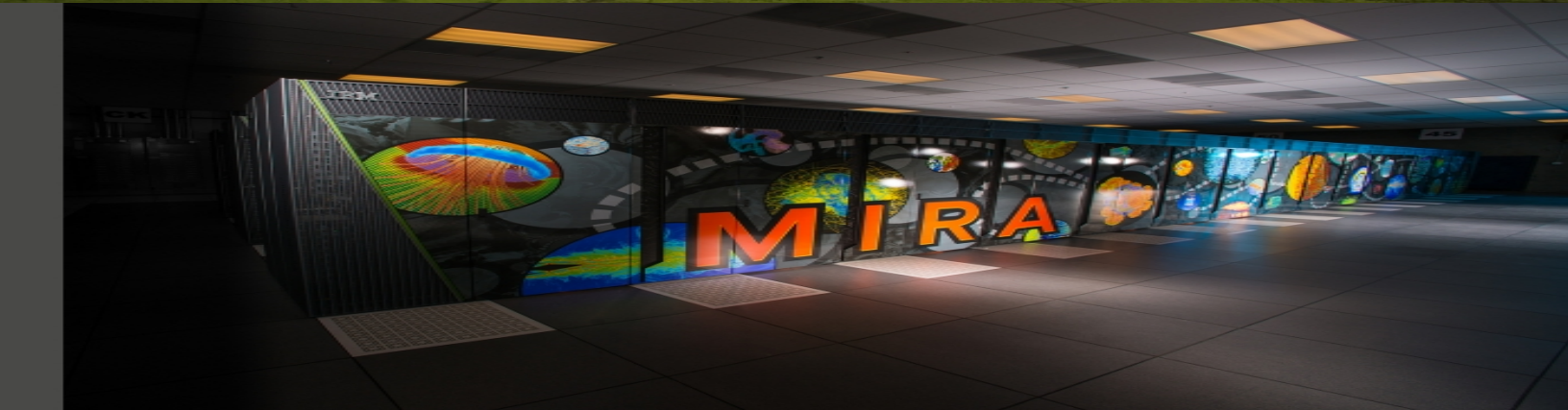


Fiscal Year 2014

Annual Performance Report



U.S. DEPARTMENT OF
ENERGY

Introduction

The *FY 2014 DOE Annual Performance Report* contains details of the Department of Energy's (DOE) program performance, showing the historical targets and results from FY 2010 through 2014 for specific goals, measures and methodology documentation. This report fulfills the statutory requirements of the Government Performance and Results Act (GPRA) of 1993 and the GPRA-Modernization Act of 2010 to produce an annual report on past program performance.

DOE Organization

In response to changing needs and an extended energy crisis, the Congress passed the Department of Energy Organization Act in 1977, creating the Department of Energy (DOE). That legislation brought together for the first time, not only most of the government's energy programs, but also science and technology programs and defense responsibilities that included the design, construction and testing of nuclear weapons. The Department provided the framework for a comprehensive and balanced national energy plan by coordinating and administering the energy functions of the federal government. The Department undertook responsibility for long-term, high-risk research and development of energy technology, federal power marketing, some energy conservation activities, the nuclear weapons programs, some energy regulatory programs and a central energy data collection and analysis program.

Three Under Secretaries manage the core functions that carry out the DOE mission with significant cross-cutting work spanning across the enterprise. The DOE enterprise is comprised of approximately 14,000 federal employees and over 90,000 management and operating contractors and other contractor employees at the Department's headquarters in Washington, D.C., and at 85 field locations. DOE operates a nationwide system of 17 national laboratories that provides world-class scientific, technological, and engineering capabilities, including the operation of national scientific user facilities used by over 31,000 researchers from academia, federal laboratories, and industry. The range, scale, and excellence of science and technology at the DOE laboratories provide strategic assets to accomplish DOE missions, respond to unforeseen domestic and international emergencies, and provide technical capabilities to help shape the global science and technology agenda. The Department's organizational chart is located at: <http://energy.gov/about-us/organization-chart>

Strategic Framework

This report is based on the strategic plan that was in use during the FY 2014 performance period. The 2014 DOE Strategic Plan served as a blueprint for addressing the nation's energy, environmental, and nuclear challenges through transformative science and technology solutions. The plan is available at: <http://www.energy.gov/downloads/2014-2018-strategic-plan>

This report is organized by the following three strategic goals:

1. **Science and Energy** - Advance foundational science, innovative energy technologies, and inform data driven policies that enhance U.S. economic growth and job creation, energy security, and environmental quality, with emphasis on implementation of the President's Climate Action Plan to mitigate the risks of and enhance resilience against climate change.
2. **Nuclear Security** - Strengthen national security by maintaining and modernizing the nuclear stockpile and nuclear security infrastructure, reducing global nuclear threats, providing for nuclear propulsion, improving physical and cybersecurity, and strengthening key science, technology, and engineering capabilities.
3. **Management and Performance** - Position the Department of Energy to meet the challenges of the 21st century and the nation's Manhattan Project and Cold War legacy responsibilities by employing effective management and refining operational and support capabilities to pursue departmental missions.

Priority Goals

The GPRM Modernization Act of 2010 established a process for agencies to focus on a limited number of near-term agency priority goals. The table below summarizes the progress on DOE's agency priority goals for FY 2014. See the tables at the back of this report for more information on the performance measures, including FY 2014 targets.

Program/ Goal Leader	Goal Statement	Performance Measures	FY 2014 Result
EERE/LPO Mike Knotek, Kathleen Hogan	Implement elements of the Climate Action Plan, including: <ul style="list-style-type: none"> ➤ Supporting the goal of reducing cumulative carbon pollution by 3 billion metric tons by 2030 through standards set since 2009 and promulgating new standards for consumer products and industrial equipment by the end of calendar year 2016. ➤ Providing up to \$8 billion in loan guarantees for advanced fossil energy technologies that reduce greenhouse gas emissions by the end of FY 2017. 	Promulgating new standards for consumer products and industrial equipment	On track to achieve Climate Action Plan goal. 365 million metric tons of CO2 are projected to be reduced through 2030 as a result of standards final rules published in CY14.
		Loan guarantees for advanced fossil energy technologies	On Track Part I, Round 3 Closed July 31, 2014 Part II, Round 1 Closed May 30, 2014 Part II, Round 1 Closed August 29, 2014 Applications that clear Part I may proceed to Part II, which includes the full application process. Information supplied in Part II will be used by DOE to make decisions as to whether to continue due diligence. Projects that successfully complete the due diligence, underwriting, and negotiations necessary to develop an acceptable term sheet may be offered a conditional commitment for a loan guarantee.
EPSA Melanie Kenderdine Jonathan Pershing	Enhance desirable characteristics and diminish vulnerabilities of the U.S. energy infrastructure to meet goals of economic competitiveness, national security, and environmental responsibility.	Support the first installment of the Quadrennial Energy Review (QER) through early FY 2015 and begin implementation of relevant recommendations within DOE's existing authorities.	Generated DOE policy analysis and options to identify infrastructure alternatives for interagency deliberation (TS&D) focus. Coordinated regional/topical stakeholder engagement meetings.
SC Franklin Orr, Pat Dehmer	Support and conduct basic research to deliver scientific breakthroughs and extend our knowledge of the natural world by capitalizing on the capabilities available at the national laboratories, and through partnerships with universities and industry.	Incorporate science user facility prioritization into program planning efforts.	Presented supported user facilities during FY 2016 draft budget briefings to OMB.
		Identify programmatic drivers and technical requirements in	Completed preliminary conceptual design for capable exascale computing and engaged the interagency community through a

		coordination with other Departmental mission areas to inform future development of high performance computing capabilities and in anticipation of capable exascale systems.	review panel held July 15-17, 2014. Incorporated interagency input into preliminary conceptual design.
NNSA Lt. Gen. Frank Klotz, Dr. Donald Cook, Philip Calbos	Maintain and modernize the U.S. nuclear weapons stockpile and dismantle excess nuclear weapons to meet the national security requirements, as assigned by the President, through the Nuclear Posture Review (NPR). In support of this goal, DOE will: ➤ Each year through FY 2015 and into the future, maintain 100% of the warheads in the stockpile as safe, secure, reliable, and available to the President for deployment. Conduct activities necessary to complete planned W76-1 production in FY 2019 and achieve the first B61-12 production unit in FY 2020, as reported in the FY 2013 Selected Acquisition Reports.	Annual percent of the Stockpile that is safe, secure, reliable and available. FY 2014 Target: 100%	The annual target was met with fourth quarter accomplishments to include: Completed 2014 Annual Assessment Reports for each weapon system and submitted reports to the NNSA Annual Assessment coordinator; completed 2014 Annual Assessment Director's Letters on September 30, 2014 and submitted letters to NNSA, DOE, and DoD.
		Complete the dismantlement of all weapons systems retired prior to 2009 per approved annual schedule published in the Production and Planning Directive, Program Control Documents, and Requirements and Planning Document annual documentation. FY 2014 Target: 100%	NNSA met the annual target of 100% dismantlements scheduled to be completed in FY 2014. Fourth quarter accomplishments include NNSA Pantex exceeding the total dismantlement requirement by 7% and remaining on track to complete dismantlement of weapon systems retired prior to 2009. This result is important because it demonstrates NNSA's commitment to the President's vision for reducing nuclear dangers and pursuing the long-term goal of a world without nuclear weapons. As defined by the 2010 Nuclear Posture Review, this target is a concrete demonstration of meeting our Non-Proliferation Treaty (NPT) Article VI obligation to make progress toward nuclear disarmament.
		The percentage of steady state W76-1 Life Extension Program (LEP) planned builds equal to the percentage of allocated funding as represented in the annual Selected Acquisition Report (SAR). FY 2014 Target: 100%	The annual target was met and NNSA completed deliveries of War Reserve (WR) units through September 2014 to the Navy in accordance with the negotiated Defense Programs and Navy delivery schedule. All FY 2014 deliveries were completed in accordance with the negotiated schedule. The W76-1 warhead with a non-destructive laser gas (NDLG) canned subassembly (CSA) was produced ahead of schedule and within budget including delivery of the unit to the Navy; exceeded or met monthly FY 2014 W76-1 warhead production requirement rates and DoD warhead delivery schedules including recovery of the FY 2013 production shortfall and overcoming impacts from the FY 2014 Government shutdown. Current W76 nuclear explosive operations are safe and the existing Documented Safety Analysis provides an adequate and well-documented safety basis of operations per 10 CFR 830, Subpart B

			requirements and applicable DOE directives.
NNSA Lt. Gen. Frank Klotz, Anne Harrington, Art Atkins	Continue to make progress toward securing the most vulnerable nuclear materials worldwide. In support of this goal, DOE will: Remove or confirm disposition of an additional 315 kilograms (kg) of highly enriched uranium and plutonium for a cumulative total of 5,332 kilograms by the end of FY 2015.	Cumulative number of kilograms of vulnerable nuclear material (highly enriched uranium and plutonium) removed or disposed. FY 2014 Target: 5,207 kg	Global Threat Reduction Initiative (GTRI) met the revised FY 2014 target of 5,207 kilograms of nuclear material removed or disposed. In the fourth quarter, 63 kilograms of additional material was removed or disposed. In the third quarter, no additional material was removed or disposed. In the second quarter, 31 kilograms of nuclear material was removed or disposed of. In the first quarter, 96 kilograms of nuclear material was removed or disposed of. The cumulative total to date is 5,207 kilograms.
EM/MA/IM David Klaus, Jim Owendoff, Paul Bosco, Paul Cunningham	Increase the focus on efficient and effective management across the DOE enterprise and improve performance in the areas of environmental cleanup, construction project management, and cybersecurity. In support of this goal, DOE will: <ul style="list-style-type: none"> ➤ Retrieve tank waste, close tanks, and dispose of transuranic waste within cost and schedule through FY 2015. ➤ On a three-year rolling basis, complete at least 90% of departmental projects baselined since the start of FY 2008 within the original scope baseline and not to exceed 110% of the cost as reflected in the performance baseline established at Critical Decision 2 through FY 2015. ➤ Achieve full operational capability of the Joint Cybersecurity Coordination Center (JC3), including classified operations, by the end of FY 2015. 	Liquid Waste Tanks Closed (cumulative) FY 2014 Target: 13 tanks	The EM Program closed two liquid waste tanks at the Savannah River Site (SRS) this year meeting its target for closing a cumulative total of 13 liquid waste tanks in FY 2014
		Transuranic Waste Dispositioned (cumulative) FY 2014 Target: 102,591 cubic meters	At the end of the fourth quarter of FY 2014, the EM program dispositioned a cumulative total of 99,179 cubic meters of combined Remote Handled and Contact Handled Transuranic Waste. This is 3,412 cubic meters short of its goal. The Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico experienced two events in February 2014. As a result, the WIPP repository is shut down and is not accepting any waste shipments. Current status at WIPP can be found at http://wipp.energy.gov . Even though WIPP is not receiving TRU waste at this time, there was TRU waste that was characterized and disposed as Low Level Waste or Mixed Low Level Waste.
		On a 3-year rolling basis, the percentage of departmental projects baselined since the start of FY 2008 that were completed within the original scope baseline and not to exceed 110% of the cost as reflected in the performance baseline established at Critical Decision 2. FY 2014 Target: 90%	75% Success Rate. Capital Asset Work Classification Policy: In March 2014, the Department developed its capital asset work classification policy and it is in the Department's collaboration process/system. We expect the policy to be signed in the first quarter of FY 2015. Training Modules: In September 2014, the Department released 34 Earned Value Management System (EVMS) training snippets available online 24/7 via the Project Assessment and Reporting System, PowerPedia, and the Energy Facility Contractors Group (EFCOG) webpage. These targeted training modules in the core areas of earned value management address common deficiencies identified as a result of independent reviews across the complex. Performance Parameters: In September 2014, the Department released its Statement of Work and Key Performance

			<p>Parameters for Capital Asset Projects Handbook. Achieving this objective requires clear and concise statements of work and discrete key performance parameters (KPPs) to support the development of efficient and effective performance based contracts as well as cost and schedule estimates.</p> <p>Life Cycle Costs: In September 2014, the Department published its Life Cycle Cost (LCC) Handbook. The provision of reliable LCC estimates and analyses are a critical function necessary to support DOE management decision-making, program planning and alternative selection processes. These estimates are equally important vehicles for communicating expectations and requirements to the Office of Management and Budget (OMB), Congress, Government Accountability Office (GAO), and other external stakeholders.</p>
		Achieve full operational capability of the Joint Cybersecurity Coordination Center (JC3), including TS-SCI operations, by the end of FY 2015	During the fourth quarter of FY 2014, the JC3 Program Office completed budget submissions and Spend Plans for FY 2015. The JC3 Project Management Office has commenced projects on the partial automation/full automation of the incident response and notification workflows. The JC3 PMO commenced the performing of a gap analysis that will establish a baseline of cybersecurity operations and functions as the Initial Operating Capability (IOC).
Labs	Restructure the relationship and interactions between the Department and the national laboratories and sites to ensure the continued status of the national laboratories as world-class research institutions best able to achieve DOE's mission, maximize the impact of federal R&D investment in the laboratories, accelerate the transfer of technology into the private and government sectors, and better respond to opportunities and challenges. In support of this goal, DOE will:	Hold in-person meeting of the National Laboratory Operations Board by the end of the fourth quarter FY 2014	The National Laboratory Operations Board (Board) met twice during the fourth quarter of 2014 (i.e., July and September) to discuss key Departmental operational and performance matters. Additionally, working groups held additional meetings during this period.
David Klaus		Hold in-person meeting of the National Laboratory Policy Council by the end of the fourth quarter FY 2014	The Laboratory Policy Council (Council) met in June 2014. The Council discussed strategic guidance on National Laboratory activities in support of Departmental missions. In particular, the Council is driving a number of crosscutting initiatives designed to tackle common challenges through collaborative efforts that extend across DOE's programs and the National Labs.
		Assess how well each existing and planned real property asset at the National Laboratories meets the mission and core capability by the end of FY 2015.	On Track. The National Laboratory Operations Board is currently overseeing an assessment of the condition of existing infrastructure throughout the laboratory complex and is presently on track to assess by the end of FY 2015 how well each existing and planned real property asset at the National Laboratories meets the mission and core capability.
	<ul style="list-style-type: none"> ➤ Establish the National Laboratory Policy Council to address high-level policy challenges and develop initiatives to build and focus the laboratory system on critical economic, research and national security priorities. 		

