 10/6/2009.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Reviews and selections from FOA proceeding on schedule. Reviewer selection has delayed the Lab Call.

Supporting Documentation: FOA #: DE-FOA-0000115
Lab Call issuance on file at National Energy Technology Laboratory Project Management Center.

Office: Energy Efficiency and Renewable Energy
Building Technologies

Program: **Residential Buildings (Building America, Builders' Challenge, and Existing Home Retrofits)**

Outcome Expected by End of FY2010: Community Retrofits: Complete 15 energy efficient Municipal and Subdivision retrofit projects and 6 Deep Energy Savings retrofit projects.
• Technical Support: Complete 10 reports documenting research and support. Complete 10 trainings, develop 1 train-the-trainer course, and revise 1 home energy retrofit standard
• Builders Challenge: Achieve an additional 1.5 percent market share by September 2010 by working with 750 builder partners who build homes 30 percent more energy efficient than code.
• (Baseline 0.5 percent)
• Outreach: Launch targeted consumer education and outreach campaign.

FY 2009 Target: FOA Posted and Closed and Preliminary Review Complete.

2009 Results

Commentary: Not Met The FOA closed: Area of Interest (AoI) 1 on 8/27/09 and AoI 2 on 9/30/09. The preliminary review was completed for AoI 1.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: The FOA is currently on hold.

Supporting Documentation: Letters sent to the non-responsive applicants for Area of Interest 1 are on file, documenting completion of the preliminary review.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Building Technologies

Program: **National Accounts Acceleration in Support of the Commercial Buildings Initiative**

Outcome Expected by End of FY2010: Partner with National Accounts to complete case studies for 20 projects to improve the energy efficiency of commercial buildings.

FY 2009 Target: Expand program to five national laboratories and announce competitive solicitations through the national laboratories for National Accounts' design team partners.

2009 Results

Commentary: Not Met Solicitations have not been completed.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Solicitations are in the process of being completed.

Supporting Documentation: N/A

Office: Energy Efficiency and Renewable Energy
Building Technologies

Program: **Buildings and Appliance Market Transformation -Commercial Building Training**

Outcome Expected by End of FY2010:

- ENERGY STAR: Develop standards for new product classes such as renewable energy and smart appliances. Develop additional tiers for the most energy-efficient products
- Appliance Standards: Accelerate the development of four appliance test procedures, begin work on six additional procedures to be completed in FY 2011; establish a rigorous verification program
- Building Energy Codes: Deploy code compliance tools and products for use at the state and local level
- Commercial Building Specialist Training: Complete DOE curricula and certification procedures for building systems and equipment specialists and make available as train the trainer sessions through partnerships with education institutions nationwide.

FY 2009 Target: Commercial Building training FOA Posted
Commercial Building training Technical Review Complete

2009 Results

Commentary: Met FOA closed on 9/1/09, initial review has been completed, and the merit review package was sent to reviewers 9/25/09.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: No shortfalls.

Supporting Documentation: FOA #: DE-FOA-0000118

FY 2009 Performance Measures

Office:	Energy Efficiency and Renewable Energy Building Technologies
Program:	Solid State Lighting
Outcome Expected by End of FY2010:	Increase the efficacy of state-of-the-art SSL to 113 lm/W of white light from a laboratory LED module by FY10.
FY 2009 Target:	Complete release of all FOAs
<u>2009 Results</u>	
Commentary:	Met FOA closed 9/1/09, initial reviews have been completed, and the merit review package was sent to reviewers 9/25/09.
Future Plans / Explanation of	This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
Shortfalls:	No shortfalls.
Supporting Documentation:	FOA #: DE-FOA-0000118

Office:	Energy Efficiency and Renewable Energy Industrial Technologies
Program:	Combined Heat and Power (CHP), District Energy Systems, Waste Heat Recovery Implementation and Deployment of Efficient Industrial Equipment
Outcome Expected by End of FY2010:	Full-scale verification will be accomplished for 20 percent of the projects. Systems will be started and initial data taken to ensure all processes are operational for 40 percent of the projects.
FY 2009 Target:	Issue Funding Opportunity Announcement (FOA), review proposals, select meritorious projects, and initiate awards.
<u>2009 Results</u>	
Commentary:	Met FOA was issued, proposals have been reviewed and projects have been selected,
Future Plans / Explanation of	This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
Shortfalls:	
Supporting Documentation:	FOA #: DE-FOA-0000044.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Industrial Technologies

Program: **Improved Energy Efficiency for Information and Communication Technology**

Outcome Expected by End of FY2010: Complete 20 percent of the Concept Definition studies and 20 percent of the installation of initial demonstration projects to accelerate energy efficiency technology improvement.

FY 2009 Target: Complete review of applications.

2009 Results

Commentary: Met Application reviews were completed on 9/14/09 and the Chairperson Report was submitted to the Source Selection official on 9/25/09.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: Procurement sensitive Chair report on file. A letter certifying their delivery and acceptance by DOE can be provided by a management official.

Office: Energy Efficiency and Renewable Energy
Industrial Technologies

Program: **Industrial Assessment Centers and Plant Best Practices**

Outcome Expected by End of FY2010: Full implementation of enhanced Industrial Assessment Centers (IAC) and Best Practices (Save Energy Now) activities supported by Recovery Act funds resulting in energy efficiency projects that are expected to lead to energy and carbon savings in U.S. industry.

FY 2009 Target: Approve all new work plans for state and regional partnerships utilizing Recovery Act funds. Obligate funds for the state and regional partnerships.

2009 Results

Commentary: Not Met All work plans were approved and ready for finalization, although funds have not been obligated pending DOE Senior Management approval.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: It is anticipated that approval will occur within 30 days of original target and performance will not be substantially impacted.

Supporting Documentation: Selection Statement for the 11 state awards and the DNFA memorandum are on file.

FY 2009 Performance Measures

Office:	Energy Efficiency and Renewable Energy Industrial Technologies
Program:	Advanced Materials RD&D in Support of EERE Needs to Advance Clean Energy Technologies & Energy-Intensive Process R&D
Outcome Expected by End of FY2010:	Research, develop and deploy projects that could result in a decrease in industrial energy intensity and carbon emissions and increase jobs by the accelerated implementation of eight advanced materials and process technologies in the manufacturing sector. Develop processes for manufacturing of nanocomposite materials and accelerate implementation of advanced materials and processes in the manufacturing sector.
FY 2009 Target:	Award 90 percent of nanomanufacturing and Energy-Intensive Process R&D projects. Advanced Materials' equipment needs established and orders placed. Award four research, development and deployment grants. Subcontracts, RFP's, and equipment orders are in place.
<u>2009 Results</u>	
Commentary:	Met Awarded 90 percent of nanomanufacturing and Energy-Intensive Process R&D projects. Advanced Materials: All equipment needs were identified and orders are in place. Grants and subcontracts have been awarded and RFPs are currently open.
Future Plans / Explanation of Shortfalls:	This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
Supporting Documentation:	Advanced Materials: Supporting documents include; 3 RFP's listed with Federal Business Opportunities (FedBizOpps.gov) and purchase orders and requisitions are on file. Award Letters for Project Awarded as of 9/30/09 are also on file.

Office:	Energy Efficiency and Renewable Energy Federal Energy Management Program
Program:	Enhance and Accelerate FEMP Service Functions to the Federal Government
Outcome Expected by End of FY2010:	Complete 60 technical assistance projects at Federal agencies which could lead to savings of 1.6 trillion annual BTUs. Technical assistance may include technical and business assistance for energy efficiency, renewable energy, water, and green building projects, and other compliance audits.
FY 2009 Target:	Complete selection of 45 technical assistance projects for Federal agencies. Complete associated NEPA reviews.
<u>2009 Results</u>	
Commentary:	Met As of 7/31/09, selection of all projects was complete with a total of 104 projects. Categorical exclusion of NEPA review.
Future Plans / Explanation of Shortfalls:	This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
Supporting Documentation:	Copies of letters sent to Federal agencies notifying them that DOE EERE would be providing technical assistance through this project are on file. No NEPA documentation is required as FEMP will only be providing technical assistance which does not require a NEPA review.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Federal Energy Management Program

Program: **Energy, Water & Emissions Reporting and Tracking System**

Outcome Expected by End of FY2010: Develop comprehensive GHG planning tools and resources to support Federal agencies as they focus attention on mitigating climate change consequences from energy use. Provide training to 15 agencies on GHG reduction strategies and technical assistance to at least two Federal campuses. Deploy a publicly-accessible information resource and agency planning tool that illustrates progress toward Agency goals in the areas of energy and water conservation, renewable power generation, and others.

FY 2009 Target: Launch the FEMP GHG website, and develop a web-based sustainability assessment tool. Deploy Beta test version of project tracking tool for agency use in complying with EISA sect. 432.

2009 Results

Commentary: Met The website was successfully launched and FEMP developed a web-based sustainability assessment tool. A beta test version of project data platform was not deployed since obligations were delayed from June 2009 until September 2009.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: The website and assessment tool have been launched

Supporting Link: Link to the GHG site.

Documentation: <http://www1.eere.energy.gov/femp/program/greenhousegases.html>

Office: Energy Efficiency and Renewable Energy
Facilities and Infrastructure

Program: **Integrated Biorefinery Research Expansion**

Outcome Expected by End of FY2010: IBRF II construction complete and R&D capability operational and contributing to DOE Biomass Program goals.

FY 2009 Target: Modify subcontract, complete design, procure long lead equipment, and approve baseline

2009 Results

Commentary: Not Met Subcontract in negotiation, preliminary design underway, long lead time equipment identified and in design.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess continued progress.

Shortfalls: Project proceeding normally against established acquisition plan. Baseline review and approval scheduled for November 2009. No extraordinary action required.

Supporting Documentation: M&O Contract Modification and Guidance Letter. Approved Project Execution Plan.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Facilities and Infrastructure

Program: **Renewable Energy and Supporting Site Infrastructure**

Outcome Expected by End of FY2010: F2(a): Photovoltaic power production systems installed and commissioned; STM site security system installed and operational; complete enhanced ADA access and parking and pedestrian circulation projects.
F2(b): RSF II construction complete and building fully occupied.

FY 2009 Target: F2(a): Complete design of photovoltaic power production systems; design STM site security system; and design enhanced ADA access and parking and pedestrian circulation projects.

F2(b): Modify subcontract and complete design.

2009 Results

Commentary: Not Met F2(a): Project execution plans developed and approved. Solicitations prepared and pending release.
F2(b): Subcontract in negotiation, preliminary design underway, long lead time equipment identified.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
F2(a): Project proceeding normally against established Project Execution Plans. No extraordinary action required.
F2(b): Project proceeding against established Project Execution Plan. Baseline review and approval scheduled for November 2009. No extraordinary action required.

Supporting Documentation: F2(a): M&O Contract Modification and Guidance Letter. Approved Project Execution Plan.
F2(b): M&O Contract Modification and Guidance Letter. Approved Project Execution Plan.

Office: Energy Efficiency and Renewable Energy
Facilities and Infrastructure

Program: **NWTC Upgrades**

Outcome Expected by End of FY2010: Complete electrical distribution system upgrade. Complete design of dynamometer upgrades and begin to procure upgrade equipment.

FY 2009 Target: Initiate acquisition strategy. Award design contracts for electrical system upgrade and dynamometer upgrades.

2009 Results

Commentary: Not Met Project Execution Plan in development. Solicitations in preparation.

Future Plans / Explanation of Shortfalls: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.
Shortfalls: Project Execution Plan completed and solicitation issues in 1st Qtr FY 2010.

Supporting Documentation: M&O Contract Modification and Guidance Letter on file.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Energy Efficient Appliance Rebate Program

Program: **Appliance Rebate Programs**

Outcome Expected by End of FY2010: All funds are obligated to states and territories opting to participate and program results are tracked by total number of ENERGY STAR appliances sold as a percentage of total number of rebates issued.