	<ul style="list-style-type: none">➤ Establish the National Laboratory Operations Board to address operational and administrative issues and enhance the effectiveness and efficiency of DOE's management of the national laboratories.➤ Improve stewardship of national assets across the national laboratories and DOE operating sites to assure that DOE physical plants and their operating practices comply with DOE Directives and achieve Administration priority initiatives by end of FY 2015.		
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Cross-Agency Priority Goals

The Administration identified 15 cross-agency priority (CAP) goals in the FY 2014 President's Budget. The implementation of these goals was led by White House offices, the Office of Management and Budget, and interagency councils. Action plans and FY 2014 results for each cross-agency priority goal can be found on the interagency performance management website at: <http://www.performance.gov>

DOE is the lead for the "Economic Growth: Lab-to-Market" goal:

Increase the economic impact of Federally-funded research and development by accelerating and improving the transfer of new technologies from the laboratory to the commercial marketplace.

The following actions will be taken to accelerate and improve the transfer of new technologies from the laboratory to the commercial marketplace:

- Optimizing the management, discoverability, and ease-of-license of the 100,000+ Federally-funded patents;
- Increasing the utilization of Federally-funded research facilities by entrepreneurs and innovators;
- Ensuring that relevant Federal institutions and employees are appropriately incentivized to prioritize R&D commercialization;
- Identifying steps to develop human capital with experience in technology transfer, including by expanding opportunities for entrepreneurship education; and
- Maximizing the economic impact of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

Management Review

The Department is meeting the GPRA-Modernization Act requirements for quarterly data driven executive review of Agency Priority Goals through a meeting within the Department known as the Business Quarterly Review (BQR). This review focuses on current performance and execution, providing appropriate data to support corporate level management decision making. The quarterly BQR cycle occurs in tandem with the longer term, annual budget process, and focuses on key priorities and strategy, resource deliberations, and budget construction. The BQR is chaired by the Deputy Secretary, who serves as the Chief Operating Officer. The main participants are the Under Secretaries, Chief Human Capital Officer, Performance Improvement Officer, and the Agency Priority Goal leaders. The meetings and briefing materials are prepared by the Performance Improvement Officer and Budget Director.

The BQR is structured to evaluate progress in implementing the Department's Strategic Plan. The three Under Secretaries each have primary responsibility in implementing one of the three strategic goals, an underlying set of program goals (including priority goals), and associated key performance measures. The Performance Improvement Officer collects quarterly milestones and stewards data driven reviews for all priority goals and program performance measures.

FY 2013 Unmet Performance Goals

The following table shows the FY 2014 status of performance goals that were not met in FY 2013 and explains actions to bring the activity back on track or an explanation of why the measure was discontinued.

Program	FY 2013 Performance Goal	FY 2014 Performance Status
Energy Efficiency and Renewable Energy	Issue Final Rules reducing carbon by at least 150 Million Metric Ton (mmt) toward the CAP goal.	Met/Exceeded the target in FY 2014, achieving 16 total products (i.e., Total Products Final Rules – 6, Standards Final Rules – 10).
Energy Efficiency and Renewable Energy	Demonstrations of advanced hydropower technologies at real-world sites to demonstrate energy and environmental performance, reducing financing and licensing risks (Number of demonstrations).	Delayed due to site permitting issues. Completed in FY 2014.
Loan Guarantee	Estimated annual CO2 emissions reductions of projects receiving loan guarantees that have achieved commercial operations compared to 'business as usual' energy generation. Measured in metric tons (mt).	Measure is back on track – Met target of 5.0 metric tons of CO2 emissions reduction.
Loan Guarantee	Annual generation capacity from projects receiving DOE loan guarantees that have achieved commercial operations measured in Megawatts (MW).	Measure remains off track - The primary reason for the shortfall in capacity is due to schedule delays for two of the solar projects; specifically, 1.) Mojave at 250MW was scheduled to come on-line in the second quarter of 2014 and is delayed to the second quarter of 2015 and 2.) Desert Sunlight, while coming on-line incrementally, was expected to have an additional 102MW on-line in FY 2014 that was delayed until the first quarter of 2015.
Nuclear Energy	Enable nuclear research and development activities by providing operational facilities and capabilities, as measured by availability percentages.	Measure remains off track - In order to achieve 80% scheduled availability; Nuclear Reactor Infrastructure will continue to focus on equipment reliability and effective outage planning. This includes oversight of the Plant Health Committee utilization and prioritization of funding to deal with safety system health and obsolescence and ensuring progress is made towards the critical spares inventory. In FY 2015, the Idaho Facilities Management (IFM) program will continue to analyze facility availability with the goal of developing more representative metrics in this area.
Office of Science	Average achieved operation time of High Energy Physics (HEP) user facilities as a percentage of total scheduled annual operation time.	Performance goal was continued with a revised annual target based on appropriated funding for the FY15. - HEP user facilities operated for 11,339 hours, which is 129% of planned (8,812) operating hours.
Weapons Activities	Emergency Operations Readiness Index (EORI) 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	Measure is back on track - Met the annual target of 91 Readiness Index. National Defense Authorization Act (NDAA) restriction of holdback was released and funding was realigned to support Radiological Assistance Program (RAP) training requirements. The Consequence Management program has one pilot and expects dual qualification Oct 2014. Equipment deficiencies were worked with patches and borrowed equipment. This

	time whereas the year end will be expressed as the average readiness for the year's four quarters.	result is important because it identifies problem areas that may need to be adjusted for improved program management and achievement of the overall Readiness Index for the fiscal year.
Weapons Activities	Cumulative percentage of progress towards achievement of key extreme experimental condition of matter needed for predictive capability for nuclear weapons performance.	Measure is back on track - The annual target of 90% was met. The Program made significant progress in fourth quarter to include the following accomplishments: In August, an Inertial Confinement Fusion (ICF) national team completed the first beryllium capsule experiment at the National Ignition Facility. The shot was successful, meeting all its goals. In September, Sandia National Lab, in collaboration with Los Alamos National Lab, carried out a polyurethane experiment that yielded high quality data. The results of the test will enhance the understanding of basic properties of plutonium under a variety of conditions.
Weapons Activities	The cumulative percentage reduction in the use of calibration "knobs" to successfully simulate nuclear weapons performance.	Measure is back on track - Achieved 100% of the annual target of 44% cumulative percentage reduction in the use of calibration "knobs" to successfully simulate nuclear weapons performance. Fourth quarter accomplishments include: Level 2 Milestones (as sourced in the ASC FY2014 Implementation Plan, Revision 1, Vol. 2, pages 67-80), used to evaluate and track progress, were completed on schedule.
Weapons Activities	Complete the dismantlement of all weapons systems in excess to stockpile requirements per approved annual schedule published in the Production and Planning Directive (P&PD), Program Control Documents (PCDs), and Requirements and Planning Document (RPD) "annual" documentation with the goal of balancing dismantlement work by mitigating gaps in future stockpile reductions.	Measure is back on track - NNSA met the annual target of 100% dismantlements scheduled to be completed in FY 2014. Fourth quarter accomplishments include NNSA Pantex exceeding the total dismantlement requirement by 7% and remaining on track to complete dismantlement of weapon systems retired prior to 2009. As defined by the 2010 Nuclear Posture Review (NPR), this target is a concrete demonstration of meeting our Non-Proliferation Treaty (NPT) Article VI obligation to make progress toward nuclear disarmament.
Defense Nuclear Nonproliferation	Cumulative percentage of the design, construction, and cold start-up activities completed for the Mixed Oxide (MOX) Fuel Fabrication Facility.	The project cannot be completed within the approved baseline and will require a rebaseline. The percent complete calculated is based on the over target baseline (revised baseline). The project is over budget and behind the current schedule and will continue to be behind schedule until a baseline change proposal (BCP) has been approved to revise the baseline. The current performance measure targets are based on the current approved baseline of record with a TPC of \$4.8B and a completion date of October 2016. This baseline is no longer valid. The Department is continuing an ongoing analysis to determine whether there are options to complete the mission more efficiently. Performance measure targets will be adjusted once a decision is made and an updated BCP has been approved.
Defense Nuclear Nonproliferation	Cumulative buildings containing weapons-usable material with completed Materials, Protection, Controls& Accounting MPC&A upgrades.	IMPC will not achieve the target of completing MPC&A upgrades at 229 buildings. Work on 8 remaining buildings will not be completed with U.S. funding, due to Russia's discontinuation of this joint work.

Environmental Management	Number of metric tons of depleted uranium (DU) and uranium (U) packaged in a form suitable for disposition	In FY 2014, the EM program packaged for disposition a cumulative total of 68,730 metric tons of depleted and natural abundance uranium, 106 metric tons short of its target. This was due to mechanical and operational issues at the facilities at Portsmouth and Paducah dedicated to the disposition of depleted uranium hexafluoride, The EM Program will be focusing its efforts to insure that these facilities will be operating at optimal capacity in the coming year.
Environmental Management	Package for disposition a cumulative total of high level waste.	Unplanned outages at the Defense Waste Processing Facility (DWPF) caused the canister count to be lower than planned for the fourth quarter of FY 2013. The FY 2014 Annual target has been met and performance is back on track.
Environmental Management	Liquid Waste Eliminated (thousands of gallons)	The EM program eliminated 6,592 gallons of Liquid Waste in FY 2014, but is still off track on this metric due to a shortfall at the SRS and ID.
Environmental Management	Complete remediation work at a cumulative total of release sites.	Measure is still off track - In the fourth quarter of 2014, EM completed remediation on a cumulative total of 7,956 release sites.
Environmental Management	Disposition of a cumulative total of cubic meters of transuranic waste consisting of Remote Handled TRU and Contact Handled TRU.	Measure remains off track due to WIPP shutdown.
Human Capital Management	Annual reductions in the average time-to-hire (both agency-wide and for each HR office) from 174 days in FY 2009 to 100 days or less by end of FY 2011, and further to 80 days by end of FY 2012.	Measure is back on track - The target to execute all GS-hires within an average of 80 days was met in FY2014.
Office of Management	Reduce Freedom of Information Act (FOIA) backlog.	Measure is back on track - The Department achieved a 22% reduction in the FOIA backlog for FY14.
Southeastern Power Administration	Repay annually 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.	Measure is back on track for FY 2014. 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. \$66.3 million UI in FY14.
Chief Information Officer	Trusted Internet Connection-Managed Trusted Internet Protocol Services TIC/MTIPS Consolidation	Achieved TIC/MTIPS Consolidation at 72% (did not meet annual target of 95%) for FY 2014.

Program Inventory

The following table presents the FY 2014 inventory of DOE programs and shows the relationship between the DOE strategic goals, objectives, and program activities.

Goal	Objective	Program Activity
<p>1. Science and Energy - Advance foundational science, innovative energy technologies, and inform data driven policies that enhance U.S. economic growth and job creation, energy security, and environmental quality, with emphasis on implementation of the President’s Climate Action Plan to mitigate the risks of and enhance resilience against climate change.</p>	<p>Strategic Objective 1 – Advance the goals and objectives in the President’s Climate Action Plan by supporting prudent development, deployment, and efficient use of “all of the above” energy resources that also create new jobs and industries.</p>	<p>Advanced Research Projects Agency- Energy Electricity Delivery and Energy Reliability Energy Efficiency and Renewable Energy Energy Information Administration Energy Policy and Systems Analysis Fossil Energy Indian Energy Policy and Programs International Affairs Loan Programs Nuclear Energy Power Marketing Administrations Science</p>
	<p>Strategic Objective 2 – Support a more economically competitive, environmentally responsible, secure and resilient U.S. energy infrastructure.</p>	
	<p>Strategic Objective 3 – Deliver the scientific discoveries and major scientific tools that transform our understanding of nature and strengthen the connection between advances in fundamental science and technology innovation.</p>	
Goal	Objective	Program Activity
<p>2. Nuclear Security: Strengthen national security by maintaining and modernizing the nuclear stockpile and nuclear security infrastructure, reducing global nuclear threats, providing for nuclear propulsion, improving physical and cybersecurity, and strengthening key science, technology, and engineering capabilities</p>	<p>Strategic Objective 4 – Maintain the safety, security and effectiveness of the nation’s nuclear deterrent without nuclear testing.</p>	<p>National Nuclear Security Administration Intelligence and Counterintelligence International Affairs</p>
	<p>Strategic Objective 5 – Strengthen key science, technology, and engineering capabilities and modernize the national security infrastructure.</p>	
	<p>Strategic Objective 6 – Reduce global nuclear security threats.</p>	
	<p>Strategic Objective 7 – Provide safe and effective integrated nuclear propulsion systems for the U.S. Navy.</p>	

Goal	Objective	Program Activity
<p>3. Management and Performance: Position the Department of Energy to meet the challenges of the 21st century and the nation’s Manhattan Project and Cold War legacy responsibilities by employing effective management and refining operational and support capabilities to pursue departmental missions</p>	<p>Strategic Objective 8 – Continue cleanup of radioactive and chemical waste resulting from the Manhattan Project and Cold War activities.</p>	<p>Environmental Management Legacy Management Chief Financial Officer Chief Human Capital Officer Chief Information Officer Congressional and Intergovernmental Affairs Economic Impact and Diversity General Counsel Health, Safety and Security Independent Enterprise Assessments Hearings and Appeals Inspector General Management Public Affairs</p>
	<p>Strategic Objective 9 – Manage assets in a sustainable manner that supports the DOE mission.</p>	
	<p>Strategic Objective 10 – Effectively manage projects, financial assistance agreements, contracts, and contractor performance.</p>	
	<p>Strategic Objective 11 – Operate the DOE enterprise safely, securely, and efficiently.</p>	
	<p>Strategic Objective 12 – Attract, manage, train, and retain the best federal workforce to meet future mission needs.</p>	

Program Performance

The pages that follow provide the detailed performance tables for DOE programs, organized by program and sub-program. The report does not break programs across goals and objectives as in the table above, as it is organized to match the Department's budget structure.

Office of the Administrator

NNSA Federal Salaries & Expenses

The mission of Office of the Administrator is to create a well-managed, inclusive, responsive, and accountable organization through the strategic management of human capital and acquisitions and integration of budget and performance data.

Program	NNSA Federal Salaries & Expenses				
Performance Goal (Measure)	Federal Administrative Costs - Maintain the Office of the Administrator Federal administrative costs as a percentage of total Weapons Activities and Defense Nuclear Nonproliferation program costs at less than 6%.				
Fiscal Year	2010	2011	2012	2013	2014
Target	5.9 %	5.9 %	5.9 %	5.9 %	5.9 %
Result	Exceeded - 5.2	Exceeded - 4.5	Exceeded - 4.1	Exceeded - 4.2	Exceeded - 4.1
Endpoint Target	In keeping with OMB and DOE expectations that administrative costs be minimized, maintain the Office of the Administrator Federal administrative costs as a percentage of total Weapons Activities and Defense Nuclear Nonproliferation program costs at less than 6%.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the annual target of the NNSA Federal administrative costs as a percentage of total Weapons Activities and Defense Nuclear Nonproliferation program costs at 5.9% or less. End of fiscal year results are 4.1%. This result is important because it demonstrates a prudent use of valuable resources.				
Documentation, Limitations, Methodology, Validation, and Verification	DOE accounting report; Excel spreadsheet with percent calculations				

Weapons Activities

Directed Stockpile Work

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.

Program	Directed Stockpile Work				
Performance Goal (Measure)	Annual Warheads Certification - Annual percentage of warheads in the stockpile that are safe, secure, reliable, and available to the President for deployment.				
Fiscal Year	2010	2011	2012	2013	2014
Target	100 % of stockpile certified	100 % of stockpile certified	100 % of stockpile certified	100 % of stockpile certified	100 % of stockpile certified
Result	Met - 100	Met - 100	Met - 100	Met - 100	Met - 100
Endpoint Target	Annually, maintain 100% of warheads in the stockpile as safe, secure, reliable, and available to the President for deployment.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual target was met with fourth quarter accomplishments to include: Completed 2014 Annual Assessment Reports for each weapon system and submitted reports to the NNSA Annual Assessment coordinator; completed 2014 Annual Assessment Director's Letters on September 30, 2014 and submitted letters to NNSA, DOE, and DoD. This result is important because it ensures the overall availability of the nuclear weapons stockpile for the nation's nuclear deterrent. This annual assessment is also a requirement of 50 United States Code section 2525 as amended by Fiscal Year 2014 National Defense Authorization Act.				
Documentation, Limitations, Methodology, Validation, and Verification	1) NNSA National Laboratories published Warhead Annual Assessment Reports/Weapon Reliability Reports; 2) Laboratory Director Annual Assessment Letters; 3) Annual Assessment Letter (CINCSTRAT); 4) Annual Assessment Memorandum to the President (SecDef-SecEng); 5) End-of-Year Reconciliation Report; 6) Weapon Yield Certification Letter; 7) Significant Finding Investigation Reports				

Program	Directed Stockpile Work				
Performance Goal (Measure)	Retired Weapons Systems Dismantlement - Complete the dismantlement of all weapons systems in excess to stockpile requirements per approved annual schedule published in the Production and Planning Directive (P&PD), Program Control Documents (PCDs), and Requirements and Planning Document (RPD) "annual" documentation with the goal of balancing dismantlement work by mitigating gaps in future stockpile reductions.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	100 % of annual planned dismantlements	100 % of annual planned dismantlements	100 % of annual planned dismantlements
Result			Exceeded - 112	Not Met - 88	Met - 100
Endpoint Target	Maintain a balance between production and steady state stockpile reduction dismantlement program. Note: The Dismantlement Annual Performance Goal was changed to complete the recommendation against the finding in the GAO Draft Report: GAO-14-206C, Nuclear Weapons: Actions Needed by NNSA to Clarify Dismantlement Performance Goal.				
Commentary on 2014 Results (Action Plan if Not Met)	NNSA met the annual target of 100% dismantlements scheduled to be completed in FY 2014. Fourth quarter accomplishments include NNSA Pantex exceeding the total dismantlement requirement by 7% and remaining on track to complete dismantlement of weapon systems retired prior to 2009. This result is important because it demonstrates NNSA's commitment to the President's vision for reducing nuclear dangers and pursuing the long-term goal of a world without nuclear weapons. As defined by the 2010 Nuclear Posture Review (NPR), this target is a concrete demonstration of meeting our Non-Proliferation Treaty (NPT) Article VI obligation to make progress toward nuclear disarmament.				
Documentation, Limitations, Methodology, Validation, and Verification	1) Current DSW Planning and Production Directive (P&PD) (workload planning documentation); 2) Program Control Documents (for individual weapons); 3) Requirements and Planning Document (RPD) DoD/DOE Nuclear Weapons Council (NWC);4) Nuclear Weapons Dismantlement Program Plan of record, and 5) 2008 Report to Congress on NNSA Nuclear Weapons Dismantlement.				

Program	Directed Stockpile Work				
Performance Goal (Measure)	Steady State W-76-1 LEP Production - The percentage of planned builds equal to the percentage of allocated funding as represented in the annual Selected Acquisition Report (SAR).				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	100 % of scheduled unit builds
Result					Met - 100
Endpoint Target	Complete production of the NWC-approved W76-1 LEP production schedule by FY 2019. Baseline Change Request was approved on April 23, 2013, to combine the LEP Production Costs and W76-1 LEP metrics into a single metric beginning in FY 2014. This new metric Steady State W76-1 LEP Production reflects the new single metric.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual target was met and NNSA completed deliveries of War Reserve (WR) units through September 2014 to the Navy in accordance with the negotiated Defense Programs and Navy delivery schedule. To date, all FY 2014 deliveries were completed in accordance with the negotiated schedule. The W76-1 warhead with a non-destructive laser gas (NDLG) canned subassembly (CSA) was produced ahead of schedule and within budget including delivery of the unit to the Navy; exceeded or met monthly FY 2014 W76-1 warhead production requirement rates and DoD warhead delivery schedules including recovery of the FY 2013 production shortfall and overcoming impacts from the FY 2014 Government shutdown. Current W76 nuclear explosive operations are safe and the existing Documented Safety Analysis provides an adequate and well-documented safety basis of operations per 10 CFR 830, Subpart B requirements and applicable DOE directives. This result is important because extending the life of the W76-0, a weapon system for Navy submarines, is on a highly success-oriented refurbishment schedule to meet DoD requirements and national security needs.				
Documentation, Limitations, Methodology, Validation, and Verification	1) W76-1 Selected Acquisition Report(s) ; 2) Planning and Production Directive (P&PD)current FY revision);3) W76-01 Program Control Document 2013-C dated 05-02-13; 4) Requirements and Planning Directive (RPD) current revision; and, 5) Life Extension Program Management Plan dated 01-24-03, and 6) W76 LEP NNSA Project Plan (as revised) – provides a summary of the activities and schedules necessary to accomplish the W76-1/Mk4A refurbishment. 7) NNSA memorandum from J.M. Oder, Office of Nuclear Weapon Stockpile, NA-122, to Distribution, "Update to Production and Planning Directive 2011-1," dated February 21, 2012. 8) Microsoft Excel Spreadsheet, "Cost Estimating for the W76 LEP 12/29/2011 Rev. 7," dated September 27, 2012. 9) NNSA memorandum from J.M. Oder, Office of Nuclear Weapon Stockpile, NA-122, to Distribution, "Update to W76-1 Production (U)," dated March 12, 2013.				

Program	Directed Stockpile Work				
Performance Goal (Measure)	Tritium Production - Cumulative number of Tritium-Producing Burnable Absorber Rods irradiated in Tennessee Valley Authority reactors to provide the capability of producing new tritium to support national security requirements.				
Fiscal Year	2010	2011	2012	2013	2014
Target	960 TPBARs	1,328 TPBARs	1,872 TPBARs	1,872 TPBARs	2,416 TPBARs
Result	Exceeded - 1,088	Met - 1,328	Met - 1,872	Met - 1,872	Met - 2,416
Endpoint Target	By the end of FY 2019, complete irradiation of 5,104 Tritium-Producing Burnable Rods (TPBARs) to provide tritium for nuclear weapons. Note: Irradiation of TPBARs is completed every 18 months, or 1.5 years, in approximately October or March. For FY 2013, the irradiation cycle started in October of 2012. Thus, there is no increase to the number of TPBARs irradiated in FY 2013 and, for the same reason, no increase in FY 2016 or FY 2019. This performance measure was moved from the Readiness Campaign in the FY 2014 appropriation.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual measure was met when NNSA completed early the irradiation of 544 TPBARs at the Tennessee Valley Authority's (TVA) Watts Bar Nuclear Power Plant Unit 1, and building and delivering 704 TPBARs for the irradiation cycle that started in April 2014. The 544 TPBARs that were removed have been shipped to the Savannah River Site for tritium extraction effectively completed the FY 2014 milestone for the tritium readiness program. The 704 TPBARs that are currently being irradiated will complete in September 2015. The next 18 month irradiation cycle will be complete by September 2015 with a new target of 3,120 TPBARs. This result is important because irradiation and extraction of tritium is essential to meet national security requirements.				
Documentation, Limitations, Methodology, Validation, and Verification	Milestones supporting the performance measure are documented in the Campaign's plans; Site acceptance reports or other appropriate documentation; Weekly site status calls with the Federal Program Manager; End of cycle reports submitted by the Tennessee Valley Authority (TVA); Quarterly Project Reviews (attended by TVA); Milestone Reporting Tool (MRT) status reports.				

Science

The Science Campaign develops our nation’s scientific capabilities and experimental infrastructure used to assess the safety, security, reliability, and performance of the nuclear explosives package (NEP) without reliance on further underground testing. The Science Campaign supports this evaluation by developing certification and assessment tools and the experimental platforms to inform, validate, and provide confidence in our essential predictive capabilities. Its science-based approach provides the fundamental knowledge needed to: (1) provide a quantitative measure of confidence in weapons performance; (2) address and reduce uncertainties in our predictive capabilities; (3) predict the performance of the NEP as components age; (4) inform decisions for Stockpile Stewardship Programs; and (5) exercise readiness capabilities through experiments and assessments.

Program	Science				
Performance Goal (Measure)	Experimentally Validated Physics Models - Cumulative percentage of progress in delivering an experimentally validated physics-based capability to enable assessment of weapon performance with quantified uncertainties, replacing key empirical parameters in the nuclear explosive package.				
Fiscal Year	2010	2011	2012	2013	2014
Target	60 % of progress	63 % of progress	68 % of progress	72 % of progress	76 % of progress
Result	Not Met - 58	Met - 63	Met - 68	Met - 72	Met - 76
Endpoint Target	By the end of FY 2020, use modern physics models in assessment calculations to replace the major empirical parameters affecting weapon performance. This activity is performed in collaboration with the ICF Campaign.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual target was met with 76% progress in replacing key empirical parameters in the nuclear explosive package assessment with first principles physics models developed by validation with experiment. Fourth quarter accomplishments derived from the Performance Capability Framework (PCF) include the following: the Science Campaign continued to undertake experiments to expand reuse support; completed pit reuse preparations for a hydro test at DAHRT in October; continued engineering and materials' testing in support of the Life Extension Program (LEP); executed the sub-critical experiment Leda at U1a; continued nuclear fission experiments in support of the stockpile; created a draft of a Revised Primary Assessment Plan; investigated radiation damage to high explosives; completed planned boost physics experiments; measured age dependent effects on plutonium; carried out complementary plutonium experiments at a number of sites; completed physics design specifications for the subcritical experiment Lyra; completed physics design specifications for the Red Sage experiment at U1a in FY 2016. This measure rests on a number of milestones which were achieved in FY 2014. The FY 2014 milestones support our increase of 4% from 72% in FY13 to 76% in FY 2014. This result is important because it will improve nuclear weapon certification confidence.				
Documentation, Limitations, Methodology, Validation, and Verification	Predictive Capability Framework, Milestone Reporting Tool, White Paper on Quantification of Margins and Uncertainty Performance Measure.				

Engineering

The Engineering Campaign provides the modern tools and capabilities needed to ensure the safety, security, reliability and effectiveness of the United States nuclear weapons stockpile. It provides the fundamental and sustained engineering basis for stockpile certification and assessments that are needed throughout the entire lifecycle of each weapon. The Engineering Campaign funds activities that assess and improve fielded nuclear and non-nuclear engineering components without further underground testing. Additionally, this Campaign increases the ability of the National Nuclear Security Administration (NNSA) to predict the response of weapon components and subsystems to harsh environments and to the effects of aging. In accordance with the 2010 Nuclear Posture Review Report, the Engineering Campaign directly supports “strengthening the science, technology, and engineering (ST&E) base needed for conducting weapon system LEPs, maturing advanced technologies to increase weapons surety, qualification of weapon components and certifying weapons without nuclear testing, and providing annual stockpile assessments through weapons surveillance.”

Program	Engineering				
Performance Goal (Measure)	Technology Maturation Capabilities - The annual progress towards the maturation of technologies and stockpile assessment capabilities as measured by the number of deliverables in the implementation plans completed.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	21 deliverables	21 deliverables	20 deliverables
Result			Met - 21	Met - 21	Met - 20
Endpoint Target	Until the last nuclear weapon system in the stockpile is dismantled, NNSA will continue to mature technologies and stockpile assessment capabilities to support Directed Stockpile Work nuclear weapons refurbishment and assessment activities.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual target was met. Fourth quarter accomplishments include: significant progress in the development of safety, security, and use control technologies, including Integrated Surety Solutions as well as progressing multi-point safety technology for multi-system applications. This result is important because it ensures that the tools and component technologies required to support the safety, security, reliability, and performance of the current and future U.S. nuclear stockpile will be available when needed.				
Documentation, Limitations, Methodology, Validation, and Verification	Milestones and a table of deliverables supporting the performance measures are documented in the Program Implementation Plan (PIP). Weekly and monthly site status calls with the Federal Program Managers are documented. Milestone Reporting Tool (MRT) status reports also document progress performance on a quarterly basis. In addition, bi-annual and annual accomplishments are provided by the sites to Federal Program Manager in formal program reviews. Federal Program Manager and staff confirm capabilities completion during site field visits and Program Reviews.				

Inertial Confinement Fusion Ignition and High Yield

The Inertial Confinement Fusion (ICF) Ignition and High Yield Campaign provides the experimental capabilities and scientific understanding in high-energy density physics necessary to maintain a safe, secure, and reliable nuclear weapons stockpile without underground testing. Science-based weapons assessments and certification requires advanced experimental capabilities that can create and study matter under extreme conditions that approach the high energy density (HED) environments found in a nuclear explosion. The ICF Campaign provides this capability through the development and use of advanced experimental tools and techniques, including state-of-the-art laser and pulsed power facilities. The development of thermonuclear ignition and its applications in the laboratory will provide important information to support assessment and certification of the stockpile. It is the most important component of the ICF Campaign and a major goal for the National Nuclear Security Administration (NNSA) and the U.S. Department of Energy (DOE).