FY 2009 Target: Issue Funding Opportunity Announcement (FOA), receive Notices of Intent (NOI) from all states and territories, review submitted applications, and obligate 10 percent of funds to states and territories requesting funds.

2009 Results

Commentary: Met
FOA Issued 7/13/09.
100% of applicants submitted 424s (Notice of Intent Applications) on 8/15/09.
Reviews completed on notice of intent applications; 10% of the award allocation was procured on 9/15/09.

Future Plans / This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: FOA; Award Letters; Congressional Notification (Sent 9/15/2009) is on file.

Office: Energy Efficiency and Renewable Energy
Weatherization and Intergovernmental

Program: **Energy Efficiency and Conservation Block Grants**

Outcome Expected by End of FY2010: Obligate all Energy Efficiency and Conservation Block Grants funds to states, local governments, and Indian tribes. Complete application review and calculate program outcomes based on aggregated projected savings from grantee applications. Release Funding Opportunity Announcements, and obligate approximately 5 percent of funds to states, local governments and Indian Tribes.

FY 2009 Target: Release Funding Opportunity Announcements, and obligate approximately 5 percent of funds to states, local governments and Indian Tribes.

2009 Results

Commentary: Met
Fifty-one percent of funds have been obligated.

Future Plans / This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: A letter certifying funds have been obligated can be provided by a management official.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Weatherization and Intergovernmental

Program: **Weatherization Assistance Program**

Outcome

Expected by End of FY2010: Weatherize a minimum of 210,000 low-income homes by 9/30/2010.

FY 2009 Target: Weatherize a minimum of 12,500 low-income homes and up to 45,000 homes.

2009 Results

Commentary: Not Met 7,341 homes were weatherized in FY2009 through the Recovery Act Weatherization Assistance Program.

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess continued progress.

Shortfalls:

Supporting Data is verifiable through Office of Weatherization and Intergovernmental Program's (OWIP) Tracking Documentation: Systems. See the OWIP Monitoring Plan for details on how data is collected and verified.

Office: Energy Efficiency and Renewable Energy
Weatherization and Intergovernmental

Program: **State Energy Program**

Outcome Award Recovery Act funds and track progress of state and territory use of State Energy Program Recovery

Expected by End of FY2010: Act funds resulting in energy efficiency projects that are expected to lead to energy savings, and greenhouse gas reductions.

FY 2009 Target: Review all state plans submitted prior to July 1, 2009 and obligate twenty percent of allocated funds contingent upon the states' cooperation in resolving issues, including NEPA, raised during plan review.

2009 Results

Commentary: Met All plans have been reviewed and 100 percent of funds have been obligated

Future Plans / Explanation of 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls:

Supporting Documentation: A letter certifying funds have been obligated can be provided by a management official.

FY 2009 Performance Measures

Office: Energy Efficiency and Renewable Energy
Weatherization and Intergovernmental

Program: **Community Renewable Energy Deployment**

Outcome Expected by End of FY2010: Create up to 500 new jobs, achieve up to 60 million kWh annually in electricity generation from renewable energy sources, and reduce greenhouse gas emissions by 50,000 tons annually.

FY 2009 Target: Funding Opportunity Announcement issued and proposals in review for selection

2009 Results

Commentary: Met FOA released in July and proposals are in review for selection.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess continued progress.

Shortfalls:

Supporting Documentation: FOA #: DE-FOA-0000122 and the Merit Review Committee Appointment letter are on file.

Office: Energy Efficiency and Renewable Energy
Weatherization and Intergovernmental

Program: **Enabling Fuel Cell Market Transformation**

Outcome Expected by End of FY2010: Deliver 200 to 400 fuel cells in fork-lift fleets, telecommunication backup power applications, and combined heat and power fuel cell systems by September 30, 2010.

FY 2009 Target: Negotiate grants for new project partners and award at least 80% of grants.

2009 Results

Commentary: Met Grants awarded for 11 of the 13 selected projects. Two of the grants awarded conditionally. Negotiations are continuing on these two awards.

Future Plans / Explanation of 2010: This measure was created to track initial progress for FY2009. The activities for this project continue in FY 2010 and will be monitored with a new performance metric to assess ongoing progress.

Shortfalls: Future Plans are to obligate remaining funds in FY2010.

Supporting Documentation: Awards letters on file.

FY 2009 Performance Measures

Office: Environmental Management

Project: **Argonne National Laboratory (ANL)**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, cubic meters of RH TRU dispositioned.
of FY10:

FY09 Target: Initiate and complete baselining activities for projects and establish milestones for treatment of specific wastes/volumes

2009 Results

Commentary: Not Met Procurements were initiated but baseline approval of some scope/metrics was deferred until early FY10 to allow for competitive procurement. Other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Brookhaven National Laboratory**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, square footage of facilities deinventoried.
of FY10:

FY09 Target: During FY09, it is anticipated that the following events will occur: start removal of the A/B Waste Lines and FHWMF Soils, complete the removal of 840yds 3 of the FHWMF Soils, and complete the Graphite Pile Removal Preparation.

2009 Results

Commentary: Met All milestones met.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Hanford Central Plateau D&D**

Outcome
Expected by End of FY10: Complete demolition of 14 industrial facilities

FY09 Target: Initiate procurement activities to D&D Central Plateau facilities necessary to complete disposition of 3 facilities by end of first year period.

2009 Results

Commentary: Not Met Most of the milestones were met. One, in particular, was not met (only 2 of 3 facilities completed). Other work (D&D of 15 tanks) was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Hanford Central Plateau Soil and Groundwater**

Outcome
Expected by End of FY10: Install 184 groundwater wells or boreholes.

FY09 Target: Initiate procurement activities to Groundwater Remediation.

2009 Results

Commentary: Not Met Most of the milestones were met but one in particular was not. Other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Hanford River Corridor D&D**

Outcome Expected by End of FY10: Complete all environmental remediation activities at 23 release sites

FY09 Target: Baselined targets not approved until early FY10

2009 Results

Commentary: Not Met Nearly all of the milestones were met. The contract definitization milestone was partially met. Other work not part of the PMM milestone was completed ahead of schedule.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Hanford River Corridor Soil and Groundwater**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed.

FY09 Target: Initiate procurement activities for River Corridor Soil and Groundwater.

2009 Results

Commentary: Exceeded All milestones were met. Additional work not included in the PMM milestone was completed ahead of schedule.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Hanford TRU Waste**

Outcome Expected by End of FY10: Disposition 643 cubic meters of Contact-Handled Transuranic (CH TRU) waste

FY09 Target: Retrieve 250m3 of CH TRU waste.

2009 Results

Commentary: Exceeded All milestones were met or exceeded.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY

Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)

Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **INL Buried Waste**

Outcome Expected by End of FY10: Exhume 0 acres of buried waste

FY09 Target: Complete exhumation of 0.05 acres or targeted waste.

2009 Results

Commentary: Not Met Milestone was achieved after September 30, 2009.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY

Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)

Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **INL Deactivation and Decommissioning (D&D)**

Outcome
Expected by End of FY10: Complete demolition of 12 industrial facilities

FY09 Target: Reduce the EM building footprint by eliminating 8,855 sq. ft. of facilities.

2009 Results

Commentary: Met Some of the milestones were met. Some specific buildings were not demolished but other building D&D was completed ahead of schedule in lieu of the PMM milestone buildings.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **INL TRU Waste**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End of FY10: for the FY 2010 target, cubic meters of RH TRU dispositioned.

FY09 Target: Ship offsite 400m³ of CH-MLLW

2009 Results

Commentary: Exceeded All milestones were met or exceeded. Other work was completed ahead of schedule.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **LANL Defense D&D**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, number of radioactive facilities demolished.
of FY10:

FY09 Target: Remove hazardous waste from TA-21-210

2009 Results

Commentary: Not Met Not met due to delay in approval and authorization for contractor to proceed.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **LANL Defense Soil and Groundwater Recovery Act Project**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, number of groundwater wells installed.
of FY10:

FY09 Target: Completion of all engineering design, long lead time procurement items, and mobilization.

2009 Results

Commentary: Not Met Not met due to delay in approval and authorization for contractor to proceed.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **LANL Non-Defense**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, number of radioactive facilities demolished.
of FY10:

FY09 Target: Complete removal of hazardous waste & equipment in TSTA.

2009 Results

Commentary: Not Met Not met due to delay in approval and authorization for contractor to proceed.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Moab, Utah**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, tons of uranium mill tailings disposed.
of FY10:

FY09 Target: Dispose of an additional (over base program) 97,000 tons of tailings

2009 Results

Commentary: Exceeded Disposed of an additional (over base program) 99,174 tons of tailings

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Mound Operable Unit 1**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed. of FY10:

FY09 Target: Complete the planning and mobilization effort for the cleanup of OU-1.

2009 Results

Commentary: Met Planning effort completed, mobilization completed in early FY10 due to delay in project start, and project put back on track to complete early.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Nevada Test Site (NTS)**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed. of FY10:

FY09 Target: Complete initial funds distribution. Complete drilling of first accelerated groundwater well.

2009 Results

Commentary: Exceeded All of the milestones were met. Other work was completed ahead of schedule.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Oak Ridge Defense ORNL D&D**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, square footage of facilities demolished.

FY09 Target: Baseline targets not approved until early FY10

2009 Results

Commentary: Not Met Some delays in procurement. However, other work was completed that had not been established as a milestone/target.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Oak Ridge Defense TRU Waste**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, cubic meters of CH TRU dispositioned.

FY09 Target: Hire and train a second shift of Transuranic Waste Processing shift operators.

2009 Results

Commentary: Met Milestone/target met.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Oak Ridge Defense Y-12 Decontamination & Demolition (D&D)**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, square footage of facilities demolished.
of FY10:

By the end of FY 2009 initiate procurement actions and/or mobilize work force to:

- Remove and dispose legacy materials.
- Decrease footprint.
- FY09 Target: •Remove and dispose scrap.
- Expand the sanitary landfill Expand EMWMF disposal facility.
- Remediate the Y-12 storm sewers in the West End Mercury Area.

2009 Results

Commentary: Met Major milestones were met; some were not met due to unforeseen issues. Other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Oak Ridge Non-Defense**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, square footage of facilities demolished.

FY09 Target: By the end of FY 2009 initiate procurement actions and/or mobilize work force to execute the work scope of this Recovery Act Project.

2009 Results

Commentary: Not Met Some of the milestones were met. Some were not met due to unforeseen issues. Other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Oak Ridge UE Decontamination and Decommissioning (D&D)**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, square footage of facilities deinventoried.

FY09 Target: By the end of FY 2009 Initiate procurement actions and/or mobilize work force As the project baseline is developed, earned value management measures will be developed to monitor progress

2009 Results

Commentary: Not Met The FY 2009 3rd Quarter milestones were met but the project requires an adjustment and further definitization of scope.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Office of River Protection (ORP)**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, percentage of project completion achieved.
of FY10:

FY09 Target: Project planning on Recovery Act projects; Recovery Act resource mobilization; initiate project design work; initiate procurement activities for tank/ tank farm equipment upgrades.

2009 Results

Commentary: Exceeded All milestones were met. Other work was completed ahead of schedule.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Paducah Project**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed.
of FY10:

FY09 Target: C-340 Complex and C-746-A East End Smelter: NEPA CX Approval.

2009 Results

Commentary: Met Major milestones were met. Other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Portsmouth Project**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, square footage of facilities demolished.
of FY10:

FY09 Target: Repackage/Disposition 1 lot of excess uranium materials.