Program	Inertial Confinement Fusion Ignition and High Yield				
Performance Goal (Measure)	Advanced Ignition Demonstration - Cumulative percentage of progress toward the validation of a concept that meets the requirements for weapons science applications and contributes to energy science and national security.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	20 % of progress (cumulative)	30 % of progress (cumulative)
Result				Met - 20	Not Met - 0
Endpoint Target	By FY 2019, demonstrate an advanced ignition platform that meets the refined requirements of the Stockpile Stewardship Program (SSP).				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The measure was not met as predicated on the ability to achieve ignition. The current status of knowledge does not permit an estimate of when ignition will be achieved. The Program continues its progress with fourth quarter accomplishment including: Limited Life Exchange (LLE) carried out two High Density Energy campaigns that produced very valuable Equation of State data. These results are important because it supports the weapons science applications for national security.</p> <p>Action Plan: Consistent with the "Path Forward" document submitted to Congress in December 2012 the ICF Program has established a three year plan of action. The objectives of the three year plan are to understand the causes of failure to achieve ignition, development of an ignition campaign, and increased support for the Stockpile Stewardship Plan. OMB approved a performance measure change request that better reflects the priorities of the 3-year plan of action.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Milestone Reporting Tool, Monthly Progress Reports				

Program	Inertial Confinement Fusion Ignition and High Yield				
Performance Goal (Measure)	Application of Ignition - Cumulative percentage of progress in providing data required to support the predictive capability framework burn boost initiative in FY 2018.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	20 % of progress (cumulative)	35 % of progress (cumulative)
Result				Met - 20	Not Met - 0
Endpoint Target	By FY 2018, provide data required to support the Predictive Capability Framework (PCF) burn boost initiative. This activity is performed in collaboration with the Science Campaign.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The measure was not met because NIF did not achieve ignition under the National Ignition Campaign as predicted by codes and models encompassing the state of knowledge of relevant physics at that time. Subsequent experimental evidence is showing that issues such as plasma instabilities, failure to reach full stagnation pressure as a consequence of drive asymmetries and perhaps inadequately understood materials properties under extreme conditions have impaired progress on this milestone. Achieving ignition remains a vital goal for the stockpile stewardship program, but separately, understanding why the code and models are also relevant for making assessments of the safety and performance of the stockpile, is equally as important, if not more so, and as a consequence NNSA has rebalanced the ICF and science campaigns to pursue these important issues. This result is important because the data will help validate the predictive capability framework burn boost initiative.</p> <p>Action Plan: Consistent with the "Path Forward" document submitted to Congress in December 2012 the ICF Program has established a three year plan of action. The objectives of the three year plan are to understand the causes of failure to achieve ignition, development of an ignition campaign, and increased support for the Stockpile Stewardship Plan. OMB approved a performance measure change request that better reflects the priorities of the 3-year plan of action.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Predictive Capability Framework, Milestone Reporting Tool, White Paper on Quantification of Margins and Uncertainty Performance Measure				

Program	Inertial Confinement Fusion Ignition and High Yield				
Performance Goal (Measure)	Key Extreme Experiments - Cumulative percentage of progress towards achievement of key extreme experimental condition of matter needed for predictive capability for nuclear weapons performance.				
Fiscal Year	2010	2011	2012	2013	2014
Target	35 % of progress (cumulative)	55 % of progress (cumulative)	75 % of progress (cumulative)	85 % of progress (cumulative)	90 % of progress (cumulative)
Result	Met - 35	Met - 55	Not Met - 65	Not Met - 68	Met - 90
Endpoint Target	By the end of FY 2015, achieve temperature and pressure conditions in the laboratory relevant to weapons' primaries. This activity is performed in collaboration with the Science Campaigns within the Office of Research and Development.				
Commentary on 2014 Results (Action Plan if Not Met)	The annual target of 90% was met. The Program made significant progress in fourth quarter to include the following accomplishments: In August, an ICF national team completed the first beryllium capsule experiment at the NIF. The shot was successful, meeting all its goals. In September, SNL, in collaboration with LANL, carried out a Pu experiment that yielded high quality data. The results of the test will enhance the understanding of basic properties of plutonium under a variety of conditions. These results for key extreme experiments are important because they show much better agreement with code predictions under lower convergence conditions to affirm confidence in our scientific methods that underpin the assessments of stockpile performance.				
Documentation, Limitations, Methodology, Validation, and Verification	Predictive Capability Framework; Milestone Reporting Tool (MRT) status reports				

Advanced Simulation and Computing

The Advanced Simulation and Computing (ASC) Campaign provides leading edge, high-end simulation capabilities to meet the requirements of weapons assessment and certification, including weapon codes, weapons science, computing platforms, and supporting infrastructure. The ASC Campaign serves as the computational surrogate for nuclear testing to determine weapon behavior. The ASC Campaign underpins the Annual Assessment of the stockpile, and is an integrating element of the Predictive Capability Framework.

Program	Advanced Simulation and Computing				
Performance Goal (Measure)	Reduced Reliance on Calibration - The cumulative percentage reduction in the use of calibration “knobs” to successfully simulate nuclear weapons performance.				
Fiscal Year	2010	2011	2012	2013	2014
Target	30 % cumulative reduction in use of calibration "knobs"	35 % cumulative reduction in use of calibration "knobs"	40 % cumulative reduction in use of calibration "knobs"	45 % cumulative reduction in the use of calibration "knobs"	44 % cumulative reduction in the use of calibration "knobs"
Result	Exceeded - 33	Met - 35	Not Met - 38	Not Met - 41	Met - 44
Endpoint Target	<p>By the end of FY 2024, 100% of selected calibration knobs (non-science based models) affecting weapons performance simulation have been replaced by science-based, predictive phenomenological models. Reduced reliance on calibration will ensure the development of robust ASC simulation tools. These tools are intended to enable the understanding of the complex behaviors and effect of nuclear weapons, now and into the future, without nuclear testing.</p> <p>Note: Modifications of the Predictive Capability Framework (PCF) goals in FY 2013 provided better programmatic alignment with near-term Directed Stockpile Work (DSW) requirements and more realistic long-term improvements in simulation capability. To better quantify improvements within the integrated performance codes in terms of "percent reduction in the use of calibration knobs," a linkage between PCF goals and ASC milestones that can then be reflected with the performance indicator is required. The PCF goal modifications led to revised ASC L1 and L2 milestones and the re-baselining of the ASC performance indicator targets, which is evident with the change to the FY 2014 target from 50% in the FY 2014 request to 44% in the FY 2015 request.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>Achieved 100% of the annual target of 44% cumulative percentage reduction in the use of calibration “knobs” to successfully simulate nuclear weapons performance. Fourth quarter accomplishments include: Level 2 Milestones (as sourced in the ASC FY2014 Implementation Plan, Revision 1, Vol. 2, pages 67-80), used to evaluate and track progress, were completed on schedule. This result is important because the continued reduction in the use of calibration “knobs” will improve our ability to continue to certify nuclear weapons performance without underground tests.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Laboratory reports to HQ Program Manager; Milestone Reporting Tool (MRT) status reports				

Readiness

The Readiness Campaign operates the capability for producing tritium to maintain the national inventory needed for the nuclear weapons stockpile and selects and matures production processes and technologies that are required for manufacturing components to meet Directed Stockpile Work production requirements.

Program	Readiness				
Performance Goal (Measure)	Nonnuclear Readiness - The annual progress towards the maturation of production technologies and manufacturing capabilities as measured by the number of deliverables completed.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	5 deliverables	5 deliverables
Result				Exceeded - 6	Met - 5
Endpoint Target	<p>Until the last nuclear weapon system in the stockpile is dismantled, NNSA will continue to mature production technologies and manufacturing capabilities to support Directed Stockpile Work, nuclear weapons refurbishment, and assessment activities.</p> <p>Note: The modified measure is a result of a reduction in budget authority (effectively zeroed out the Component Manufacturing Development measure) based on language contained in the FY14 enacted appropriation bill. The number of deliverables previously associated with the Component Manufacturing Development (CMD) measure has been reduced by one starting 2Q, FY 2014. This change will limit the program's ability to execute multi-system scope and increases the risk of rework and schedule slippage. However, all near-term, high-priority scope is expected to be executed for this revised measure including base technology development associated with B61-12 LEP and W88 ALT 370 product development.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The measure was met in FY 2014. Current scope funded by the Nonnuclear Readiness Subprogram was executed on schedule and supported the enduring stockpile including B61-12 LEP and W88 ALT 370 deliverables. Fourth quarter accomplishments include: Built and environmentally tested over 60 strong links to improve designs and manufacturing processes at KCP; characterized testing parameters for destructively testing welds on firing sets; delivered additively manufactured pads and cushions for testing within Joint Test Assemblies; and completed and demonstrated electronic production control system through production processing steps using Sentinel Application-Specific Integrated Circuits. These results are important because these capabilities support the immediate and urgent nuclear weapon refurbishment needs.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Milestones and a table of deliverables supporting the performance measures are documented in the Program Implementation Plan (PIP). Weekly and monthly site status calls with the Federal Program Managers are documented. Milestone Reporting Tool (MRT) status reports also document progress performance on a quarterly basis. In addition, bi-annual and annual accomplishments are provided by the sites to Federal Program Manager in formal program reviews. Federal Program Manager and staff confirm capabilities completion during site field visits and Program Reviews.</p>				

Readiness in Technical Base and Facilities

Readiness in Technical Base and Facilities (RTBF) supports the Weapons Activities of the National Nuclear Security Administration (NNSA) by performing mission-essential functions with a focus on capability investments, Special Nuclear Material (SNM) processing, and SNM inventory management. RTBF accomplishes its mission by achieving the following goals: develop and execute SNM strategies for Defense Programs (DP) operations; develop and operate SNM processing technology improvements and functionality; manage capability investments and line-item construction projects, supply required quantities of program nuclear materials for immediate production use and reserve use in strategic inventories; recycle, recover, and store nuclear and select non-nuclear program materials; and sustain program skills through personnel training and development.

Program	Readiness in Technical Base and Facilities				
Performance Goal (Measure)	Construction Projects (formerly Major Construction Projects) - 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 budgeted cost of work performed to budgeted cost of work scheduled) and a cost performance index (ratio of budgeted cost of work performed to actual cost of work performed) between 0.9-1.15.				
Fiscal Year	2010	2011	2012	2013	2014
Target	90 % of projects	90 % of projects	90 % of projects	90 % of projects	90 % of projects
Result	Met - 90	Met - 90	Met - 90	Met - 90	Met - 90
Endpoint Target	Annually achieve 90% of baselined construction projects with TEC greater than \$20M with actual SPI and CPI of 0.9-1.15 as measured against approved baseline definitions.				
Commentary on 2014 Results (Action Plan if Not Met)	FY 2014 annual target of 90% met with six of six baselined projects completing performance indices within specified ranges. The High Pressure Fire Loop Project received CD-4; Phase C of the TA-55-Reinvestment Project II received CD-2/3 in August 2014) and the Test Capabilities Revitalization Project, II, received CD-4 in March 2014 as planned. Baselined schedules and major decision points in individual project plans include; Transuranic Waste Facility that received CD-3 approval (approve start of construction), and the Low Level Liquid Waste Treatment Facility receiving CD-2 with CD-3 approved on September 26, 2014. Monthly project progress reports include Earned Value Management (EVM) data and DOE Project Assessment and Reporting System (PARS) reporting data. This result is important because it demonstrates effective program management over multiple projects and improved efficiencies.				
Documentation, Limitations, Methodology, Validation, and Verification	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; Milestone Reporting Tool (MRT) status reports				

Program	Readiness in Technical Base and Facilities				
Performance Goal (Measure)	Operations of Facilities - 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	95 % availability
Result					Exceeded - 98
Endpoint Target	Mission critical and mission dependent facilities are available at least 95% of scheduled days annually. Note: This performance measure was located in the Site Stewardship program in the FY 2014 Congressional Justification but has been moved to RTBF, due to direction by Congress.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the target of 95% of facilities available for operations in FY 2014. Mission critical facilities were available 98% of the scheduled days, exceeding the quarterly target. This result is important because it demonstrates operational effectiveness and efficiency of mission critical and mission dependent facilities.				
Documentation, Limitations, Methodology, Validation, and Verification	Quarterly Facility Availability Report, by site				

Secure Transportation Asset

As a departmental asset, the Secure Transportation Asset (STA) program safely and securely transports nuclear weapons, weapons components, and special nuclear materials to meet projected Department of Energy (DOE), Department of Defense (DoD), and other customer requirements.

STA contains two activities – Program Direction, and Operations and Equipment. Program Direction provides primarily for the federal agents and the secure transportation workforce. Operations and Equipment provides for STA’s transportation service infrastructure that is critical in meeting the stockpile refurbishment and modernization initiatives of the nuclear security enterprise.

Program	Secure Transportation Asset				
Performance Goal (Measure)	Safe and Secure Shipments - Annual percentage of shipments completed safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material.				
Fiscal Year	2010	2011	2012	2013	2014
Target	100 % of shipments	100 % of shipments	100 % of shipments	100 % of shipments	100 % of shipments
Result	Met - 100	Met - 100	Met - 100	Met - 100	Met - 100
Endpoint Target	Annually, ensure that 100% of shipments are completed safely and securely without compromise/loss of nuclear weapons/components or a release of radioactive material.				
Commentary on 2014 Results (Action Plan if Not Met)	The Secure Transportation Asset achieved 100% success of the annual target by Fiscal Year End. The Transportation Shipping Request (TSR) for the fourth quarter totaled 87 missions. The on-time delivery for those Missions was calculated at 98%, which is above the NNSA goal of 90%. The overall annual total Missions for the year to date is 285 with an on-time delivery rate of 96%. This result is important because it indicates tangible mission accomplishments for the Nuclear Security Enterprise.				
Documentation, Limitations, Methodology, Validation, and Verification	Certification from the senior Program Manager for Mission Operations that there are no known internal or external reports of any compromise or loss; absence of any DOE Occurrence Reporting and Processing System (ORPS) reports related to shipments; Supporting milestones for the performance measure are documented and maintained by the Program. Official justification are contained internally within program secondary documents to include: Office of Mission Operations Manager Certification Memo, On Time Delivery Quarterly Report, On Board Agent Availability Report and a Level II Milestone Report				

Nuclear Counterterrorism Incident Response Program

The Nuclear Counterterrorism Incident Response (NCTIR) program responds to and mitigates nuclear and radiological incidents worldwide and has a lead role in defending the Nation from the threat of nuclear terrorism.

Program	Nuclear Counterterrorism Incident Response Program				
Performance Goal (Measure)	Emergency Operations Readiness Index - Emergency Operations Readiness Index (EORI) 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 whereas the year end will be expressed as the average readiness for the year's four quarters).				
Fiscal Year	2010	2011	2012	2013	2014
Target	91 EORI	91 EORI	91 EORI	91 EORI	91 EORI
Result	Not Met - 88	Not Met - 85	Exceeded - 93	Not Met - 81	Met - 91
Endpoint Target	Annually, maintain an Emergency Operations Readiness Index of 91 or higher.				
Commentary on 2014 Results (Action Plan if Not Met)	Met the annual target of 91 Readiness Index. NDAA restriction of holdback was released and funding was realigned to support RAP training requirements. The Consequence Management program has one pilot and expects dual qualification Oct 2014. Equipment deficiencies were worked with patches and borrowed equipment. This result is important because it identifies problem areas that may need to be adjusted for improved program management and achievement of the overall Readiness Index for the fiscal year.				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Site Stewardship

The goal of Site Stewardship is to ensure the overall health and viability of the NNSA nuclear security enterprise and to support the Department of Energy and other national missions, bringing focus to a number of areas including facility operations, sustainability, environmental compliance, and nuclear materials disposition. The program goal and objectives of Site Stewardship align with the Department's Strategic Plan (May 2011) goals and management principles, by ensuring capabilities and resources are available to address a number of challenges in the areas of facility operations, environmental compliance, energy, security and management.

Program	Site Stewardship				
Performance Goal (Measure)	Environmental Monitoring and Remediation - Annual percentage of environmental monitoring and remediation deliverables that are required by regulatory agreements to be conducted at NNSA sites under Long Term Stewardship (LTS) that are executed on schedule and in compliance with all acceptance criteria.				
Fiscal Year	2010	2011	2012	2013	2014
Target	95 % of deliverables	95 % of deliverables	95 % of deliverables	95 % of deliverables	95 % of deliverables
Result	Exceeded - 100	Exceeded - 100	Exceeded - 100	Exceeded - 100	Exceeded - 100
Endpoint Target	Annually, submit on schedule and receive regulatory approval of at least 95% of all environmental monitoring and remediation deliverables that are required at NNSA sites under LTS by regulatory agreements.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the target of 95% by completing 100% of required environmental monitoring and remediation deliverables on schedule and acceptable by regulatory agreements. Meeting these regulatory deliverables is important as it prevents the issuance of notices of violations (NOVs), fines, and penalties by the regulators due to deliverables being late or insufficient.				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Defense Nuclear Security

Safeguards and Security (S&S) is comprised of two Government Performance and Results Act (GPRA) Unit Programs. The Defense Nuclear Security (DNS) program, managed by the National Nuclear Security Administration (NNSA) Associate Administrator for Defense Nuclear Security, provides protection for NNSA personnel, facilities, nuclear weapons, and information from a full spectrum of threats, most notably from terrorism, which has become of paramount concern since the September 11, 2001 attacks. The National Nuclear Security Administration Chief Information Officer (CIO) Activities program (formerly Cyber Security), managed by the NNSA Chief Information Officer, and provides the requisite guidance needed to ensure that sufficient information management security safeguards are implemented throughout the NNSA enterprise. These program efforts are integrated under NNSA's Chief of Defense Nuclear Security.

Program	Defense Nuclear Security				
Performance Goal (Measure)	Enterprise Risk Management (ERM) - Implement and sustain a repeatable process for conducting site vulnerability and risk assessments and a set of consistent deliverables to help Federal oversight ensure the security program is integrated, robust, and efficient.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	90 % index
Result					Met - 90
Endpoint Target	BY 2017, achieve an improved corporate understanding of site operations, protection strategies, and risk acceptance that enables decision-makers to make true cost/benefit and risk acceptance decisions for physical security, better risk-informed resource allocation decisions, and more balance across NNSA sites, maintaining a 95% index thereafter.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the annual target of 90% implementing and sustaining a repeatable process for conducting site vulnerability and risk assessments and a set of consistent deliverables to help Federal oversight ensure the security program is integrated, robust and efficient by the end of FY. At this time, a program plan for this process has been revised, resources have been identified. An Enterprise vulnerability assessment (VA) working group was completed in September 2014 and a set of deliverables were drafted that will be used for site visits. The first site to have an Enterprise VA visit is LANL schedule for October 2014. This result is important because it ensures consistent protection strategies across the Enterprise which is understandable and defensible.				
Documentation, Limitations, Methodology, Validation, and Verification	Enterprise Vulnerability Assessment Project Plan				

Program	Defense Nuclear Security				
Performance Goal (Measure)	Physical Security Infrastructure Recapitalization (PSIR) - Implement and maintain a physical security life cycle management process, including on-time and to-standard supplemental deliverables after implementation.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	85 % index
Result					Exceeded - 100
Endpoint Target	By 2017, achieve defensible prioritization of systems investments based on risk, more efficient bulk procurements, more common systems configurations/designs, timely redistribution of inventories based on site needs, and more accurate reporting to external stakeholders on condition of NNSA security systems, maintaining a 95% index thereafter.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the annual target of 85% implementing and sustaining a repeatable process for establishing the baseline of physical security system components and a consistent deliverable (Physical Security Supplemental) that will ensure Federal oversight knowledge level of the state of the physical security program. At this time, all site validation visits have been conducted and analysis/report writing was completed, finishing FY 2014 at 100%. This result is important because it ensures knowledge of readiness of the NNSA Physical Security Systems as well as providing information on prioritization of all lifecycle projects.				
Documentation, Limitations, Methodology, Validation, and Verification	Physical Security Supplemental Project Plan, Site Visit Reports, Physical Security Supplemental quarterly and annual reports.				

Program	Defense Nuclear Security				
Performance Goal (Measure)	Protective Force Training Reform - Implement and sustain an Enterprise Mission Essential Task List (EMETL)-based training program, based on a U.S. military model, for protective forces at all eight NNSA sites. Improve the ability of protective force leaders to think and act independently, adapt and perform effectively in different operational environments. Improve the program office's ability to verify the quality of instructors and the overall status of protective force training and readiness.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	90 % index
Result					Exceeded - 100
Endpoint Target	By FY 2017, produce protective forces that are high-performing in mission accomplishment with a necessary/appropriate training program that minimizes unproductive training time, maintaining a 95% index thereafter.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the annual target of 90% for implementing and sustaining an Enterprise Mission Essential Task List (EMETL)-based training program for protective forces at all eight NNSA sites, finishing FY 2014 at 100%. At this point all sites have fully implemented the EMETL-based training program and have developed procedures for sustaining the program. The annual report on the status of EMETL implementation was issued January 2014. All Subject matter experts conducted EMETL Site Assistance Visits were completed in and validated satisfactory programmatic and operational execution at all NNSA sites by the end of June 2014. This result is important because it ensures readiness of Enterprise Protective Force to address threats in Departmental policy formally establishes a corporate approach to continuously identifying and addressing mission-critical training needs in a timely manner. Additionally, quarterly performance assessment reporting deliverables to the Program Office are used to identify enterprise-wide needs and provide a current, comprehensive snapshot of protective force capabilities in all mission-essential task areas. These quarterly reports provide NNSA senior leadership with unprecedented situational awareness and can be made available to external stakeholders upon request.				
Documentation, Limitations, Methodology, Validation, and Verification	EMETL Project Plan, Site Assistant Visit Reports, EMETL Implementation quarterly and annual reports.				

NNSA IT and Cybersecurity

The goal of the Information Technology and Cybersecurity (formerly NNSA CIO Activities program) is to ensure that sufficient information management security safeguards are implemented throughout the nuclear security enterprise to adequately protect the NNSA information assets and to provide the requisite guidance in compliance with the Department of Energy's (DOE) Defense-in-Depth Cybersecurity strategy and the NNSA Information Management Strategic Plan. The NNSA CIO Activities program is a Homeland Security related activity.

Program	NNSA IT and Cybersecurity				
Performance Goal (Measure)	Cybersecurity Assessment Reviews - Annual Percentage of cybersecurity Site Assessment Reviews conducted by the Office of Environment, Health, Safety, and Security (HSS) that resulted in the rating of "effective."				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	100 % of reviews resulting in "effective" rating	100 % of reviews resulting in "effective" rating	100 % of reviews resulting in "effective" rating
Result			Not Met - 67	Met - 100	Met - 100
Endpoint Target	Annually, achieve at least an "effective" rating of 100% of OCIO Site Assistance Visit (SAV) Cybersecurity reviews. Note: The program name changes from NNSA CIO Activities to Information Technology and Cybersecurity in FY 2014.				

<p>Commentary on 2014 Results (Action Plan if Not Met)</p>	<p>Met/Green – Achieved 100% of the annual target by receiving ratings of ""effective"" at the completion of the cybersecurity reviews conducted at NNSA sites (3 of 3) this FY by the Office of Independent Enterprise Assessments (IEA). Although there were opportunities for improvement (OFIs) identified and noted by IEA in site reports, they did not indicate serious deficiencies. Sites reviewed this FY included LLNL, SRS and Pantex. This result is important because it provides an assessment of potential deficiencies in the management, operational and technical control implementation at NNSA sites that would lead to a significant loss of confidentiality, integrity, or availability of systems and the data they contain that is critical to enabling successful performance of mission requirements/business commitments.</p> <p>To satisfy annual statutory obligations, the NNSA OCIO performed site reviews at 7 of 8 sites which revealed during a Command Cyber Readiness Inspection (CCRI) in June at LANL that cybersecurity team had not implemented many of the cyber requirements that were reviewed during the assessment. LANL was provided a copy of the assessment in advance and should have been able to at least provide a solution or complete the assessment criteria before the inspection team reported onboard. This resulted in the rating of CIO Activities during 3Q. A follow-on visit with LANL indicated that the LANL cybersecurity team is making progress in completing corrective actions. The team is optimistic that all corrective actions will be completed in time for the next official CCRI and will demonstrate successful implementation of requirements by achieving a passing score. LANL's performance will be factored into Contractor Performance Evaluation Program (CPEP) results which will have some degree of impact on award fee determination(s) until the site can obtain a passing score through the CCRI.</p> <p>The purpose of the CCRI is to determine a site's readiness to maintain connection to the NNSA SECRET Network (NSN).</p>
<p>Documentation, Limitations, Methodology, Validation, and Verification</p>	<p>HSS Final Assessment Report</p>

Counterterrorism and Counterproliferation Programs

The Counterterrorism and Counterproliferation (CT/CP) program makes strategic investments in the national security science, technology and engineering capabilities and infrastructure base that are necessary to address current and future global security issues. The CT/CP budget is separated into its own budget line to highlight technical investments. This program integrates the management, development, and maintenance of CT/CP capabilities that are relied upon by agencies across the Federal government and provides transparency, alignment, and accountability into the investments made in workforce and infrastructure to preserve national security capabilities into the future.

The facilities and the expert multidisciplinary workforce within the nuclear security enterprise provide decision makers with the ability to understand the state of international scientific and technological advances as well as project how these advances could affect national security. Furthermore, their unique multidisciplinary infrastructure is key to anticipating technological surprise and for providing rapid innovative solutions to complex technical problems faced by multiple agencies. To address these national security challenges beyond the nuclear stockpile, the administration is committed to both retain and nurture national security research and development capabilities to serve broader national security interests.

Note: The CTCP program (formerly National Security Applications) consolidates projects from the Nuclear Counterterrorism (NCT) program (formerly under NCTIR) with refocused, enduring projects from the NSA program.

Program	Counterterrorism and Counterproliferation Programs				
Performance Goal (Measure)	Tier Threat Modeling Archive - Validation (TTMA-V) - Percent complete toward validating national 3-D predictive modeling capability using four different experimental series designed to produce data needed to reconstruct nuclear threat device emergency disablement scenarios.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	15 % complete	35 % complete
Result				Met - 15	N/A
Endpoint Target	<p>By the end of FY 2019, complete the validation of the national 3-D predictive modeling capability using four different experimental series designed to produce data needed to reconstruct nuclear threat device emergency disablement scenarios.</p> <p>TTMA-V is a cornerstone joint project for the Joint Disablement Campaign that will build confidence in the models used to develop key products throughout the interagency to include assessments, tool development support, and procedure development. Follow-on projects are identified but must wait for the refinements this project will produce. This effort is coordinated with the Defense Threat Reduction Agency.</p> <p>Note: In FY 2013, the endpoint target was extended from FY 2017, as reported in the FY 2014 Congressional Justification, to FY 2018. Although the Tier Threat Modeling Archive-Validation (TTMA-V) effort met the performance milestones in FY 2013, the first TTMA-V shots at the DARHT facility were much more expensive than originally planned. Therefore, the project has been reprogrammed to ensure adequate funding has been planned in the out years. Additionally, due to unexpected budget shortfalls late into FY14, the project will not be executed this fiscal year. Thus, the timeline has again been extended to continue the TTMA-V project through 2019 with the same scope and end goal.</p>				

Commentary on 2014 Results (Action Plan if Not Met)	Due to unexpected budget cuts late into the fiscal year, TTMA-V efforts have been postponed. TTMA-V is planned for continuation in FY15 and delayed for completion by one year with the same scope and end goals. This causes one-year delay for any enhancement of the U.S. government's ability to develop predictive render safe capabilities.
Documentation, Limitations, Methodology, Validation, and Verification	Quarterly Reports to HQ on Milestones and Reportable Activities; Year-End FY13 One-Page Project Report summaries (dated November 2013); Annual Laboratory Program Plans (dated September/October 2013); Multi-Year Counterterrorism and Counterproliferation Management Plan (CCMP) dated November 2012.

Program	Counterterrorism and Counterproliferation Programs				
Performance Goal (Measure)	WMD Counterterrorism Expertise - Cumulative number of officials trained in Weapons of Mass Destruction (WMD) Counterterrorism (CT) prevention and response via Office of Counterterrorism Policy and cooperation exercises.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	9,500 trained personnel	10,200 trained personnel
Result				Met - 9,500	Exceeded - 10,280
Endpoint Target	<p>By the end of FY 2019, train 14,000 officials in Weapons of Mass Destruction (WMD) Counterterrorism (CT) prevention and response.</p> <p>Note: The Office of Counterterrorism Policy and Cooperation's Weapons of Mass Destruction (WMD) Counterterrorism Exercise Program designs, produces, and conducts tailor-made tabletop exercises for domestic public and private sector customers with nuclear or radioactive materials or associated nuclear security responsibilities. Internationally, the program works with key foreign partners to design, develop, and conduct National and regional WMD security and WMD counterterrorism tabletop exercises. Designed to build teamwork and an in-depth understanding of the roles and responsibilities of agencies charged with responding to terrorist-related radiological, nuclear, or WMD-related incidents, these exercises bring together Federal/National, State, and local decision-makers and first responders. This metric provides a quantitative (cumulative number of officials trained) measure of this program's impact.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the FY target of training a cumulative of 10,200 first responders, security, and WMD CT officials. Executed a tabletop exercise in San Francisco, CA to train an additional 98 officials for a total of 10,280 for FY 2014. This result is important because it measures the Counterterrorism program's progress in strengthening WMD CT capabilities by training Federal, state, local and international officials to address WMD terrorism incidents.				
Documentation, Limitations, Methodology, Validation, and Verification	Exercise Attendance Lists, After-Action Reports, Multi-Year Counterterrorism and Counterproliferation Management Plan (CCMP) dated November 2012				

Defense Nuclear Nonproliferation

Defense Nuclear Nonproliferation Research and Development

This program improves U.S. national security through the development of novel technologies to detect foreign nuclear weapons proliferation/detonation and verification of foreign commitments to treaties and agreements.