2009 Results

Commentary: Exceeded All milestones were met. Other work was completed ahead of schedule.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **SPRU Project**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed.
of FY10:

FY09 Target: Issue requisite task order modifications and updates to CERCLA documentation to enable North Field and Building D&D to proceed in FY 2010.

2009 Results

Commentary: Met Nearly all milestones were met though some, specifically the revised SPRU Action Memorandum, were delayed. However, other work was completed ahead of schedule in lieu of the PMM milestone.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Savannah River Site D&D M & D Areas**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, square footage of facilities demolished.
of FY10:

FY09 Target: Initiate procurement activities to remediate M area soils.

2009 Results

Commentary: Not Met The site experienced project documentation issues and changed leadership/management during the fourth quarter FY 2009. While many of the targets and milestones were achieved, finalizing baseline and metrics information in the database was delayed into FY10.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Savannah River Site D&D P & R Areas**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure
Expected by End for the FY 2010 target, square footage of facilities demolished.
of FY10:

FY09 Target: Initiate procurement activities to D&D P reactor facilities.

2009 Results

Commentary: Not Met The site experienced project documentation issues and changed leadership/management during the fourth quarter FY 2009. While many of the targets and milestones were achieved, finalizing baseline and metrics information in the database was delayed into FY10..

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project
Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY
Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Savannah River Site D&D, Soil & Groundwater Activities Site-Wide**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, number of release sites fully remediated.

FY09 Target: Demolish 293-F Stack and Initiate the D&D-BIO and deactivation plan that will support the elimination of more than 90 percent of the plutonium-238 source from 235-F.

2009 Results

Commentary: Not Met The site experienced project documentation issues and changed leadership/management during the fourth quarter FY 2009. While many of the targets and milestones were achieved, finalizing baseline and metrics information in the database was delayed into FY10..

Future Plans / Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Savannah River Site TRU & Solid Waste**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, cubic meters of CH TRU dispositioned.

FY09 Target: Complete retrievable legacy Contact Handled (CH)-TRU drum program by dispositioning 2,200 TRU waste drums.

2009 Results

Commentary: Not Met The site experienced project documentation issues and changed leadership/management during the fourth quarter FY 2009. While many of the targets and milestones were achieved, finalizing baseline and metrics information in the database was delayed into FY10.

Future Plans / Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **Stanford Linear Accelerator Center (SLAC)**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed.

FY09 Target: In the first year the following Recovery Act work scope will be accomplished: Commence West SLAC Operable Unit Remedial Investigation Field Work, commence removal actions.

2009 Results

Commentary: Exceeded All milestones were met. Other work was completed ahead of schedule.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Title X Uranium/Thorium Reimbursement Program**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, percentage of project completion achieved.

FY09 Target: Make the annual payment to licensees in the third quarter (FY 2009 payments to total \$31.87 M)

2009 Results

Commentary: Met The target/milestone was met

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **West Valley Project**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, cubic meters of D&D debris and remediated soil disposed. of FY10:

FY09 Target: Process Approx. 1200 m3 of Waste and Approx. 18,000 gallons of Main Plant Liquids

2009 Results

Commentary: Exceeded All milestones were met. Other work was completed ahead of schedule.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

Office: Environmental Management

Project: **Energy Technology Engineering Center**

Outcome The milestones established as the FY 2009 targets are being replaced with an actual performance measure Expected by End for the FY 2010 target, cubic meters of MLLW and LLW disposed. of FY10:

FY09 Target: Rad Survey plans and contracting confirmed. Final RFI begun for Groups 1A and 10.

2009 Results

Commentary: Not Met Some of the milestones were met. Some were not met due to delays in EPA execution of the contract.

Future Plans / This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project Explanation of Scope Change (PSC) was submitted in December 2009 to change the PMM measure for FY 2010 and FY Shortfalls: 2011 in order to provide an actual performance measure.

Supporting The EM Integrated Planning, Accountability, and Budgeting System (IPABS)
Documentation: Monthly Senior Management Program Reviews

FY 2009 Performance Measures

Office: Environmental Management

Project: **WIPP Recovery Act Project**

Outcome Expected by End of FY10: The milestones established as the FY 2009 targets are being replaced with an actual performance measure for the FY 2010 target, cubic meters of CH TRU certified for final disposition at WIPP.

FY09 Target: Established in early FY 2010

2009 Results

Commentary: Exceeded The Carlsbad Field Office did not establish targets or milestones in the Project Operating Plan (POP). A significant amount of work was completed but they cannot be compared to established targets.

Future Plans / Explanation of Scope Change (PSC): This PMM measure is really a set of milestones from the ARRA Project Operating Plan (POP). A Project was submitted in December 2009 to change the PMM measure for FY 2010 and FY 2011 in order to provide an actual performance measure.

Supporting Documentation: The EM Integrated Planning, Accountability, and Budgeting System (IPABS) Monthly Senior Management Program Reviews

Office: Electricity Delivery and Energy Reliability

Program: **Workforce Training for the Electric Power Sector**

Outcome Expected by End of FY2010: \$100 million will support the training of a workforce to support a national, clean-energy smart grid. The focus will be to train workers such as linemen, installers and other trades and technicians in the electric power industry and develop energy curricula at the community college level. The initiative will also provide additional resources to support existing workforce development organizations.

FY 2009 Target: Create and finalize strategy for project and develop and post Federal Opportunity Announcement (FOA). Receive applications.

2009 Results

Commentary: Not Met OE developed a project strategy and drafted a FOA.

Future Plans / Explanation of Shortfalls: The FOA was delayed during the review and concurrence process and was not posted in 4th quarter 2009. Thus the application deadline was shifted to the 1st quarter of 2010. During the 1st quarter of 2010 OE will accelerate the schedule. The FOA will be posted, applications will be received and the review process will be completed. Selections and awards will be made in the 2nd quarter and 100% of funds will be obligated by the end of the 4th quarter.

Supporting Documentation: FOA, Richland Site Office Reports, and National Energy Technology Laboratory (NETL) reports, including selection lists, award lists, and grantee progress reports.

FY 2009 Performance Measures

	Office: Electricity Delivery and Energy Reliability
	Program: Enhancing State and Local Government Energy Assurance
Outcome Expected by End of FY2010:	The program will support a one-time effort to establish the framework and set the momentum for States and local governments to have well-developed energy assurance and resiliency plans they can rely on during emergencies. Funds will be used to create in-house expertise at the State and local level on Smart Grid applications and vulnerabilities, critical infrastructure interdependencies, cyber security, energy infrastructure and supply systems, energy data analysis, and communications. Funding will be provided to State and local governments and to national associations that represent State and local governments.
FY 2009 Target:	Post Federal Opportunity Announcements (FOAs) for State formula grants and City competitive grants. Review State applications and select state awardees.
	<u>2009 Results</u>
Commentary:	Met OE developed and posted the State FOA on June 15, 2009 and the City FOA on July 13th. All State applications have been reviewed and State awardees have been selected.
Future Plans / Explanation of Shortfalls:	City applications will be received and reviewed, and selections and awards will be made in the 1st quarter. 100% of the funds will be obligated by the end of the 4th quarter.
Supporting Documentation:	FOAs, National Energy Technology Laboratory (NETL) reports, including selection lists, award lists, and grantee progress reports.

	Office: Electricity Delivery and Energy Reliability
	Program: Interoperability Standards and Framework
Outcome Expected by End of FY2010:	The \$10 million in funding for this work will support the development and implementation of interoperable standards and framework to ensure effective and consistent application of Smart Grid technologies throughout their development and implementation. The Recovery Act directs this funding to implement Energy Independence Security Act (EISA) section 1305, which designates the National Institute of Standards and Technology (NIST) with primary responsibility to coordinate the interoperability standards and framework development.
FY 2009 Target:	Sign Interagency Agreement with NIST; create a standards roadmap to list relevant standards, prioritize gaps, and identify new work; and engage relevant stakeholders through workshops and by identifying a standards panel.
	<u>2009 Results</u>
Commentary:	Met OE signed an interagency agreement with NIST on April 15, 2009, and has announced a final roadmap as well as the members of the Standard panel.
Future Plans / Explanation of Shortfalls:	The Standards panel will define a roadmap for their work in the 1st quarter and will deliver regular reports on their progress throughout the year.
Supporting Documentation:	Signed and dated interagency agreement; press releases; NIST reports and documentation including meeting minutes and workshop reports documenting progress; roadmap.

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability

Program: **Interconnection Transmission Planning and Analysis**

The Recovery Act directs \$80 million to conduct a resource assessment (of renewable energy zones, supplies of renewable energy, and transmission capacity and analysis of future demand and transmission requirements. The objective is to facilitate the development or strengthening of capabilities in each of the

Expected by End of FY2010: three interconnections serving the lower 48 states of the United States, to prepare analyses of transmission requirements under a broad range of alternative futures and develop long-term interconnection-wide transmission expansion plans. The interconnections are the Western Interconnection, the Eastern Interconnection, and the Texas Interconnection.

FY 2009 Target: Develop and post Federal Opportunity Announcement (FOA), respond to questions, start grant proposal reviews.

2009 Results

Commentary: Met OE developed and posted the FOA on July 15th, 2009. Applications were received and the review process started.

Future Plans / Explanation of Shortfalls: In 2010 OE will complete the review process, announce final selections, and make awards by the end of the 2nd quarter. 100% of funds will be obligated by the end of the 4th quarter.

Supporting Documentation: FOA, National Energy Technology Laboratory (NETL) reports, including selection lists, award lists, and grantee progress reports.

Office: Electricity Delivery and Energy Reliability

Program: **Smart Grid Investment Grant Program (EISA 1306)**

Expected by End of FY2010: Outcome \$3.4 billion is currently targeted for a competitive, merit-based matching grant program to stimulate investments by electric utilities and other entities for the deployment of Smart Grid technology.

FY 2009 Target: Develop and post draft Notice of Intent (NOI) and final Federal Opportunity Announcement (FOA); receive initial round of grant applications; and complete first round of reviews and selections.

2009 Results

Commentary: Met OE developed an NOI, received and incorporated comments and posted the FOA on June 25th, 2009. The application period closed at the beginning of August. Nearly 500 applications were reviewed. From those preliminary selections were made.

Future Plans / Explanation of Shortfalls: In Fiscal Year (FY) 2010 OE will announce final selections, start negotiations, and begin to make awards by the end of the 1st quarter. 90% of awards will be completed and 50% of the funds will be obligated by the end of the 2nd quarter. All funds will be obligated by the end of the 4th quarter.

Supporting Documentation: Draft NOI, final FOA, grant applications received, grant review documentation, selection lists, award lists, and grantee progress reports.

FY 2009 Performance Measures

Office: Electricity Delivery and Energy Reliability	
Program: Smart Grid Regional and Energy Storage Demonstration Project (EISA 1304)	
\$700 million is currently targeted to fund competitively awarded financial assistance projects for 1) regionally unique Smart Grid demonstration projects, 2) phasor measurement system demonstration and testing for a wide area, real time measurement and control network, 3) electrical energy storage demonstration and development projects and 4) demonstration and development projects for Smart Grid technologies.	
Outcome Expected by End of FY2010:	Develop and post draft Federal Opportunity Announcement (FOA) and final FOA; receive grant applications; and begin reviews.
<u>2009 Results</u>	
Commentary:	Met OE developed and posted a draft FOA, received and incorporated comments, and posted the final FOA on June 25th, 2009. The application period closed in August. Over 50% of application reviews were started in the 4th quarter.
Future Plans / Explanation of Shortfalls:	In Fiscal Year (FY) 2010 OE will complete the review process, announce final selections, start negotiations, and begin to make awards by the end of the 1st quarter. 30% of awards will be made and 30% of funds will be obligated in the 2nd quarter. 100% of awards and 100% of funds will be obligated by the end of the 4th quarter.
Supporting Documentation:	Draft FOA, final FOA, National Energy Technology Laboratory (NETL) reports including selection lists, award lists, and grantee progress reports.