Program	Defense Nuclear Nonproliferation Research and Development				
Performance Goal (Measure)	Nuclear Detonation Detection - Annual index that summarizes the status of all NNSA nuclear detonation detection R&D deliveries that improve the nation's ability to detect nuclear detonations.				
Fiscal Year	2010	2011	2012	2013	2014
Target	90 % index	90 % index	90 % index	90 % index	90 % index
Result	Met - 90	Met - 90	Met - 90	Met - 90	Met - 90
Endpoint Target	Annually achieve timely delivery of NNSA nuclear detonation detection products. (90% target reflects good on-time delivery. Index considers factors beyond NNSA's control and impact on customer schedules.)				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the FY 2014 delivery of nuclear detonation detection sensor payloads in accordance with current published schedule for satellite production. Completed performance and environmental testing and all Consent to Ship documentation for one Space and Atmospheric Burst Reporting System "SABRS-2" payload and delivered it to the space vehicle host. This result is important because it maintains U.S. National capability to monitor the Earth for nuclear detonations.				
Documentation, Limitations, Methodology, Validation, and Verification	Quarterly reports; Final delivery transmittal letters to user agencies for satellite payloads ('Consent to Ship' letters); Integrated Research Product Releases				

Program	Defense Nuclear Nonproliferation Research and Development				
Performance Goal (Measure)	Nuclear Weaponization and Material Production Detection - Cumulative percentage of progress toward demonstrating improvements in detection and characterization capabilities of nuclear weapons production activities.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	20 % progress
Result					Met - 20
Endpoint Target	By the end of FY 2018, achieve 100% cumulative progress toward demonstrating new capabilities detecting uranium and plutonium production and nuclear weaponization processes.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the annual cumulative target of 20% progress. To date, demonstrated progress toward completion of all planned deliverables in FY14. Progress is based on meeting research tasks in life cycle plans as described in Quarterly and Final Reports, on feedback from Independent Reviews, on successful demonstration of capabilities, and on annual program review briefings. Tracks with planned milestones. These results are key U.S. capabilities to increase confidence in detecting foreign nuclear weapons production activities.				
Documentation, Limitations, Methodology, Validation, and Verification	Program Plan/Roadmap document; Memorandum for Record (unclassified, located in DNN R&D Office, certified by ADA) for DNN				

Program	Defense Nuclear Nonproliferation Research and Development				
Performance Goal (Measure)	Nuclear Weapons and Material Security - The cumulative percentage of progress towards demonstrating improvements in Special Nuclear Material detection, warhead monitoring, chain-of-custody monitoring, safeguards, and characterization capabilities.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	20 % progress
Result					Met - 20
Endpoint Target	By the end of FY 2018, achieve 100% cumulative progress toward demonstrating new capabilities for warhead monitoring, warhead chain-of-custody, Special Nuclear Material movement detection, and nuclear safeguards.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the annual cumulative target of 20% progress. To date, demonstrated progress toward completion of all planned deliverables in FY14. Progress is based on meeting research tasks in life cycle plans as described in Quarterly and Final Reports, on feedback from Independent Reviews, on successful demonstration of capabilities, and on annual program review briefings. Tracks with planned milestones. This result is important because it improves U.S. capability to detect and interdict SNM movement, monitor compliance with international treaties, and detect the diversion of fissile materials from peaceful purposes.				
Documentation, Limitations, Methodology, Validation, and Verification	Program Plan/Roadmap document; Memorandum for Record (unclassified, located in DNN R&D Office, certified by ADA) for DNN				

Program	Defense Nuclear Nonproliferation Research and Development				
Performance Goal (Measure)	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").				
Fiscal Year	2010	2011	2012	2013	2014
Target	50 % of progress	65 % of progress	75 % of progress	90 % of progress	95 % of progress
Result	Met - 50	Met - 65	Met - 75	Met - 90	Met - 95
Endpoint Target	By the end of FY 2015, demonstrate the next generation of technologies and methods to detect Plutonium production activities.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the annual cumulative target of 95% progress. To date, demonstrated progress toward completion all planned deliverables in FY14. Progress is based on meeting research tasks in life cycle plans as described in Quarterly and Final Reports, on feedback from Independent Reviews, on successful demonstration of capabilities, and on annual program review briefings. Tracks with planned milestones. This result is important because it increases the U.S. capability to detect foreign nuclear weapons production activities.				
Documentation, Limitations, Methodology, Validation, and Verification	Program Plan/Roadmap document; Memorandum for Record (unclassified, located in Defense Nuclear Nonproliferation (DNN) R&D office, certified by Assistant Deputy Administrator) for DNN.				

Program	Defense Nuclear Nonproliferation Research and Development				
Performance Goal (Measure)	Uranium-235 Production Detection - Cumulative percentage of progress toward demonstrating the next generation of technologies and methods to detect uranium-235 enrichment activities. (Progress is measured against the baseline criteria and milestones published in the "FY 2006 R&D Requirements Document".)				
Fiscal Year	2010	2011	2012	2013	2014
Target	30 % of progress	50 % of progress	60 % of progress	75 % of progress	90 % of progress
Result	Met - 30	Met - 50	Met - 60	Met - 75	Met - 90
Endpoint Target	By the end of FY 2016, demonstrate the next generation of technologies and methods to detect uranium-235 enrichment activities.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the annual cumulative target of 90% progress. To date, demonstrated progress toward completion of all planned deliverables in FY14. Progress is based on meeting research tasks in life cycle plans as described in Quarterly and Final Reports, on feedback from Independent Reviews, on successful demonstration of capabilities, and on annual program review briefings. Tracks with planned milestones. This result is important because it increases the U.S. capability to detect foreign nuclear weapons production activities.				
Documentation, Limitations, Methodology, Validation, and Verification	Program Plan/Roadmap document; Memorandum for Record (unclassified, located in DNN R&D Office, certified by ADA) for DNN				

Nonproliferation and International Security

The Office of Nonproliferation and International Security (NIS) supports National Nuclear Security Administration (NNSA) efforts to prevent and counter the proliferation or use of weapons of mass destruction (WMD), including materials, technology and expertise, by state and non-state actors. NIS focuses on strengthening the nonproliferation regime in order to reduce proliferation risks by applying its unique expertise to safeguard nuclear material and strengthen its physical security; control the spread of WMD-related material, equipment, technology and expertise; verify nuclear reductions and compliance with nonproliferation treaties and agreements; and develop and implement Department of Energy (DOE)/NNSA nonproliferation and arms control policy. NIS pursues these objectives through four programs: (1) Nuclear Safeguards & Security; (2) Nuclear Controls; (3) Nuclear Verification; and (4) Nonproliferation Policy.

Program	Nonproliferation and International Security				
Performance Goal (Measure)	International Nonproliferation Export Control Program - Cumulative number of countries where International Nonproliferation Export Control Program (INECP) is engaged that have export control systems that meet critical requirements.				
Fiscal Year	2010	2011	2012	2013	2014
Target	11 countries	22 countries	29 countries	31 countries	34 countries
Result	Exceeded - 21	Exceeded - 27	Met - 29	Met - 31	Met - 34
Endpoint Target	By the end of FY 2020, 40 of 45 countries where INECP is engaged have export control systems that meet critical requirements, defined as having: (1) control lists consistent with the WMD regimes; (2) initiated outreach to producers of WMD-related commodities; (3) developed links between technical experts and license reviewers and front-line enforcement officers; and (4) begun customization of educational materials and technical guides.				
Commentary on 2014 Results (Action Plan if Not Met)	Program met the FY14 target of 34 countries that meet critical export control system requirements. This number is derived from an annual review of updates to engagement plans for countries in which INECP has programs. This result is important because it documents the success of the program building capacity in national systems of export control to prevent the spread of WMD-related commodities.				
Documentation, Limitations, Methodology, Validation, and Verification	International Nuclear Export Control program database records and original input documents; INECP engagement plans and After Action Reports				

Program	Nonproliferation and International Security				
Performance Goal (Measure)	Reduce Nuclear Terrorism Threat - In order to reduce the threat of nuclear terrorism, evaluate the physical security of U.S. obligated nuclear material located at foreign facilities by conducting bilateral physical security assessment reviews designed to evaluate the adequacy of existing security measures and provide recommendations for enhancing security if necessary.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	6 assessments
Result					Met - 6
Endpoint Target	Annually review the physical security of U.S.-obligated nuclear material located at foreign facilities in order to reduce the threat of nuclear terrorism.				
Commentary on 2014 Results (Action Plan if Not Met)	Program met the FY14 target of completing six bilateral physical protection security assessment reviews of foreign facilities holding U.S.-obligated nuclear material. Six security assessments have been completed in FY14, including one assessment in Q4. This result is important because it documents progress of the program in ensuring the security of nuclear material to reduce the threat of nuclear terrorism.				
Documentation, Limitations, Methodology, Validation, and Verification	Physical Protection Site Assessment database records and official reports; Bi-lateral Physical Protection Reports				

Program	Nonproliferation and International Security				
Performance Goal (Measure)	Russian Weapons-Usable Highly Enriched Uranium (HEU) - 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	402 metric tons	432 metric tons	462 metric tons	492 metric tons	500 metric tons
Result	Exceeded - 403	Exceeded - 433	Exceeded - 463	Exceeded - 493	Met - 500
Endpoint Target	By the end of Q1 FY 2014, 500 metric tons of Russian weapons-usable HEU was confirmed by U.S. experts as permanently eliminated from the Russian stockpile under the HEU Purchase Agreement. This measure has been completed.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved 100% of the annual target of elimination of a cumulative total of 500 metric tons of weapons-grade HEU from the Russian stockpile. The final 8 metric tons of HEU was delivered to the United States as low enriched uranium in the first quarter of FY14. The metric target has been achieved and HEU downblending is completed under the HEU Purchase Agreement. This result is important because it provides assurance that weapons-grade material has been eliminated from Russia's stockpile and is no longer available for use.				
Documentation, Limitations, Methodology, Validation, and Verification	Cumulative quantity of HEU eliminated status shown on USEC web site (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				

Program	Nonproliferation and International Security				
Performance Goal (Measure)	Safeguards Systems - Annual number of safeguards systems deployed and used in international regimes and other countries that address an identified safeguards deficiency.				
Fiscal Year	2010	2011	2012	2013	2014
Target	4 systems	5 systems	5 systems	5 systems	5 systems
Result	Exceeded - 10	Met - 5	Met - 5	Met - 5	Met - 5
Endpoint Target	By the end of FY 2015, 38 systems are deployed and used in international regimes and other countries that address an identified safeguards deficiency.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the FY14 target of deploying five safeguards systems. Three transfers were completed in Q3, and two more in Q4. The safeguards technologies transferred in Q3 were coulometers from SRNL to Japan, certified reference materials (CRMs) from ORNL to Malaysia, and a fast neutron collar from LANL to Euratom. The safeguards technologies transferred in Q4 were an Online Enrichment Monitor (OLEM) from ORNL to the IAEA and a Passive Neutron Multiplication Counter (PNMC) from LANL to Armenia. This result is important because the technology transfers will allow partners to more effectively and efficiently account for and control nuclear materials, and help ensure complete and correct reporting to the International Atomic Energy Agency (IAEA).				
Documentation, Limitations, Methodology, Validation, and Verification	Shipping Records; Technical reports produced as a result of the technology being transferred; Monthly Reports (generated for each of the countries with which INSEP works.)				

International Material Protection and Cooperation

The International Material Protection and Cooperation (IMPC) program prevents nuclear terrorism by working in Russia and other regions of concern.

Program	International Material Protection and Cooperation				
Performance Goal (Measure)	MPC&A Initiatives - Annual number of total upgrade and sustainability initiatives completed and transitioned to host country.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	12 initiatives completed
Result					Met - 12
Endpoint Target	By the end of FY 2018, complete the sustainability phase of 48 MPC&A initiatives with foreign partners. Initiatives are composed of discrete physical protection and material control and accounting security upgrade projects as well as longer-term sustainability activities such as training, regulatory development, and nuclear security culture cooperation.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved the FY14 target of 12 sustainability initiatives completed and transitioned to host country. By Q4, MPC&A completed 12 sustainability initiatives. This result is important because it improves protection of weapons-grade material from threat of theft.				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Program	International Material Protection and Cooperation				
Performance Goal (Measure)	MPC&A Upgrades - Buildings - Cumulative number of buildings containing weapons-usable material with completed MPC&A upgrades.				
Fiscal Year	2010	2011	2012	2013	2014
Target	213 buildings	218 buildings	221 buildings	229 buildings	229 buildings
Result	Met - 213	Met - 218	Not Met - 218	Not Met - 218	Not Met - 218
Endpoint Target	By Q2 of FY 2015, complete MPC&A upgrades on a cumulative total of 229 buildings containing weapon-usable nuclear material.				
Commentary on 2014 Results (Action Plan if Not Met)	IMPC will not achieve the target of completing MPC&A upgrades at 229 buildings. Work on 8 remaining buildings will not be completed with U.S. funding, due to Russia's discontinuation of this joint work. Action Plan: MPC&A will submit a change request to adjust future targets.				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Program	International Material Protection and Cooperation				
Performance Goal (Measure)	Second Line of Defense (SLD) Mobile Detection System (MDS) - Cumulative number of Second Line of Defense (SLD) Mobile Detection Systems (MDS) deployed.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	72 MDS
Result					76
Endpoint Target	By the end of FY 2018, deploy 148 Mobile Detection Systems in 44 countries.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>SLD exceeded the FY14 cumulative target of 72 Mobile Detection Systems (MDS) by deploying 76 MDS units in 18 countries. The target of MDS deployed increased from the previous FY14 cumulative target of 68 because of additional funds received in FY14. SLD's internal goal for number of new countries hosting the systems fell short by 5. SLD deployed MDS units to 18 countries, short of the target of 23 countries in FY14 despite surpassing its goal of 72 MDS units deployed by 4. Work in Q4 of FY14 has resulted in 11 MDS deployments. Second Line of Defense exceeded its deployment and fell short of its host country targets in FY14. SLD's work in MDS is important because it provides host governments with a 'mobile' technical means to detect, deter, and interdict illicit trafficking of nuclear and other radioactive materials.</p> <p>Action Plan: Beginning in FY 2015 the number of MDS countries will not be reported separately. In July 2014, the program submitted a request to OMB to remove the number of countries from the MDS deployment metric. This measure was identified as not representative of mobile detection capability and the target was changed in accordance with OMB Circular A-11 and DOE policy.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Schedules, trip reports, acceptance testing documentation				

Program	International Material Protection and Cooperation				
Performance Goal (Measure)	Second Line of Defense (SLD) Sites - Cumulative number of Second Line of Defense (SLD) sites with nuclear detection equipment installed.				
Fiscal Year	2010	2011	2012	2013	2014
Target	404 sites (41 Megaports)	463 sites (45 Megaports)	496 sites (45 Megaports)	513 sites (45 Megaports)	548 sites/ports
Result	Not Met - 399	Not Met - 460	Not Met - 493	Met - 513	Exceeded - 550
Endpoint Target	<p>By the end of FY 2018, provide radiation detection equipment to approximately 622 cumulative SLD sites.</p> <p>Note: The increase in FY 2014 funding for SLD accelerates implementation and results in a target increase from what was presented in the FY 2014 Congressional Justification. The FY 2014 target increases from 538 sites to 548 sites.</p> <p>Beginning in FY 2014, the program has begun reporting the cumulative number of SLD sites; Megaports will no longer be reported separately.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>SLD exceeded the FY14 cumulative target of 548 sites with radiation detection equipment installed by installing 550 sites with radiation detection equipment through FY14. The target number of 548 sites is up from the previous FY14 cumulative target of 538 because of additional funds received in FY2014. Work completed in Q1 of FY14 resulted in 16 sites with radiation detection equipment installed. The Q2 did not yield any additional sites. The Q3 resulted in the completion of one site. The Q4 resulted in the completion of 20 sites. In FY14, 37 sites with radiation detection equipment have been installed for total of 550 sites. These installations are important because it provides host governments with the technical means to detect, deter and interdict illicit trafficking of nuclear and other radioactive materials.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Schedules, trip reports, acceptance testing documentation				

Program	International Material Protection and Cooperation				
Performance Goal (Measure)	Second Line of Defense (SLD) Sustainability - Cumulative number of Second Line of Defense (SLD) fixed sites and Mobile Detection System (MDS) deployments that are being indigenously sustained.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	431 sites/ports
Result					Not Met - 412
Endpoint Target	By the end of FY 2018, transition 531 SLD sites to indigenous sustainment.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>SLD did not achieve its FY14 cumulative target of 431 sites being indigenously sustained. Work completed in Q1 of FY14 resulted in 12 sites being indigenously sustained. Work in the second quarter of FY14 resulted in 12 additional sites being indigenously sustained. Work in Q3 of FY14 resulted in another 4 sites being indigenously sustained. Work in Q4 of FY14 resulted in another 34 sites being indigenously sustained. Through FY14, 62 sites have been transitioned to indigenous sustainability for a total of 412 sites. Second Line of Defense missed its sustainability target by 19 sites. SLD's work in sustainability is important because it demonstrates that SLD is successfully transitioning sites to host government responsibility. These host governments are now self-sustaining sites with a capacity to detect, deter, and interdict illicit trafficking of nuclear and other radioactive materials.</p> <p>Action Plan: This work remains a high priority and DOE/NNSA will keep working toward the transition of the remaining 19 sites to these partner countries. These sites are located in very high risk/high threat areas (i.e., Ukraine, Lebanon, Jordan, and Kazakhstan). These countries asked for short-term extensions of SLD sustainability support to assist them in covering either budget shortfalls or to compensate for other governmental challenges (e.g., Lebanon, Jordan, Ukraine, etc.) that are temporarily delaying these countries from taking full responsibility for these sites. SLD fully expects these countries to take full responsibility for these sites in the next few years when internal challenges have been overcome. It is anticipated that these 19 sites will be indigenously sustained within the next several fiscal years.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Schedules, trip reports, joint transition and sustainability plans.				