Office: Electricity Delivery and Energy Reliability	
Program: State Assistance on Electricity Policies	
The program put forth to reduce backlogs and delays that will occur by state public utility commissions in their state-law required review and approval of any Recovery Act funding involving their jurisdictional electric utilities. A total of \$50M will support this activity.	
Outcome Expected by End of FY2010:	The \$50M will be used by states and their Public Utility Commissions (PUCs) to hire staff to facilitate timely review of the expected large number of time-sensitive requests to approve electric utility expenditures undertaken as part of the Recovery Act.
FY 2009 Target:	Post Federal Opportunity Announcement (FOA), receive applications and complete reviews.
<u>2009 Results</u>	
Commentary:	Met OE developed and posted the FOA on June 15, 2009. Reviews were completed for all grant applications received.
Future Plans / Explanation of Shortfalls:	OE will make 100% of the State Assistance awards in the 1st quarter. Awardees will provide project plans in the 2nd quarter and then regular case monitoring reports in 3rd and 4th quarters. 100% of the funds will be obligated by the end of the 2nd quarter.
Supporting Documentation:	FOA, National Energy Technology Laboratory (NETL) reports, including selection lists, award lists, and grantee progress reports.

FY 2009 Performance Measures

Office: Loan Guarantee

Program: **Advanced Technology Vehicles Manufacturing Incentive Program, Section 136**

Outcome
Expected by End of FY2010: Complete commitment of 50% of all administrative funds (Recovery related) by September 30, 2010.

FY 2009 Target: Complete commitment of 25% of total administrative funds (\$2.5 million).

2009 Results

Commentary: Met Obligated 79% of \$10 million budget (\$7.9 million).

Future Plans /
Explanation of Plan to continue to support administration of program.
Shortfalls:

Supporting Internal budget reports from the official DOE system of record.
Documentation:

Office: Loan Guarantee

Program: **Administrative Fees, Section 1705**

Outcome
Expected by End of FY2010: Complete commitment of 80% of all administrative funds (Recovery related) by September 30, 2010.

FY 2009 Target: Complete commitment of 15% of total administrative funds (\$3.75 million).

2009 Results

Commentary: Met Obligated 18% of \$25 million budget (\$4.6 million).

Future Plans /
Explanation of Plan to continue to support administration of program.
Shortfalls:

Supporting Internal budget reports from the official DOE system of record.
Documentation:

FY 2009 Performance Measures

Office: Loan Guarantee

Program: **Credit Subsidy Program, Section 1705**

Outcome

Expected by End of FY2010: Complete commitment of 73% of all credit subsidy funds by September 30, 2010.

FY 2009 Target: Complete commitment of 5% of credit subsidy budget of \$3.935 billion (\$197 million).

2009 Results

Commentary: Not Met DOE provided loan guarantees in FY 2009 resulting in a commitment of 1% of the credit subsidy budget.

Future Plans / Explanation of Shortfalls: DOE will continue to process credit worthy projects as expeditiously as possible to fully utilize the credit subsidy budget by the time the Section 1705 Recovery Act authority expires on September 30, 2011.

Supporting Documentation: Press releases based on official loan guarantee documentation.

Office: Fossil Energy

Program: **Geologic Sequestration Training and Research Grants**

Outcome Expected by End of FY2010: Initially train 100 people (including students being trained at universities, colleges, and university research institutions) that will provide the skills required for implementing and deploying carbon capture and storage (CCS) technologies.

FY 2009 Target: Institute educational program with participants identified and training started that will eventually provide the skills required for implementing carbon capture and storage technologies.

2009 Results

Commentary: Met FOA DE-FOA-0000032 titled, "Recovery Act: Geologic Sequestration Training and Research" was released on June 29, 2009, and DE-FOA-0000080 titled, "Recovery Act: Regional Sequestration Technology Training" was released on June 2, 2009. All projects were selected for award. DE-FOA-0000032 selected 43 research grants for award to conduct applied and fundamental research at the laboratory scale. These projects will train future engineers and scientists by supporting their research efforts on various aspects of CCS. DE-FOA-0000080 selected 7 training grants for award which will focus their efforts on training individuals in the field that are looking to develop and support the commercial development of CCS throughout the United States. The results of DE-FOA-0000032 and DE-FOA-0000080 were announced on August 27, 2009.

Future Plans / Explanation of Shortfalls: The award of grant applications is expected on 12/23/09 for FOA32 and 12/1/09 for FOA and 12/1/09 for FOA80. The project will continue on track to train 100 future generation geologists, scientists, and engineers that will provide the skills required for implementing and deploying CCs technologies.

Supporting Documentation: FOA, dated 6/2/2009 (http://www.fossil.energy.gov/programs/sequestration/publications/arra/DE-FOA-0000033_sc.pdf), FOA, dated 6/2/2009 (http://www.fossil.energy.gov/programs/sequestration/publications/arra/DE-FOA-0000033_sc.pdf)
DE-FOA-0000032 announcement (http://www.fossil.energy.gov/news/techlines/2009/09066-DOE_Advances_CCS_Training.html)
DE-FOA-0000080 announcement (http://www.fossil.energy.gov/news/techlines/2009/09062-DOE_Awards_CCS_Training_Projects.html)

FY 2009 Performance Measures

Office: Fossil Energy

Program: **Industrial Carbon Capture and Storage Applications**

Outcome Expected by End of FY2010: Oriented Performance Measure - Begin construction of First Large-Scale Industrial CCS Projects. This is necessary to demonstrate the capacity for capturing, transporting and injecting large volumes of CO₂ from commercial and industrial sources.

FY 2009 Target: Finalize preliminary design and receive renewal applications. This process is necessary to demonstrate the capacity for capturing, transporting and injecting large volumes of CO₂ from commercial and industrial sources.

2009 Results

Commentary: Met In an effort to complete the first year of this project, the Industrial Carbon Capture and Storage Funding Opportunity Announcement was issued June 2009. On August 7th, over 90 Applications were received to both Technology Area 1- *Large-scale industrial CCS projects from industrial sources* and Area 2 - *Innovative concepts for beneficial CO₂ use*. By September 8th, twelve (12) Technology Area 1 and (12) Technology Area 2 Applications were Selected for Phase 1 Awards.

Future Plans / Explanation of Shortfalls: The selected participants will work to negotiate to final award and begin to finalize preliminary design and receive renewal applications. This process is necessary to demonstrate the capacity for capturing, transporting and injecting large volumes of CO₂ from commercial and industrial sources.

Supporting Documentation: Industrial Carbon Capture and Storage Funding Opportunity Announcement <http://fossil.energy.gov/programs/sequestration/publications/arra/DE-FOA-0000015.pdf>
Announcement of Selected projects: http://fossil.energy.gov/recovery/projects/industrial_ccs.html

Office: Fossil Energy

Program: **Carbon Capture and Storage**

Outcome Expected by End of FY2010: Initiate FutureGen detailed design, including long-lead equipment (e.g.s., energy conversion plant, sequestration system, balance of power and final design report).

FY 2009 Target: Complete preliminary engineering design, including equipment package solicitations, power plant design, sequestration system design, and balance of plant design.

2009 Results

Commentary: Met Multiple actions were accomplished in this quarter in effort to finalize the restart of the FutureGen project. A Decision Memorandum (concurrent on July 2, 2009) identified the basis for moving forward with the restart of the project. In a related action, the Determination of Noncompetitive Financial Assistance (DNFA) (July 7, 2009) was also approved for procurement actions to negotiate/award a new definitized Limited Scope Cooperative Agreement. On July 13, 2009 the Department entered into a "Provisional" Cooperative Agreement with the FutureGen Alliance to initiate work on the project. On July 14, 2009, the Department issued the Record of Decision that will provide the basis for site specific activities by the Alliance on one of four identified sites. On August 31, 2009, a definitized Limited Scope Cooperative Agreement was awarded to the Alliance for completion of a preliminary design and cost estimate.

Future Plans / Explanation of Shortfalls: On December 31, 2009, the FutureGen Alliance is to deliver to the Department the completed preliminary design and the funding plan for moving the project forward. It is expected that on January 29, 2010 the Department and the FGA will determine the path forward of the project.

Supporting Documentation: FutureGen Restart Announcement: <http://www.netl.doe.gov/technologies/coalpower/futuregen/>

FY 2009 Performance Measures

Office: Fossil Energy

Program: **Geologic Sequestration Site Characterization**

Outcome Expected by End of FY2010: Identified 10 high priority sites through initial characterization that have the potential for development as storage site for commercial CCS facilities.

FY 2009 Target: Award a minimum of ten projects to characterize potential storage sites for commercial CCS facilities.

2009 Results

Commentary: Met DE-FOA-0000033 titled, "Recovery Act: Site Characterization of Promising Geologic Formations for CO₂ Storage", was released on June 2, 2009. All projects were selected for award. DE-FOA-0000033 selected 11 cooperative agreements for award to characterized 11 different geologic formations through the United States. Nine projects are focusing the characterization efforts on geologic sinks below the surface of the land in the United States. Two of the projects are determining capacity estimates of geologic formation offshore of the United States. The results of DE-FOA-0000033 were announced on September 16, 2009. Accomplishing this milestone allowed DOE to begin negotiations for the awards for the geologic characterization projects.

Future Plans / Explanation of Shortfalls: The award of grant applications is expected on 12/17/09. The project will continue on track to identify 10 high priority sites through initial characterization that have the potential for development as storage sites for commercial CCS facilities.

Supporting Documentation: FOA dated June 2, 2009 (http://www.fossil.energy.gov/programs/sequestration/publications/arra/DE-FOA-0000033_sc.pdf), DE-FOA-0000033 announcements (http://www.fossil.energy.gov/news/techlines/2009/09065-DOE_Awards_Site_Characterization_P.html)

Office: Fossil Energy

Program: **Clean Coal Power Initiative III**

Outcome Expected by End of FY2010: Significantly expand opportunities to demonstrate CCS at commercial-scale in geologic formations to demonstrate technologies that capture and store carbon dioxide emissions for coal-fired power generation systems.

FY 2009 Target: Begin Project Definition Phase (award cooperative agreement). This is the first step needed to reach our goal in demonstrating technologies that capture and store carbon dioxide emissions for coal-fired power generation systems.

2009 Results

Commentary: Met The amended (second closing date) CCPI-3 Funding Opportunity Announcement was issued, project selections from the first closing date were made, and work on the National Environmental Policy Act (NEPA) process was initiated. The amended CCPI-3 FOA was issued on June 9, 2009. Project selections were made on June 16, 2009. Preliminary NEPA determinations were completed on June 4, 2009, and preparation of the Environmental Synopsis was initiated on June 18, 2009. The Hydrogen Energy California Project was awarded September 30, 2009 to begin the project definition phase.

Future Plans / Explanation of Shortfalls: Additional projects are anticipated for selection to demonstrate technologies that capture and store carbon dioxide emissions for coal-fired power generation systems.

Supporting Documentation: Secretary Chu Announces Two New Projects to Reduce Emissions from Coal Plants (http://www.netl.doe.gov/publications/press/2009/09043-DOE_Announces_CCPI_Projects.html)
Hydrogen Energy California Project fact sheet: (<http://www.netl.doe.gov/publications/factsheets/project/Proj629.pdf>)

FY 2009 Performance Measures

Office: Office of Science
High Energy Physics

Project: **Advanced Plasma Acceleration Facility MIE**

Outcome Achieve CD-3, Approve start of Construction, for both the Berkeley Lab Laser Accelerator (BELLA) and
Expected by End Facilities for Accelerator Science and Experimental Test Beams (FACET) projects.
of FY2010:

FY 2009 Target: Complete Conceptual Design and obtain CD-1, Approve Alternative Selection and Cost Range,
for both Projects.

2009 Results

Commentary: Met Target met.

Future Plans /

Explanation of Continue project

Shortfalls:

Supporting Milestones will be documented in the Project Execution Plan, which is approved at CD-2. Progress will be
Documentation: reported monthly in PARS (Project Assessment and Reporting System).

Office: Office of Science
High Energy Physics

Project: **Advanced Technology R&D Augmentation**

Outcome All projects have passed merit review and funds have been obligated toward these activities
Expected by End
of FY2010:

FY 2009 Target: Complete merit review of submitted proposals.

2009 Results

Commentary: Met Target met.

Future Plans /

Explanation of Continue project

Shortfalls:

Supporting Grants will be recorded in the DOE Standard Accounting and Reporting System (STARS) accounting
Documentation: system. Funding to Management and Operations (M&O) contractors will be done through approved
financial plans.

FY 2009 Performance Measures

Office: Office of Science
High Energy Physics

Project: **Fermilab GPP augmentation**

Outcome
Expected by End of FY2010: Award contracts for six General Plant Projects (GPP) at Fermilab.

FY 2009 Target: Solicit bids for six projects.

2009 Results

Commentary: Not Met Target not met. Only three projects have had bids solicited. However two projects have already started construction.

Continue project

Future Plans /

Explanation of ACTION PLAN: Final design is complete on a fourth project and a solicitation is expected within a month.

Shortfalls: The solicitations for the other two projects are expected prior to end of CY 2009. Do not expect this to impact next year's goal of having six projects (total) awarded.

Supporting
Documentation: The Quarterly Construction Project Status Report submitted from Fermilab to Fermi Site Office

Office: Office of Science
High Energy Physics

Project: **Long Baseline Neutrino Experiment**

Outcome
Expected by End of FY2010: Complete all requirements for CD-1 review.

FY 2009 Target: Achieve CD-0 (Mission Need) approval.

2009 Results

Commentary: Not Met Target not met. Still reviewing the mission statement.

Continue projects.

Future Plans /

Explanation of ACTION PLAN: CFO has taken an extensive amount of time to review the Mission Need Statement (review underway since early September 2009). CFO currently estimates they will not provide a CD-0 approval until FY10Q2. This impacts ability to achieve CD-1 review prior to end of FY10. Submitted a change control to CFO to modify two-year outcome measure to reflect revised schedule.

Supporting
Documentation: Project falls under O413.3A and status will tracked in Project Assessment and Reporting System (PARS) after CD-0.

FY 2009 Performance Measures

Office: Office of Science
High Energy Physics

Project: **Neutrinos at the Main Injector Off-Axis Neutrino Appearance (NOvA) MIE**

Outcome Expected by End of FY2010: Establish adjusted construction approach such that far detector building will be completed in FY 2011 instead of FY 2012.

FY 2009 Target: Office of Project Assessment will conduct a review for approval of CD-3B for the entire NOvA Project.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: All NOvA Project level 1 and level 2 milestones are documented in the Project Execution Plan, which is maintained by the Federal Project Director and a copy is stored in the Office of High Energy Physics. Progress will be reported monthly in PARS.

Office: Office of Science
High Energy Physics

Project: **Superconducting Radio Frequency (SRF) R&D**

Outcome Expected by End of FY2010: All orders for required equipment are placed.

FY 2009 Target: Identify and begin ordering required equipment.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: All project status reports will be archived in HEP HQ office files.

FY 2009 Performance Measures

Office: Office of Science
High Energy Physics

Project: **Research and Infrastructure Augmentation at Universities in the HEP Program**

Outcome Award 30 to 50 grants to universities for the purpose of obtaining state of the art equipment needed to carry
Expected by End out particle physics research. Doing so helps keep the U.S. scientifically competitive on a world stage.
of FY2010:

FY 2009 Target: Complete merit review of proposals that have already been received.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting The official repository for Recovery Act grant funding will be the DOE STARS Accounting System. In
Documentation: addition, the Office of Science will track this data in its internal grants and contracts system.

Office: Office of Science
Nuclear Physics

Project: **Advance funding of 12 GeV Upgrade**

Outcome Award at least 9 additional subcontracts for the 12 GeV CEBAF (Continuous Electron Beam Accelerator
Expected by End Facility) Upgrade project.
of FY2010:

FY 2009 Target: Award at least 3 subcontracts.

2009 Results

Commentary: Met Target met. Four subcontracts were awarded.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Quarterly and monthly reports will be required from the project team to monitor performance. All
Documentation: documentation of project performance will be maintained by TJNAF.

FY 2009 Performance Measures

Office: Office of Science
Nuclear Physics

Project: **Enhanced Accelerator Improvement Project (AIP) Funding at NP User Facilities**

Initiate eight high priority accelerator improvement projects at five national laboratories to enhance research opportunities:

Outcome
Expected by End
of FY2010:

- ANL - Replacement of First Booster Cryostat Module & Liquid Helium Upgrade
- ANL - New RFQ Accelerator Section for PII Linac
- BNL - Stochastic Cooling Plane
- BNL - Electron Lenses
- LBNL - 88-Inch HV Injection upgrade
- LBNL - RF Amplifier Upgrade
- ORNL - ORIC (Oak Ridge Isochronous Cyclotron) Refurbishment
- TJNAF - 11 GeV Separator for the JLab Upgrade

FY 2009 Target: Initiate action on all eight AIP projects.

2009 Results

Commentary: Met Target met. All eight AIP projects have been started.
Work on all projects was begun in FY 2009.

Future Plans /
Explanation of Continue project

Shortfalls:

Supporting Quarterly reports will be required from the project teams to monitor performance. All documentation of
Documentation: project performance will be maintained by the M&O contractors.

Office: Office of Science
Nuclear Physics

Project: **Fundamental Neutron Physics Beamline (FNPB) MIE at SNS**

Outcome
Expected by End
of FY2010: Complete Utilities and HVAC for the FNPB External Experimental Building which will house the experiment to measure the electric dipole moment of the neutron, within 10% of planned cost and schedule identified in project plan.

FY 2009 Target: Start Utilities and HVAC tasks for the FNPB External Experimental Building.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project

Shortfalls:

Supporting Quarterly and monthly reports will be required from the project team to monitor performance. All
Documentation: documentation of project performance will be maintained by ORNL.

FY 2009 Performance Measures

Office: Office of Science
Nuclear Physics

Project: **Enhanced Utilization of Isotope Facilities**

Outcome Expected by End of FY2010: Produce critical isotopes in short supply per production schedule; purchase stable isotopes; initiate six facility upgrades and complete two of those.

FY 2009 Target: Develop production schedule for research radioisotopes; initiate purchase of stable isotopes; and initiate action on three facility upgrades.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: The project will be assessed through weekly reports from the facility points of contact on progress made towards established milestones, frequent discussions with federal program managers in the Office of Nuclear Physics, and quarterly reports. The facilities will be reviewed with panels of expert peers on an annual basis. All reports are maintained in the files of the Office of Nuclear Physics.

Office: Office of Science
Nuclear Physics

Project: **Lattice Quantum Chromodynamics (LQCD)-II Computing Initiative**

Outcome Expected by End of FY2010: Procure, deploy and operate, at a minimum, 45 Teraflop cluster computing equipment for studies of LQCD (sustained LQCD inverter heterogeneous system performance)

FY 2009 Target: Execute the initial purchase order for computing and disk equipment.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: The project performance will be assessed with frequent discussions with federal program managers in the Office of Nuclear Physics. Quarterly reports will be provided by the Principal Investigators reporting progress towards established goals.

FY 2009 Performance Measures

Office: Office of Science
Nuclear Physics

Project: **Nuclear Data Program Initiative**

Outcome Hire new staff for the NNDC (National Nuclear Data Center) and begin new code framework and XENDL
Expected by End data format.
of FY2010:

FY 2009 Target: Initiate hiring actions at ANL, LBNL and LLNL.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

The project performance will be assessed through weekly reports from three laboratories on progress made towards established milestones, through presentations of the National Nuclear Data Program to the Office of Nuclear Physics on an annual basis on the technical progress of the program, and through frequent discussions with federal program managers in the Office of Nuclear Physics. Weekly reports will be maintained in the electronic files of the SC Office of Budget; the annual program briefing presentations will be maintained in the electronic files of the Office of Nuclear Physics.

Office: Office of Science
Nuclear Physics

Project: **PHENIX Forward Vertex Detector MIE full funding (RHIC at BNL)**

Outcome Recovery Act funded activities (Backplane, Cage, ROC/FEM, Ancillary System and their testing and
Expected by End assembly) support maintaining the overall PHENIX Forward Vertex MIE project within 10% of approved
of FY2010: cost and schedule baseline.

FY 2009 Target: Initiate procurements for two of the PHENIX Forward Vertex MIE project components supported with Recovery Act funding.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Quarterly and monthly reports will be required from the project team to monitor performance. All
Documentation: documentation of project performance will be maintained by BNL.

FY 2009 Performance Measures

Office: Office of Science
Nuclear Physics

Project: **PHENIX Silicon Vertex MIE full funding (RHIC at BNL)**

Outcome Expected by End of FY2010: Recovery Act funded activities (Silicon sensor and registration equipment, Data collection modules) support completion of the overall PHENIX Silicon Vertex MIE by the end of FY 2010 within 10% of approved cost and schedule baseline.

FY 2009 Target: Initiate one order for one PHENIX Silicon Vertex MIE project component supported with Recovery Act funding.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: Quarterly and monthly reports will be required from the project team to monitor performance. All documentation of project performance will be maintained by BNL.

Office: Office of Science
Nuclear Physics

Project: **R&D on Alternative Isotope Production Techniques**

Outcome Expected by End of FY2010: Competitively fund high quality R&D for new or improved methods to produce stable and radioisotopes for the Nation's needs

FY 2009 Target: Select proposals for award through competitive peer review.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: The project performance will be assessed through frequent discussions with federal program managers in the Office of Nuclear Physics. Quarterly reports will be provided by the Principal Investigators reporting progress towards established goals. At the conclusion of the project the Principal Investigators will be required to submit final reports for evaluation and acceptance by the program managers.

FY 2009 Performance Measures

Office: Office of Science
Nuclear Physics

Project: **TJNAF Infrastructure Investments**

Outcome Expected by End of FY2010: Complete five TJNAF GPP infrastructure projects: Experimental Staging Facility; Expand General Purpose Building (GPB); End Station Refrigerator Building and Utilities; Test Lab Service Transformer Upgrade; and Roads and Parking Improvements (partially funded by Recovery Act)

FY 2009 Target: Award three subcontracts for GPP infrastructure projects

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project

Shortfalls:

Supporting Documentation: All documentation of project performance will be maintained by TJNAF.

Office: Office of Science
Nuclear Physics

Project: **Nuclear Science Workforce**

Outcome Expected by End of FY2010: Competitively select and award high quality research grants or contracts to researchers who are pursuing nuclear physics research that can contribute to the applied areas.

FY 2009 Target: Select proposals for award through competitive peer review.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project

Shortfalls:

Supporting Documentation: Standard line management processes will be used to document the review and results for DOE laboratories, and for university grants, which use the selection statement and supporting documents, or the declination memo and supporting materials. All reports are maintained in the files of the Office of Nuclear Physics.

FY 2009 Performance Measures

Office: Office of Science
Biological and Environmental Research

Project: **ARM Climate Research Facility Initiative (ACRF)**

Outcome Expected by End of FY2010: Field a new instrument suite to the Atmospheric Radiation Measurement (ARM) Climate Research Facility which will provide improved three-dimensional properties of clouds, enhanced aerosol measurement, and enhanced surface flux data.