Fissile Materials Disposition

The program goal is to eliminate surplus Russian weapon-grade plutonium and surplus United States (U.S.) weapon-grade plutonium and highly enriched uranium.

Program	Fissile Materials Disposition				
Performance Goal (Measure)	Mixed Oxide (MOX) Fuel Fabrication Facility - Cumulative percentage of the design, construction, and cold start-up activities completed for the Mixed Oxide (MOX) Fuel Fabrication Facility.				
Fiscal Year	2010	2011	2012	2013	2014
Target	49 % completed	62 % completed	70 % completed	81 % completed	TBD
Result	Not Met - 48	Not Met - 58	Not Met - 67.8	Not Met - 60	N/A
Endpoint Target	Performance measure targets will be adjusted to reflect the decision of the path forward for plutonium disposition.				
Commentary on 2014 Results (Action Plan if Not Met)	N/A				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Program	Fissile Materials Disposition				
Performance Goal (Measure)	U.S. Highly Enriched Uranium (HEU) Downblended - Cumulative amount of surplus U.S. highly enriched uranium (HEU) down-blended or shipped for down-blending.				
Fiscal Year	2010	2011	2012	2013	2014
Target	130 MT	136 MT	139 MT	143 MT	146 MT
Result	Exceeded - 133	Exceeded - 137.1	Exceeded - 141.1	Exceeded - 143.8	Exceeded - 146.3
Endpoint Target	By the end of FY 2030, complete disposition of 186 MT of surplus HEU. The overall amount of HEU available for down-blending and the rate at which it will be down-blended is dependent upon decisions regarding the U.S. nuclear weapons stockpile, the pace of warhead dismantlement, and receipt of HEU from research reactors as well as other considerations, such as decisions on processing of additional HEU through H Canyon, disposition paths for weapons pits containing HEU, etc.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the annual target of down-blending or shipping 146 MT of surplus U.S. highly enriched uranium. At the end of September, 146.3 MT of HEU has been down-blended or shipped. This result is important because it is contributing to the Department's goal of disposing of surplus U.S. HEU.				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Program	Fissile Materials Disposition				
Performance Goal (Measure)	U.S. Plutonium Disposition (H-Canyon) - Cumulative kilograms of plutonium converted to oxide at Savannah River H-Canyon.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	180 kg
Result					Not Met - 1
Endpoint Target	By the end of FY 2018, complete operations for 3.7 MT of plutonium converted to oxide at Savannah River Site.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>Did not achieve the annual target of converting 180 kg of plutonium at H-Canyon. At the end of September, HB-Line produced and analyzed 1 kg of plutonium oxide. The annual target was missed because HB-Line experienced multiple delays in their start-up schedule. The contractor made significant progress in the 4th quarter, implementing the revised HB-Line facility safety basis, completing facility readiness activities in preparation for oxide production, transferring plutonium solution previously dissolved in H-Canyon, initiating hot operations in HB-Line, and completing laboratory analysis of the initial oxide. In parallel, the contractor aggressively worked to resolve a Potential for Inadequacy in Safety Analysis (PISA) related to the H-Canyon ventilation system avoiding additional start-up delays. The analysis demonstrates that the initial oxide meets isotopic, chemical impurity, and physical specifications for use as Mixed Oxide Fuel Fabrication Facility feed with the exception of moisture. This result is important because it demonstrates progress toward the Department's goal of disposing of at least 34 metric tons of surplus U.S. weapon-grade plutonium.</p> <p>Action Plan: Hot operations will continue into FY 2015. HB-Line is evaluating operating process adjustments and sample management to address the excessive moisture measurement. This condition is expected to continue for the initial oxide cans. SRNS made changes in program leadership in late FY 2014 to demonstrate a focus on long term mission success. NNSA has submitted revised out-year production targets for consideration that account for the delays in start-up and changes to assumptions for production capability.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Monthly progress reports from the contractor detailing HB-Line plutonium oxide production.				

Program	Fissile Materials Disposition				
Performance Goal (Measure)	U.S. Plutonium Disposition (LANL) - Cumulative kilograms of plutonium metal converted to oxide at Los Alamos National Laboratory.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	375 kg	592 kg	692 kg
Result			Exceeded - 442	Met - 592	Not Met - 617
Endpoint Target	By 2018, complete operations for 2 MT (2,000 kg) of plutonium converted to oxide.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>Achieved 25 kg of the 100 kg annual target of certified plutonium oxide by MOX Services. At the end of September, MOX Services accepted 617 kg cumulatively. The operational pause due to conduct of operations and criticality safety concerns in the operating facility (PF4) has impacted the ability to achieve this metric in FY 2014. This result is important because it demonstrates progress toward the Department's goal of disposing of at least 34 metric tons of surplus U.S. weapon-grade plutonium.</p> <p>Action Plan: LANL is planning to perform readiness activities that will enable oxide production to resume in September 2015. The ability to achieve the FY 2015 performance metric will also be negatively affected.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Cost data from Pu consolidated monthly status reports; Original documents such as a signed statement or email verifying target completion				

Program	Fissile Materials Disposition				
Performance Goal (Measure)	WSB - Cumulative percentage of the design, construction, and cold start-up activities completed for the Waste Solidification Building (WSB).				
Fiscal Year	2010	2011	2012	2013	2014
Target	45 % completed	65 % completed	95 % completed	87 % completed	91 % completed
Result	Exceeded - 47	Exceeded - 70	Not Met - 84	Exceeded - 90	Exceeded - 99
Endpoint Target	By the end of FY 2015, complete design, construction, and cold start-up activities for the WSB.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The program exceeded the annual target of 91% completion of the design, construction, and cold start-up activities for the Waste Solidification Building. At the end of September, 99% of the design, construction, and cold start-up activities for the Waste Solidification Building were completed. Subcontractor mechanical completion was completed in September. This result is important because it demonstrates progress toward the Department's goal of disposing of at least 34 metric tons of surplus U.S. weapon-grade plutonium.</p> <p>Savannah River Nuclear Solutions (SRNS) EVMS was suspended primarily due to SRNS' inability to implement effective corrective actions on the EVMS for the WSB project. SRNS is working to make the necessary modifications sufficient to reestablish Government confidence in the earned value system; however they have not yet completed the required modifications. The WSB project continues to utilize the existing EVMS, as some phases of the EVMS are satisfactory. In addition, the FPD has augmented the EVMS by implementing additional quantity and installation tracking metrics to establish government confidence in the reported data."</p>				
Documentation, Limitations, Methodology, Validation, and Verification	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				

Global Threat Reduction Initiative

The Global Threat Reduction Initiative (GTRI) program reduces and protects vulnerable nuclear and radiological materials located at civilian sites worldwide.

Program	Global Threat Reduction Initiative				
Performance Goal (Measure)	Highly Enriched Uranium (HEU) Reactors Converted or Shutdown - Cumulative number of HEU reactors and isotope production facilities converted or verified as shutdown prior to conversion.				
Fiscal Year	2010	2011	2012	2013	2014
Target	71 reactors	75 reactors	81 reactors	88 facilities	92 facilities
Result	Exceeded - 72	Exceeded - 76	Exceeded - 82	Met - 88	Met - 92
Endpoint Target	By 2035, convert or verify the shutdown prior to conversion of approximately 200 HEU reactors and isotope production facilities. The cost assumptions, schedules, scope, and available annual appropriations for GTRI's conversion efforts beyond the FYNSP are uncertain enough to make any exact end date highly subject to change in either direction.				
Commentary on 2014 Results (Action Plan if Not Met)	GTRI met the FY14 target of 92 reactors or isotope production facilities converted. In Q4, four additional research reactors were verified as shutdown prior to conversion or converted. In Q3, no additional research reactors were verified as shutdown prior to conversion or converted. In Q2, no additional research reactors were verified as shutdown prior to conversion or converted. In Q1, no additional research reactors were verified as shutdown prior to conversion or converted. The cumulative total to-date is 92 reactors and isotope production facilities. This result is important because this effort will minimize the amount of weapons-usable material around the world.				
Documentation, Limitations, Methodology, Validation, and Verification	GTRI Scorecard; Written Notification of conversion; Conversion Report				

Program	Global Threat Reduction Initiative				
Performance Goal (Measure)	Nuclear Material Removed - Cumulative number of kilograms of vulnerable nuclear material (HEU and plutonium) removed or disposed.				
Fiscal Year	2010	2011	2012	2013	2014
Target	2,767 kg	3,297 kg	3,555 kg	3,835 kg	5,207 kg
Result	Exceeded - 2,852.8	Not Met - 3,125	Not Met - 3,462	Exceeded - 5,017	Met - 5,207
Endpoint Target	By 2022, remove or dispose of 6,300 kilograms of vulnerable nuclear material (HEU and plutonium), enough for more than 250 nuclear bombs. Note: The target for FY 2014 was increased from the target presented in the FY 2014 Congressional Justification because the FY 2013 target was significantly exceeded.				
Commentary on 2014 Results (Action Plan if Not Met)	GTRI met the revised FY14 target of 5,207 kilograms of nuclear material removed or disposed. In Q4, 63 kilograms of additional material was removed or disposed. In Q3, no additional material was removed or disposed. In Q2, 31 kilograms of nuclear material was removed or disposed of. In Q1, 96 kilograms of nuclear material was removed or disposed of. The cumulative total to date is 5,207 kilograms. This result is important because this effort will minimize the amount of weapons-usable material around the world.				
Documentation, Limitations, Methodology, Validation, and Verification	GTRI Scorecard; Notification of removal; Remove Report				

Program	Global Threat Reduction Initiative				
Performance Goal (Measure)	Nuclear and Radiological Buildings Protected - Cumulative number of buildings with high priority nuclear and radiological materials secured.				
Fiscal Year	2010	2011	2012	2013	2014
Target	855 buildings	1,081 buildings	1,355 buildings	1,603 buildings	1,785 buildings
Result	Exceeded - 971	Exceeded - 1,187	Exceeded - 1,488	Exceeded - 1,674	Exceeded - 1,816
Endpoint Target	<p>The previous end date of 2044 is now TBD pending a review of GTRI's protect program examining current inventory, scoping, budgeting and project planning processes that will maximize resources and decrease the program's completion timeline.</p> <p>Note: The target for FY 2014 was increased from the target presented in the FY 2014 Congressional Justification because the FY 2013 target was significantly exceeded.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>GTRI met and exceeded the revised FY14 target of 1,785 buildings secured. In the Q4, an additional 17 international buildings and 39 domestic buildings were secured. In Q3, an additional 9 international buildings and 25 domestic buildings were secured. In Q2, an additional 5 international buildings and 24 domestic buildings were secured. In Q1, an additional 16 international buildings and 8 domestic buildings were secured. The cumulative total to-date is 1,816 buildings. This result is important because it reduces the risk posed by nuclear and radioactive materials worldwide that could be used in crude nuclear bombs and radiological dispersal devices.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	GTRI Scorecard; Monthly notification of protection; Work team reports; Global Threat Reduction Initiative Programmatic Guidelines for Site Prioritization and Protection Implementation				

Naval Reactors

Naval Reactors

Naval Reactors' mission includes ensuring the safety of reactors and associated naval nuclear propulsion plants, and control of radiation and radioactivity associated with naval nuclear propulsion activities, including prescribing and enforcing standards and regulations for these areas as they affect the environment and the safety and health of workers, operators, and the general public. Naval Reactors maintains oversight of program support in areas such as security, nuclear safeguards and transportation, radiological controls, public information, procurement, logistics, and fiscal management.

Program	Naval Reactors				
Performance Goal (Measure)	A1B Reactor Plant Design - Cumulative percentage of completion on the next-generation aircraft carrier reactor plant design.				
Fiscal Year	2010	2011	2012	2013	2014
Target	91 % complete	94 % complete	96 % complete	98 % complete	99 % complete
Result	Met - 91	Met - 94	Met - 96	Met - 98	Exceeded - 99.6
Endpoint Target	By the end of FY 2015, complete 100% of the design of the reactor plant for the next-generation aircraft carrier.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the FY 2014 year-end target of 99%. As of 9/30/14, 99.6% of next-generation aircraft carrier reactor plant design has been completed. Milestones achieved this quarter: completed initial fill of lead plant; completed hydrostatic testing of the lead primary plant; completed initial fill of the follow plant reactor. 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 requires half of the reactor department sailors needed as compared to present-day CVN aircraft carriers.				
Documentation, Limitations, Methodology, Validation, and Verification	CVN 21 Propulsion Plant Planning Estimate & Actual Reporting				

Program	Naval Reactors				
Performance Goal (Measure)	S1B Reactor Plant Design - Cumulative percentage of work complete on the Ohio Replacement submarine reactor plant design.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	12 % complete	17 % complete	22 % complete
Result			Exceeded - 15.6	Exceeded - 18.4	Exceeded - 25.7
Endpoint Target	By the end of FY 2027, complete 100% of the Ohio Replacement submarine reactor plant design. Note: In FY 2013, DoD delayed construction start for the lead ship by two years (from FY 2019 to FY 2021) and reactor plant advanced procurement from FY 2017 to FY 2019. FY 2013 and out performance measure targets have been changed to reflect the delayed construction start.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the FY 2014 year-end target of 22%. As of 9/30/14, 25.7% of OHIO replacement submarine reactor plant design has been completed. Milestones achieved this quarter: issued update to S1B test and CFD qualification plan; issued head area arrangement specification; issued closure head Electronic Fuel Injection (EFI) standpipe extension piping recommendation. This result is important because it will provide the Nation's Sea Based Strategic Deterrent into the 2080s. S1B reactor and life-of-ship core design will support over 40 years of operation, exceeding VIRGINIA Class by more than 10 years, and allow fulfillment of its mission with two fewer submarines than the OHIO Class.				
Documentation, Limitations, Methodology, Validation, and Verification	S1B Propulsion Plant Planning Estimate & Actual Reporting				