FY 2009 Target: Revise current instrument planning document for acquisition of instrument package.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of
Shortfalls: Continue project.

In addition to required weekly reporting, PNNL will submit a letter to the BER program manager and the Pacific Northwest Site Office certifying the completion of each quarterly milestone. Letters will be submitted within two weeks of successful completion and will identify the specific completion date. This documentation will be filed as part of the official project documentation and as part of verification and validation for this project. More generally, all reports discussed under this notation will be archived in BER by the BER Program Manager.

Office: Office of Science
Biological and Environmental Research

Project: **Bioenergy Research Center Infrastructure**

The Joint BioEnergy Institute (JBEI) greenhouses and the Great Lakes Bioenergy Research Center (GLBRC) SS-NMR are in testing phase and at least 85% of the rest of the BRC equipment (including at the BioEnergy Science Center (BESC)) is on site and costed.

Outcome Expected by End of FY2010: {NOTE: Equipment purchases are described in the BRC Project Execution Plan for each of the BRCs. The SS-NMR refers to a Solution State 700 MHz Nuclear Magnetic Resonance Unit. The LIMS refers to the Laboratory Information Management System. The HR-NMR refers to an upgrade to an existing 500 MHz NMR to provide High Resolution – Magic Angle Spinning. Group 1, Group 2, and Group 3 equipment are described in the BESC Project Execution Plan.}

FY 2009 Target: The GLBRC has contracts in place for the LIMS software and associated computer equipment.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of
Shortfalls: Continue project

In addition to required weekly reporting, LBNL, ORNL and the University of Wisconsin will submit letters to the BER program manager and the appropriate DOE Site Office certifying the completion of each quarterly milestone contained in Table 6, as applicable to their institution. Letters will be submitted within two weeks of successful completion and will identify the specific completion date. This documentation will be filed as part of the official project documentation and as part of verification and validation for this project. More generally, all reports discussed under this notation will be archived in BER by the BER Program Manager.

FY 2009 Performance Measures

Office: Office of Science
Biological and Environmental Research

Project: **Environmental Molecular Sciences Laboratory**

Outcome Procure 25 new instrument capabilities for the EMSL (Environmental Molecular Sciences Laboratory) for
Expected by End the benefit of the scientific user community.
of FY2010:

FY 2009 Target: 60% contracts in place for all instruments.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting
Documentation:

PNNL will submit a letter to the BER program manager and the Pacific Northwest Site Office certifying the completion of each quarterly milestone contained in Table 6. Letters will be submitted within two weeks of successful completion and will identify the specific completion date. This documentation will be filed as part of the official project documentation and as part of verification and validation for this project. More generally, all reports discussed under this notation will be archived in BER by the BER Program Manager.

Office: Office of Science
Biological and Environmental Research

Project: **Integrated Assessment Research Program**

Outcome New integrated assessment research computational resource brought on-line with multiple models and key
Expected by End underlying data made accessible to the research community.
of FY2010:

FY 2009 Target: CFO releases recovery act funds.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting In addition to required weekly reporting, PNNL will submit a letter to the BER Program Manager and the
Documentation: submitted within two weeks of successful completion and will identify the specific completion date. This
documentation will be filed as part of the official project documentation and as part of verification and
validation for this project. More generally, all reports discussed under this notation will be archived in
BER by the BER Program Manager.

FY 2009 Performance Measures

Office: Office of Science
Biological and Environmental Research

Project: **Joint Genome Institute (JGI) Infrastructure**

Outcome Computer equipment will be in operation. Reagents will be available. New sequencing machine will be in acceptance phase. (NOTE: Equipment purchases are described in the JGI Project Execution Plan. Phase 1 and Phase 2 computer equipment refer to computer-related purchases to accommodate increased sequencing of FY2010: throughput data.)

FY 2009 Target: Specifications and Requests for Quotes have been prepared for all Phase 1 computer equipment.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: LBNL will submit a letter to the BER program manager and the Berkeley Site Office certifying the completion of each quarterly milestone contained in Table 6. Letters will be submitted within two weeks of successful completion and will identify the specific completion date. This documentation will be filed as part of the official project documentation and as part of verification and validation for this project. More generally, all reports discussed under this notation will be archived in BER by the BER Program Manager.

Office: Office of Science
Biological and Environmental Research

Project: **Systems Biology Knowledgebase**

Outcome Data storage arrays and servers accepted or in acceptance phase, prototype Knowledgebase software tested, and conceptual design document for the full Knowledgebase delivered.

FY 2009 Target: All prototype software collaborations with the ASCR Magellan program in place.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: A letter to be submitted to the BER program manager by the contractor, ORNL, will certify the completion of each major milestone. Letters will be submitted within two weeks of successful completion identifying the actual completion date. This documentation will be filed as part of the official project documentation and as part of verification and validation for this project. More generally, all reports discussed under this notation will be archived in BER by the BER Program Manager.

FY 2009 Performance Measures

Office: Office of Science
Basic Energy Science

Project: **National Synchrotron Light Source (NSLS) II**

Outcome Expected by End of FY2010: Laboratory Office Building for civil construction activities completed by January 2012, 15 months ahead of original baseline schedule and within cost targets as required by BES Annual Performance Results and Targets in the Congressional Budget.

FY 2009 Target: Revise civil construction baseline schedule and begin procurements of NSLS-II conventional construction work.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: Copies of the monthly Project Progress Reports reside in the Office of Basic Energy Sciences, Division of Scientific User Facilities.

Office: Office of Science
Basic Energy Science

Project: **Advanced Light Source (ALS) User Support Building (USB)**

Outcome Expected by End of FY2010: User Support Building (USB) ready for operations.

FY 2009 Target: Re-plan project and revise current construction contract to reflect three month schedule acceleration.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: Copies of the monthly Project Progress Reports reside in the Office of Basic Energy Sciences, Division of Scientific User Facilities.

FY 2009 Performance Measures

Office: Office of Science
Basic Energy Science

Project: **Energy Frontier Research Collaborations**

Outcome Expected by End of FY2010: Establish and begin operation of the 16 Energy Frontier Research Centers (EFRCs) that were funded under the Recovery Act.

FY 2009 Target: Select recipients for all 16 grants.

2009 Results

Commentary: Met Target achieved

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: The issuance of the EFRC awards will be verified by the completion of the financial assistance process as recorded on DOE F 4600.1, Notice of Financial Assistance Award. Data validating the award will be stored in the Office of Science Information Management System (EWM). In addition, hardcopy information pertinent to the grant issuance will be stored by the DOE Chicago Office and by the Office of Basic Energy Sciences.

Office: Office of Science
Basic Energy Science

Project: **Linac Coherent Light Source (LCLS) Ultrafast Science Instruments (LUCI) MIE**

Outcome Expected by End of FY2010: Accelerate the schedule of LCLS Ultrafast Science Instruments (LUSI) to enable earlier use of three functional science instruments in the LCLS scientific program by August, 2011, one year ahead of schedule. The three science instruments are: the X-ray Pump Probe (XPP), Coherent X-ray Imaging (CXI), and the X-ray Correlation Spectroscopy (XCS)

FY 2009 Target: Revise current work plan to accelerate activities schedule by one year.

2009 Results

Commentary: Met Target met

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: Copies of the monthly Project Progress Reports reside in the Office of Basic Energy Sciences, Division of Scientific User Facilities.

FY 2009 Performance Measures

Office: Office of Science
Basic Energy Science

Project: **Synchrotron Radiation Light Sources**

Outcome Expected by End of FY2010: Upgrades and advanced instruments such as detectors and magnets are procured to further the Light Source scientific program.

FY 2009 Target: Select the equipment and obligate the Recovery Act funds.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: Copies of the quarterly progress reports from the Light Sources reside in the Office of Basic Energy Sciences, Division of Scientific User Facilities.

Office: Office of Science
Basic Energy Science

Project: **Nanoscale Science Research Centers**

Outcome Expected by End of FY2010: Equipment installed and in operation.

FY 2009 Target: Selection of equipment and obligation of funds.

2009 Results

Commentary: Met Target achieved.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Documentation: Copies of the quarterly progress reports from the NSRCs reside in the Office of Basic Energy Sciences, Division of Scientific User Facilities.

FY 2009 Performance Measures

Office: Office of Science
Advanced Scientific Computing Research

Project: **Advanced Networking Initiative**

Outcome Expected by End of FY2010: Demonstrate progress toward a two to ten fold improvement in throughput over the 10Gbps currently available in the commercial market place via a programmatic review of interim test results provided by LBNL (Lawrence Berkeley National Laboratory).

FY 2009 Target: Conduct ASCR programmatic review of the design architecture for a nation-wide demonstration network prototype presented by LBNL and posted on ASCR website.

2009 Results

Commentary: Not Met Target not met. Design completed, Program review of design completed. Permission to publically post document on ASCR-ARRA webpage was not received before September 30. No impact to project anticipated.

Future Plans / Explanation of Shortfalls: Continue project.
ACTION PLAN - Will post as soon as permission received.

Supporting Documentation: Research plans will be validated by ASCR via external peer review. Progress against established plans will be evaluated by periodic ASCR performance reviews and external performance reviews. These reviews provide an opportunity to verify and validate performance. Quarterly, semiannual, and annual reviews consistent with specific program management plans are held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. Final project results will be published via peer reviewed journals and/or presented to the Advanced Scientific Computing Advisory Committee.

Office: Office of Science
Advanced Scientific Computing Research

Project: **Advanced Computer Architectures**

Outcome Expected by End of FY2010: By September 30, 2010, complete programmatic review of preliminary reports detailing architectural features and performance levels for a system that will meet the needs of at least one science application that requires extreme scale computing while using energy efficiently.

FY 2009 Target: By September 30, 2009, complete distribution of all Recovery Act funds for Advanced Computer Architectures from headquarters into M&O contracts and financial assistance actions.

2009 Results

Commentary: Not Met Target not met. One project funded before September 30. Second project was rejected by STRIPES and could not be resubmitted until after October 13.

Future Plans / Explanation of Shortfalls: Continue Project.
ACTION PLAN - resubmitted after October 13 with accelerated work plan to keep project on track.

Supporting Documentation: Research plans will be validated by ASCR via external peer review. Progress against established plans will be evaluated by periodic ASCR performance reviews and external performance reviews. These reviews provide an opportunity to verify and validate performance. Quarterly, semiannual, and annual reviews consistent with specific program management plans are held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. Final project results will be published via peer reviewed journals and/or presented to the Advanced Scientific Computing Advisory Committee.

FY 2009 Performance Measures

Office: Office of Science
Advanced Scientific Computing Research

Project: **Magellan Distributed Computing and Data Initiative**

Outcome Expected by End of FY2010: By September 30, 2010, at least one application domain will make integrated use of computing resources at LBNL and ANL.

FY 2009 Target: By September 30, 2009, conduct expert review site specific research demonstration topics submitted by ANL and LBNL

2009 Results

Commentary: Met Target met. Documentation is in program files.

Future Plans /
Explanation of Continue project
Shortfalls:

Research plans will be validated by ASCR via external peer review. Progress against established plans will be evaluated by periodic ASCR performance reviews and external performance reviews. These reviews provide an opportunity to verify and validate performance. Quarterly, semiannual, and annual reviews consistent with specific program management plans are held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. Final project results will be published via peer reviewed journals and/or presented to the Advanced Scientific Computing Advisory Committee.

Office: Office of Science
Advanced Scientific Computing Research

Project: **Leadership Computing Upgrade**

Outcome Expected by End of FY2010: Upgrade Leadership Computing resources at Oak Ridge National Laboratory from 1.3 petaflops to 2.0 petaflops to increase the capability available to the scientific community.

FY 2009 Target: By September 30, 2009, complete distribution of all Recovery Act funds for Leadership Computing Upgrade from headquarters into M&O contracts.

2009 Results

Commentary: Met Target met. Funds distributed to ORNL.

Future Plans /
Explanation of Continue project
Shortfalls:

Research plans will be validated by ASCR via external peer review. Progress against established plans will be evaluated by periodic ASCR performance reviews and external performance reviews. These reviews provide an opportunity to verify and validate performance. Quarterly, semiannual, and annual reviews consistent with specific program management plans will be held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. Final project results will be documented in ACSR operational review of the Oak Ridge Leadership Computing Facility.

FY 2009 Performance Measures

Office: Office of Science
Advanced Scientific Computing Research

Project: **Computational Partnerships (SciDAC-e)**

Outcome Expected by End of FY2010: Deliver computational capability to at least one Energy Frontier Research Center - EFRC. (In which "computational capability" might be development of a new science application code, a visualization of a massive scientific dataset or scaling an existing code from a desktop to massively parallel computing resources at the ASCR leadership computing facilities. Success will be measured by expert review.)
Publish, in the open literature, results of applied math research focused on smart grid capabilities. Success will be measured by expert review.

FY 2009 Target: Establish seven research grants or cooperative agreements to develop mathematical techniques and algorithms to enable smart grids.

2009 Results

Commentary: Not Met Target not met. Six research grants established. The Seventh was rejected from STRIPES and could not be resubmitted until after October 13.

Future Plans / Explanation of Shortfalls: Continue project.
ACTION PLAN - resubmit in STRIPES on October 13 with an accelerated work plan.

Supporting Documentation: Research plans will be validated by ASCR via external peer review. Progress against established plans will be evaluated by periodic ASCR performance reviews and external performance reviews. These reviews provide an opportunity to verify and validate performance. Quarterly, semiannual, and annual reviews consistent with specific program management plans are held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. Final project results will be published via peer reviewed journals and/or presented to the Advanced Scientific Computing Advisory Committee.

Office: Office of Science
Fusion Energy Sciences Program

Project: **Alcator C-Mod Facility Upgrades (MIT)**

Outcome Expected by End of FY2010: Complete planned facility and diagnostic upgrades to enhance the research capabilities and productivity of subsequent Alcator C-Mod National Tokamak Facility operations

FY 2009 Target: Complete designs of polarimeter diagnostic upgrades and place procurement orders for materials and parts for facility upgrades (three high power microwave sources, Ion Cyclotron Radio Frequency (ICRF) power amplifier tubes and divertor spectrometer diagnostic).

2009 Results

Commentary: Not Met Target not met. Funding was not received until 09/28/2009. Quotes have been requested, but the orders were not placed. Quotes will remain valid for a limited time.

Future Plans / Explanation of Shortfalls: Continue project
ACTION PLAN: Project management will monitor the progress of the design and procurement efforts and expedite activity to maintain an optimal project schedule. To correct the schedule, the Second Year Performance Target and FY2010 Quarterly Milestones have been revised.

Supporting Documentation: The verification and validation information is available at:
<http://www.science.doe.gov/ofes/performance/targets.shtml>.

FY 2009 Performance Measures

Office: Office of Science
Fusion Energy Sciences Program

Project: **DIII-D Facility Upgrades**

Outcome Expected by End of FY2010: Complete the design and procurement activity for the facility upgrades to edge diagnostics, core diagnostics, auxiliary heating power supply, and electron cyclotron heating system.

FY 2009 Target: Complete conceptual design of upgrades to edge diagnostics, core diagnostics, auxiliary heating power supply, and elements of the electron cyclotron heating system.

2009 Results

Commentary: Not Met Target not met. Because funding was not obligated until very late in Q4 all of the conceptual designs have not yet been completed. However, in order to adapt to operating schedule constraints, one diagnostic system has been completely designed, fabricated, and installed ahead of schedule.

Continue project

Future Plans / Explanation of Shortfalls: ACTION PLAN: The remaining conceptual designs will be completed in early FY10 as necessary and the delay will not have any impact on the project's ability to meet the two-year performance target. Project management will monitor the progress of the design effort and expedite activity when required to maintain the overall project schedule.

Supporting Documentation: Verification and validation data for the DIII-D Facility Upgrade will be posted at: <http://www.science.doe.gov/ofes/performance/targets.shtml>

Office: Office of Science
Fusion Energy Sciences Program

Project: **Enhanced Operation of Major Fusion Facilities**

Outcome Expected by End of FY2010: Addition of 5 weeks of facility operation for each facility over the two year period (by end of FY 2010)

FY 2009 Target: Operate DIII-D for an additional 2 weeks and NSTX for an additional 5 weeks.

2009 Results

Commentary: Met Target met.

Future Plans / Explanation of Shortfalls: Continue project

Supporting Documentation: The verification and validation information is available at: <http://www.science.doe.gov/ofes/performance/targets.shtml>

FY 2009 Performance Measures

Office: Office of Science
Fusion Energy Sciences Program

Project: **High Energy Density Laboratory Plasma - Matter in Extreme Conditions (MEC) Instrument Project**

Outcome Expected by End of FY2010: Achieve approval of DOE 413.3A Critical Decisions (CD)-0 (Mission Need), CD-1 (Approval of Alternative Selection and Cost Range), and begin preparation for CD-2/3 (CD-2 is Approval of Performance Baseline, and CD-3 is Approval of Start of Construction). The Critical Decision milestones of FY2010: described will be achieved within 10% of the schedule.

FY 2009 Target: Achieve Approval of Critical Decision 0.

2009 Results

Commentary: Met Target met.

Future Plans /
Explanation of Continue project
Shortfalls:

Supporting Verification and validation data for this project will be available and archived in the Program Documentation: Office files.

Office: Office of Science
Fusion Energy Sciences Program

Project: **Infrastructure Improvements for Innovative Confinement Concepts (ICC) Experiments**

Outcome Expected by End of FY2010: Competitively select ICC projects and obligate funding.

FY 2009 Target: Competitively select ICC projects and obligate funding.

2009 Results

Commentary: Not Met Target not met. The merit review was completed and recommendations for funding were made.

Future Plans /
Explanation of ACTION PLAN: The FY2010 milestones have been revised to include completion of the activities that
Shortfalls: were initiated in FY2009. Program management will monitor the progress of the revised targets/milestones to maintain the overall project schedule.

Supporting Verification and validation data for Infrastructure Improvements for ICC Experiments will be available and Documentation: archived in the Office of Fusion Energy Sciences Program files.

FY 2009 Performance Measures

Office: Office of Science
Fusion Energy Sciences Program

Project: **High Energy Density Laboratory Plasma – NDCX-II (Neutralized Drift Compression Experiment)**

Outcome Expected by End of FY2010: Complete detailed engineering design. Complete equipment procurement for accelerator components, conventional facility equipment, and power supplies and control system

FY 2009 Target: Complete detailed engineering design and begin equipment procurement.

2009 Results

Commentary: Met Target met. Complete detailed engineering design - target achieved. Collected vendor information in preparation for initiating procurement requisition - target achieved.

Future Plans /
Explanation of Shortfalls: Continue project

Supporting Documentation: Verification and validation data for this project will be available and archived in the Program Office files.

Office: Office of Science
Fusion Energy Sciences Program

Project: **NSTX Facility Upgrades**

Outcome Expected by End of FY2010: Complete the design, procurement of components, and fabrication of facility and diagnostic upgrades and commence commissioning of the diagnostic upgrades.

FY 2009 Target: Complete conceptual design of diagnostic and facility upgrades.

2009 Results

Commentary: Not Met Target not met. Due to late receipt of funding, design activities for the plasma diagnostic and facility upgrades were started but not completed. The NEPA CX determination was completed ahead of schedule.

Future Plans /
Explanation of Shortfalls: Continue project

Explanation of Shortfalls: Management will monitor the progress of the upgrade effort and will expedite activities when required to maintain the overall project schedule.

Supporting Documentation: The verification and validation information is available at:
<http://www.science.doe.gov/ofes/performancetargets.shtml>.

FY 2009 Performance Measures

Office: Office of Science
Fusion Energy Sciences Program

Project: **Princeton Plasma Physics Laboratory (PPPL) General Plant Projects (GPP)**

Outcome Expected by End of FY2010: Award architect and engineering (A&E) and design/build contracts. Begin construction of 300kW diesel generator installation/housing project and PLT/PBX switchyard demolition and disposition efforts.

FY 2009 Target: Develop specific requirement packages and issue requests for proposals (RFPs) for equipment construction contracts.

2009 Results

Commentary: Not Met Target not met. Develop specific requirements packages was achieved but the issuance of RFPs was not achieved due to delay in receipt of funds.

Continue project

Future Plans / Explanation of Shortfalls: ACTION PLAN: Due to the scope of the work to be accomplished it has been determined that a design/build contracting approach would be a more efficient to support the procurement and construction efforts funded by this activity. This caused a modification to two-year outcome and adjustments to the FY 2010 performance target and milestones.

Supporting Documentation: Verification and validation data for this project will be available and archived in the Program Office files.

Office: Office of Science
Fusion Energy Sciences Program

Project: **Plasma Science Centers**

Outcome Expected by End of FY2010: Establish and begin operation of two new Plasma Science Centers (PSCs).

FY 2009 Target: Complete cooperative agreement selection and award process.

2009 Results

Commentary: Met Target met.

Future Plans / Explanation of Shortfalls: Continue project

Supporting Documentation: Verification and validation data for the MIT PSC and UCSD PSC will be available and archived in the Program Office files.

FY 2009 Performance Measures

Office: Office of Science

Project: **OSTI Technology Infrastructure**

By January 2012, the project intends to add an additional 17.47 hours per month to current average availability, which annually equates to greater than 2 million user transactions, 336,000 full text downloads, and 147,000 searches for scientific and technical information.

Outcome
Expected by End
of FY2010:

By the end of FY 2010 the project will have achieved an increase of approximately 8.75 hours per month to average availability, which annually equates to greater than 1 million user transactions, 168,000 full text downloads, and 73,500 searches for scientific and technical information.

FY 2009 Target: OSTI can support requests from STI dissemination products in the event of a disruption of service in the main internet pathway. This involves having a redundant internet pathway in place and operational. Work in support of the second year performance target has also started with the hot-site procured and initially provisioned.

2009 Results

Commentary: Not Met

Annual Target Not Met. Approved annual performance targets and quarterly milestones were based on the assumption that the two year performance measure is the outcome two years upon receipt of the RA funding, and all annual targets and associated milestones were based on this assumption. Project now realizes that the two year performance measure is the outcome expected at the end of FY10. Therefore, none of the current performance measures match up to what is expected to be measured and must be adjusted.

Future Plans / Continue project.

Explanation of Action Plan: A revised POP along with a completed POP change control form was submitted to and Shortfalls: approved by the CFO.

Supporting Standard line management processes will be used to document progress and the review of results. All Documentation: reports are maintained in the files of OSTI.

Office: Office of Science

Project: **Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR) Programs**

Outcome
Expected by End
of FY2010: By September 30, 2010, approximately 57 Phase I and 45 Phase II grant awards, and six Supplemental follow-on awards made to U.S. small businesses totaling \$55.637M.

FY 2009 Target: By September 30, 2009, fully fund six Phase II Supplemental awards totaling \$1M. By September 30, 2009, Post Phase I (EERE) SBIR/STTR Funding Opportunity Announcement.

2009 Results

Commentary: Not Met

Goal not met. EERE announcement posted. However no awards were made; the procurement requests (PRs) were initially rejected by DOE procurement STRIPES system and could not be resubmitted until after October 13, 2009.

Future Plans / Continue project

Explanation of ACTION PLAN: Funding is available, selection statements are written. Procurement Requests have been Shortfalls: re-submitted to the DOE procurement system.

Supporting this program. The SBIR/STTR program management will continue to work closely with the Department's Documentation: many administrative and financial entities to ensure that its current internal and Recovery Act-established controls are met.

FY 2009 Performance Measures

Office: Office of Science

Project: **Energy Sciences Fellowships and Early Career Research Program**

Outcome Create graduate fellowships and early career research awards to stimulate research careers in energy, environmental, and climate change sciences.
Expected by End of FY2010:

Complete all activities necessary to allow fellowship and early career review panels to begin during Q1 FY 2009 Target: FY10.

2009 Results

Commentary: Not Met
Target not met. For early career research program, all activities necessary to allow review panels to begin during Q1 FY10 were not completed. However the panels are anticipated to begin during Q1FY10 as planned. For the graduate fellowship program, delays involved with restructuring the program to include ORISE, designing the application website, and getting the Privacy Impact Assessment approved occurred. These delays do not impact our ability to meet our two-year outcome-oriented performance measure.

Continue project

Future Plans / Explanation of Shortfalls: Action Plan: Finalized early career research program reviewer assignments during October 2010 and meet Q1FY10 milestone of holding review panels. For graduate fellowships, review panel members will be finalized in Q2 FY10 and award announcements made in Q3FY10. A schedule extension has been approved.

Supporting Documentation: Key documents include 10 CFR 605, the Funding Opportunity Announcements, the applications; the spreadsheet listing the confirmed review panel members, the written reviews; the selection statements; the declination letters; and the award documents.

Office: Office of Science

Project: **SLI Construction**

Complete demolition of the Bevatron structure at the Lawrence Berkeley National Laboratory.

Outcome Begin construction (CD-3) on the Modernization of Laboratory Facilities project.
Expected by End of FY2010: Establish performance baselines (CD-2) and begin construction (CD-3) on Recovery Act scope for the Seismic Safety – Phase II and the Interdisciplinary Science Building projects.

Achieve CD-3A - Approve Start of Early Construction and Long-Lead Procurements on the Modernization of Laboratory Facilities project

FY 2009 Target: Achieve CD-2A – Approve Performance Baseline for Recovery Act scope of the Seismic Safety – Phase II project

2009 Results

Commentary: Met Targets achieved.

Future Plans / Explanation of Shortfalls: Continue project

Supporting Documentation: Data is tracked in the PARS database, where data is updated monthly. Program Managers will conduct routine conference calls with the project teams to track stimulus fund obligations and costed amounts, as well as progress toward schedule milestones.

FY 2009 Performance Measures

Office: Office of Science

Project: **General Plant Project funding across all SC laboratories**

Outcome
Expected by End
of FY2010: Half of the 18 GPP efforts have been completed and the remaining 9 will be under construction

FY 2009 Target: Begin construction on six of the 18 GPP efforts by 9/30/2009. Those started will include: ANL 13.2 kv Switch Upgrade; ANL 480 Volt Switchgear Upgrade; BNL Building Roof Replacements; BNL Mechanical-Electrical Upgrades; LBNL Building 6 Air Handling Equipment Upgrades; and, PNNL Infrastructure Upgrades.

2009 Results

Commentary: Met Target met. Nine projects were started; three more than planned. The three additional projects are: Ames Infrastructure Upgrades, LBNL Bldg 6 Air Handling Equip Upgrades and LBNL Modernize Transformer Bank.

Future Plans /
Explanation of
Shortfalls: Continue project

Supporting
Documentation: Nine of the 18 GPP projects are expected to be completed by the end of FY 2010. The remaining projects are expected to be completed by the end of FY 2012. Performance will be tracked and validated in accordance with Project Management Plans developed at the site level and through milestone updates provided to the SLI program

Office: Advanced Research Projects Agency - Energy

Project: **ARPA-E Project**

Outcome
Expected by End
of FY2010: Cumulative percentage of award funding committed 45 days after funding opportunity announcement (FOA) award announcements

FY 2009 Target: Issue FOA that will focus on transformational energy technology projects.

2009 Results

Commentary: Met The FY 2009 target was met with the issuing of 1 FOA that focused on transformational energy technology.

Future Plans /
Explanation of
Shortfalls: Since we have met the FY09 measure, ARPA-E will begin to measure the execution of the ARRA funding by having 70% of funding committed 45 days after award announcement.

Supporting
Documentation: DE-FOA-0000065 – ARPA-E Intial

STATUS OF FY 2008 UNMET MEASURES

Goal	Measure	Status	Description of Performance Target	FY 2008 APR Page #
Goal 1.1 Energy Diversity	Transportation Fuel Cell Systems and Fuel Cell Stack Component Research and Development	Unmet/Closed	DOE-sponsored research will reduce the modeled technology cost of a hydrogen-fueled 80kW fuel cell power system to \$70/kW. Reducing automotive fuel cell costs accelerates the market viability and deployment of fuel cell technologies, which contribute to the Department's goal of increased energy security and reduced greenhouse gas and pollutant emissions.	27
	This target was unmet, coming in slightly higher (\$73/kW) than the projected \$70/kW. This target continued to be addressed in FY 2009 with a target of \$60/kW.			
Goal 1.2 Environmental Impacts of Energy	Clean Coal Power Initiative (CCPI) Technology Demonstrations – Round 3	Unmet/Closed	Complete CCPI Round 3 solicitation, proposal evaluations and project selections to assemble the initial portfolio of advanced technology systems that sequester carbon dioxide to encourage the nation's energy industry to identify and cost share the best emerging new coal-based power generating technology.	66
	As a result of previous discussions with OMB, a decision was made to re-assign the FY08 target to FY09. The unmet FY08 target was met and closed in FY09.			
Goal 1.4 Energy Productivity	Wind – Low Wind Speed Technology	Unmet/Closed	4.0 cents per kWh modeled cost of wind power in land-based Class 4 wind speed areas (i.e., 13 mph annual average wind speed at 33 feet above ground); and 9.2 cents per kWh modeled cost of wind power in Class 6 wind speed areas (i.e., 15 mph annual average wind speed at 33 feet above ground) for shallow offshore systems.	42
	This target was unmet due to prototype testing leading to a higher cost of energy. This target continued to be addressed in FY 2009 with targets of 3.9 cents per kWh and 9.15 cents per kWh.			

Goal	Measure	Status	Description of Performance Target	FY 2008 APR Page #
Goal 2.1 Nuclear Deterrent	LEP Production Costs	Unmet/Closed	Cumulative percentage reduction in projected W76 warhead production costs per warhead from established validated baseline, as computed and reported annually by the W76 LEP Cost Control Board. (Efficiency Measure) FY 2008 target: 1%	127
	The annual target was missed because projected/realized cost increases in FY 2007 and FY 2008 resulted from the Canned Sub-Assembly special material technical issue, Arming, Fusing and Firing System issue, Electrostatic Discharge (ESD) issue at Pantex, and increasing health care and compensation costs passed on to the LEP from the M&O contractors. Although this target was missed, the majority of the cost increases will be offset by efficiencies elsewhere in the program.			
Goal 2.1 Nuclear Deterrent	Certified LANL W-88 Pits	Unmet/Closed	Annual number of certified W88 pits manufactured at LANL [certified means the pit is approved for use within the nuclear weapons stockpile based on quality assurance of the product and evaluation of performance through non-nuclear testing] (Annual Output) FY 2008 target: 10	151
	The annual target was missed because of lengthy continuing resolution process, reduction in final appropriation, and facility stand-down for criticality reviews. Because this target was missed, the replacement of W88 pits will be extended a minimum of one year, based on the FY 2009 appropriation.			
Goal 2.1 Nuclear Deterrent	Major Construction Projects	Unmet/Closed	Execute construction projects within approved costs and schedules, as measured by the total percentage of projects with total estimated cost greater than \$20 million with a schedule performance index (ratio of actual cost of work performed to scheduled work) and a cost performance index (ratio of actual cost of work performed to budgeted cost of work) between 0.9-1.15. (Efficiency Measure) FY 2008 target: 85%	156
	The annual target was missed because three projects do not meet the criteria due to late receipt of final FY 2008 funding, cost increases, delay in the LANL site-wide EIS, and other factors. Because this target was missed, other projects will have to be rebaselined.			

Goal	Measure	Status	Description of Performance Target	FY 2008 APR Page #
Goal 2.1 Nuclear Deterrent	Cyber Security Site Assessment	Unmet/Closed	Cumulative percentage of planned Cyber Security Site Assessment Visit conducted by the Office of the Chief Information Officer Cyber Security Program Manager at NNSA sites that resulted in a rating of "effective." (Long-term Output) FY 2008 target: 100%	174
	The annual target was missed because the NNSA assessment process has been completely rewritten to meet new and changing requirements. The OCIO will not be able to complete the scheduled assessment within FY08. The annual target was not met because the 3 rd quarter review has not been accomplished.			
Goal 2.2 Weapons of Mass Destruction	Constructing Zheleznogorsk Fossil Plant	Unmet/Closed	Cumulative percentage of progress towards constructing a fossil plant in Zheleznogorsk, facilitating the shut down of one weapons-grade plutonium production reactor. (Long-term Output) FY 2008 target: 62.6%	182
	The annual target was missed because of delays in design, procurement, and construction. Because this target was missed, the ADE-2 reactor may not be shut down in 2010. It may thus produce as much as 0.4 metric tons of plutonium in 2011.			
Goal 2.2 Weapons of Mass Destruction	Megaports with Host Country Cost Sharing	Unmet/Closed	Cumulative number of Megaports with host country cost sharing, resulting in decreased costs to the U.S. program (estimated cost sharing value). (Efficiency Measure) FY 2008 target: 5 (\$24 million)	194
	The annual target was missed because of delays in design, procurement, and construction.			
Goal 3.1 Scientific Breakthroughs and Goal 3.2 Foundations of Science	Life Science Facility Operations	Unmet/Closed	The achieved operation time of the life sciences scientific user facility as a percentage of the total scheduled annual operating time is greater than 98%. Production Genomics Facility (PGF) – 8400 total hours annually, so 98% is greater than 8232 hours.	224
	Target was continued with a revised goal based on appropriated funding for FY 2009.			

Goal	Measure	Status	Description of Performance Target	FY 2008 APR Page #
Goal 3.1 Scientific Breakthroughs and Goal 3.2 Foundations of Science	Construction/MIE Cost & Schedule	Unmet/Closed	Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects in FY08 of less than 10% each.	225
	The Office of Science decided to cancel the NCSX project in May 2008, and this annual target was closed out.			
Goal 4.1 Environmental Cleanup	Radioactive Facilities	Met	Complete a cumulative total of 352 radioactive facilities. This is an increase over the cumulative total of 338 radioactive facilities completed at the end of FY 2007.	239
Goal 4.1 Environmental Cleanup	Release Site Remediation Completions	Met	Complete remediation work at a cumulative total of 6,772 release sites. This is an increase over the cumulative total of 6,553 release site remediation completions at the end of FY 2007.	240
Goal 4.1 Environmental Cleanup	TRU Waste Disposition	Met	Disposition of a cumulative total of 53,608 cubic meters of transuranic waste consisting of 183 cubic meters of Remote Handled TRU and 53,425 cubic meters of Contact Handled TRU.	241
Goal 4.2 Managing the Legacy	Efficiency Measure	Unmet/Closed	Maintain total administrative overhead costs in relation to total program costs of less than 22%.	243
	The Office of Civilian Radioactive Waste Management finished the year with administrative overhead costs in relation to total program costs at 23%, failing to meet the 22% milestone. This occurred because the program's administrative requirements remained relatively constant despite the program receiving a reduced FY2008 appropriation, \$109 million below request.			