Energy Efficiency and Renewable Energy

EERE's Building Technologies Program will continue to develop and demonstrate advanced building efficiency technologies and practices to make buildings in the U.S. more efficient, affordable, and comfortable

Program	Buildings				
Performance Goal (Measure)	Buildings - Retrofits - Number of market driven, energy efficiency retrofits carried out as a result of Home Performance With Energy Star programs and the Better Building Network				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	100,000 Retrofits
Result					Met - 100,000
Endpoint Target	1 million retrofits by 2018 (Cumulative from 2011 when DOE shared the program with EPA)				
Commentary on 2014 Results (Action Plan if Not Met)	On-target for 100,000 thru Q4, with 80,000 thru Q3.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Baseline: Over 240,000 retrofits have been carried out since the beginning of the Home Performance With Energy Star program in 2001.</p> <p>The Home Performance with ENERGY STAR (HPwES) program provides homeowners with resources to identify trusted contractors that can help them understand their home's energy use, as well as identify home improvements that increase energy performance and improve comfort.</p> <p>Target measures program effectiveness of HPWES by tracking the number of resulting retrofits carried out by local program sponsors.</p> <p>Qualifying retrofits must be estimated to save at least 15% of annual energy use. See the following website for additional details: http://www1.eere.energy.gov/buildings/residential/energystar.html</p>				

Weatherization and Intergovernmental Programs

The mission of the Weatherization and Intergovernmental Programs (WIP) is to partner with state and local organizations to significantly accelerate the deployment of clean energy (e.g., energy efficiency and renewable energy) technologies and practices by a wide range of government, community, and business stakeholders

Program	Weatherization and Intergovernmental Programs				
Performance Goal (Measure)	OWIP - Retrofits - Weatherize homes of low income families Note: Budget measure is for homes weatherized with base DOE funds. From FY 2010 - FY2012 DOE also achieved its joint Priority Goal with the Department of Housing and Urban Development (HUD) of retrofitting 1.2 million homes (cumulative), where DOE retrofitted more than 1 million homes. Most of these homes were retrofitted with Recovery Act funds. The number of homes, energy savings and GHG avoided metrics can be viewed on www.performance.gov .				
Fiscal Year	2010	2011	2012	2013	2014
Target	22,168 homes weatherized	33,484 homes weatherized*	10,000 homes weatherized	21,286 homes weatherized	24,600 homes weatherized
Result	Exceeded - 24,492	Exceeded - 45,042	Exceeded - 31,871	Met - 21,286	Exceeded - 38,000
Endpoint Target	Support 300,000 homes energy retrofits between FY 2013 and FY 2022				
Commentary on 2014 Results (Action Plan if Not Met)	38,000 retrofits completed.				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Weatherization and Intergovernmental Programs				
Performance Goal (Measure)	OWIP - State Energy Program (SEP) - 1st year energy savings from State Energy Program projects (Trillion Btus, Tbtus)				
Fiscal Year	2010	2011	2012	2013	2014
Target	9 Tbtus	3.5 Tbtus	3.5 Tbtus	3.55 Tbtus	3.3 Tbtus
Result	Exceeded - 10.95	Exceeded - 3.67	Exceeded - 3.64	Not Met - 3.45	Exceeded - 3.6
Endpoint Target	Cumulative 1st year energy savings of 40 Tbtus between FY 2013 and FY 2022.				
Commentary on 2014 Results (Action Plan if Not Met)	Estimated Tbtus saved will be approximately 3.6				
Documentation, Limitations, Methodology, Validation, and Verification					

Bioenergy Technologies

The overall mission of the Biomass and Biorefinery Systems Program (program) is to facilitate the intersection of science and technology with demonstration and commercialization, bringing new innovations to a technical readiness that will encourage creation of a new industry, grounded in sustainable, domestic biomass resources used to produce clean, secure, renewable biofuels, bioproducts, and biopower that will reduce dependence on oil, reduce greenhouse gas (GHG) emissions, and create jobs.

Program	Bioenergy Technologies				
Performance Goal (Measure)	Biomass - Conversion Cost - Reduce modeled conversion cost for feedstock to gasoline/diesel fuel via a bio-oil pathway (\$2011, \$/gallons of gasoline equivalent, gge)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	3.18 \$/gge	4.1 \$/gge
Result				Met - 3.13	Met - 4.1
Endpoint Target	<p>\$2.47/gge by 2017.</p> <p>Which would enable a modeled mature Minimum Fuel Selling Price of \$3.39/GGE with a feedstock cost of \$80/dry matter ton in 2017.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The milestone report entitled: "Fast Pyrolysis and Hydrotreating: 2013 State of Technology and Projections to 2017" was received in December 2013 documenting modeled conversion cost projections for a combined gasoline/diesel blendstock of \$2.47 in 2017. The study employed the standard methodology of utilizing achieved technical performance and projecting to the target validation date of 2017.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>DOE set the baseline in the 2013 design case report and State of Technology Report which can be found at http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-23053.pdf.</p>				

Program	Bioenergy Technologies				
Performance Goal (Measure)	<p>Biomass - Feedstock Logistics Cost - Reduce feedstock logistics cost for delivery to plant (\$/dry-matter ton) [2013 & 2014 targets from 2011 baseline]</p> <p>2013: Internal approval of design case for the modeled feedstock pathways to achieve the \$80/DT 2017 target, which is part of the \$3/gge programmatic target.</p> <p>2010 – 2012: Reduce feedstock supply system logistics cost in dollars per dry matter ton (\$/DM ton, in \$2007, for delivery to plant gate or conversion reactor inlet) to support the development of cost-effective, high tonnage feedstock logistics systems and enable the supply of biomass feedstocks for a growing bio-based industry.</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	37.8 \$ per dry ton (excluding grower payment, in 2007\$)	36.1 \$/dry-matter ton	35 \$/dry-matter ton	55 \$/dry-matter ton	130 \$/dry-matter ton
Result	Met - 37.8	Met - 36.1	Met - 35	Met - 55	Met - 130
Endpoint Target	\$80/M Ton by 2017				
Commentary on 2014 Results (Action Plan if Not Met)	The EOY target was adjusted from \$53/dry ton to \$/130 as the initial target only included logistics costs with a limited focus on biomass quality. The updated SOT was successful demonstrating a price reduction with a \$102.90 delivered cost. (1.1.1.2)				
Documentation, Limitations, Methodology, Validation, and Verification	2013 Baseline: \$141/DM Ton Cost target is for a blended feedstock with less than 20% moisture, 5% ash, and 59% carbohydrates. A new design case and feedstock logistics design report was developed for the biochem/fermentation pathway to hydrocarbon fuels, thus establishing a new baseline (\$141/ton) and a new endpoint target (\$80/ton).				

Geothermal Technology

The mission of the Geothermal Technologies Program is to accelerate the deployment of domestic electricity generation from geothermal resources by investing in transformative research, development, and demonstration-scale projects that will catalyze commercial adoption. Successful efforts will promote a stronger, more productive economy; provide valuable, stable, and secure renewable energy to power the U.S.; and support a cleaner environment.

Program	Geothermal Technology				
Performance Goal (Measure)	<p>Geothermal - Systems - Reduce the Levelized Cost of Electricity (LCOE) from newly developed geothermal systems (cents/kWh)</p> <p>2013+: includes both hydrothermal and Enhanced Geothermal Systems. 2012: Reduce the LCOE for development of Enhanced Geothermal Systems: assuming non-uniform discount rate. 2011: Increase average total flow rate per production well in kilograms/second for EGS field site</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	12 average flow rate per production well in kilograms/second for EGS field site	18 cents/KWh for 24-hour electricity production	22.5 cents/KWh for 24-hour electricity production	22.4 cents/kWh
Result		Not Met - 0	Met - 18	Met - 22.5	Met - 22.4
Endpoint Target	\$0.06/kWh by 2030				
Commentary on 2014 Results (Action Plan if Not Met)	Increased efficiency in production and injection well improvement improved model results, achieving LCOE of 22.4				
Documentation, Limitations, Methodology, Validation, and Verification	With the help of Geothermal Electricity Technology Evaluation Model (GETEM), resource key parameters of geothermal such as; temperature, depth, productivity (average flow rate per well), type (hydrothermal, EGS, low temperature), and quality of the resources are used to estimate the nth unit of costs for a successful project from a multi-prospect portfolio. For FY15, the GTO will model deployment of a successful green field project (a field where there was no past exploration or development of geothermal energy) with generation cost of 22.3 cents/kWh in 2012 dollars. This green field project will have production wells producing geothermal brine > 175 degree centigrade temperature at < 3 km depth with > 40 Kg/s flow rate.				

Hydrogen and Fuel Cell Technologies

Hydrogen and fuel cells have the potential to improve energy security and reduce emissions of greenhouse gases, criteria pollutants, and net oil imports by improving energy efficiency, enabling alternative fuel sources, and spurring domestic production of clean energy technologies. Widespread use of hydrogen and fuel cells can have a major impact toward achieving EERE's goals of expanding the adoption of sustainable, domestically powered transportation alternatives; improving the efficiency of energy use; stimulating the growth of domestic clean energy manufacturing; and enabling the integration of clean energy into a reliable, resilient, and more efficient electricity grid.

Program	Hydrogen and Fuel Cell Technologies				
Performance Goal (Measure)	Hydrogen and Fuel Cell Technology - Cost - Reduce the cost of hydrogen [\$/Gallon of Gasoline Equivalent) (gge)] 2012: Relative to the 2011 baseline, decrease the capital cost for hydrogen production and delivery using renewable resources.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	20 % decrease	7.6 \$/gge	7.2 \$/gge
Result			Met - 20	Met - 7.6	Met - 7.2
Endpoint Target	\$4/gge by 2020				
Commentary on 2014 Results (Action Plan if Not Met)	A hydrogen cost (dispensed and untaxed) of <\$7.20/gge was achieved through a decrease in the composite tube trailer hydrogen delivery cost. Argonne National Laboratory developed innovative control algorithms for a forecourt bank of low, mid, and high pressure hydrogen storage tubes. While still allowing for proper hydrogen station operation, these optimization algorithms decrease compressor capital costs, reduce cascade storage needs, but maintain high tube trailer payload utilization.				
Documentation, Limitations, Methodology, Validation, and Verification	2011 Baseline: \$8/gge (750 kg/day station size) 2013 and later targets are untaxed modeled costs, as dispensed into the vehicle, assuming 10% market penetration and a station size of 750 kg/day (2012 target was based on a station size of 100 - 150 kg/day; a 750 kg/day size better represents the station size that will provide economies of scale in 2020) Projected costs are obtained using the H2A Central Production Model V3.0 for high volume, central production of hydrogen and the HDSAM Hydrogen Delivery Scenario Model V2.3 for delivery and station costs for 700 bar refueling, assuming 10% market penetration and 750 kg/day station size.				

Program	Hydrogen and Fuel Cell Technologies				
Performance Goal (Measure)	Hydrogen and Fuel Cell Technology - Fuel Cell Power - Improve the catalyst specific power of fuel cells, as measured in kilowatts, kW, per gram of platinum group metal.				
Fiscal Year	2010	2011	2012	2013	2014
Target	3 kW per gram of platinum group metal	5.5 kW per gram of platinum group metal	5.8 kW per gram of platinum group metal	5.9 kW per gram of platinum group metal	6.3 kW per gram of platinum group metal
Result	Exceeded - 5	Exceeded - 5.6	Met - 5.8	Exceeded - 6	Met - 6.3
Endpoint Target	8 kW/g by 2020 \$40/kW fuel cell system cost target in 2020 and ultimate \$30/kW fuel cell system cost target				
Commentary on 2014 Results (Action Plan if Not Met)	3M improved its membrane electrode assembly (MEA) technology to achieve a catalyst specific power of 6.3 kW per gram of platinum group metal (PGM), which meets the performance metric. The 3M MEA consisted of a PtCoMn nanostructured thin film (NSTF) alloy on the anode (0.019 mgPt/cm ²) and a treated Pt3Ni7 NSTF alloy on the cathode (0.11 mgPt/cm ²).				
Documentation, Limitations, Methodology, Validation, and Verification	Improvements in the 3M PtNi alloy nanostructured thin film catalyst in 2012 allowed achievement of the performance metric of 5.8 kW/g of platinum group metal catalyst. Membrane electrode assemblies incorporating the new PtNi alloy catalysts have achieved this performance when operated at 0.6 V at 150 kPa absolute pressure and 80°C				

Solar Energy

The DOE SunShot Initiative is a collaborative national effort to make the U.S. a leader in the global clean energy race by accelerating solar energy technology development. The DOE SunShot Initiative will enable widespread, large-scale adoption of solar power technologies across America by making solar energy systems cost-competitive with other forms of energy by the end of the decade.

Program	Solar Energy				
Performance Goal (Measure)	Solar - Concentrated Solar Power (CSP) - Reduce the levelized cost of Concentrated Solar Power energy at utility scale (cents / kilowatt hour, kWh)				
Fiscal Year	2010	2011	2012	2013	2014
Target	12 cents/kWh	16 cents/kWh	19 cents/kWh (range 18-20)	18 cents/kWh (range 17-19)	15 cents/kWh
Result	Not Met - 13	Exceeded - 11	Exceeded - 18.5	Exceeded - 14.4	Exceeded - 14
Endpoint Target	6 cent /kWh by 2020, cost competitive with traditional electricity sources				
Commentary on 2014 Results (Action Plan if Not Met)	\$.135 cents/kwh				
Documentation, Limitations, Methodology, Validation, and Verification	2013 Baseline: 14.4 cents/kWh This is an unsubsidized levelized cost using a molten salt tower in the southwest US and includes 10 hours of storage.				

Program	Solar Energy				
Performance Goal (Measure)	Solar - Photovoltaic (PV) - Reduce the levelized cost of Solar PV energy at utility scale (cents / kilowatt hour, kWh)				
Fiscal Year	2010	2011	2012	2013	2014
Target	11 cents/kWh (range 11 - 22)	20 cents/kWh (range 8 - 20)	17 cents/kWh (range 13 – 17)	15 cents/kWh (range 13 – 17)	13 cents/kWh
Result	Met - 14	Met - 17	Met - 16	Met - 15	Met - 11
Endpoint Target	6 cents /kWh by 2020, cost competitive with traditional electricity sources				
Commentary on 2014 Results (Action Plan if Not Met)	\$.11 cents/kwh				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Note that in 2011, DOE transitioned away from factoring in the 30% Investment Tax Credit, though the 2011 result is represented with the 30% ITC. In 2012 onward, the 30% ITC is not included.</p> <p>Performance varies across geographic areas; this target is averaged across the US. Targets are only representative of utility-scale PV projects. There are separate programmatic goals for each market. The 2020 installed costs goals are \$1/W for utility-scale systems, \$1.25/W for commercial-scale systems, and \$1.50/W for residential-scale systems. (\$1/WDC targets is roughly equivalent to \$.06/kwh;) On a per kWh basis, these systems costs targets would be competitive with wholesale and retail rates for electricity broadly across the US. For more detailed info please see http://www1.eere.energy.gov/solar/sunshot/vision_study.html.</p>				

Water Power

The Water Power Program supports research, development, demonstration, and deployment (RDD&D) in two distinct renewable power domains: (1) Hydropower and (2) Marine and Hydrokinetic (MHK) energy.

Program	Water Power				
Performance Goal (Measure)	Water - Marine & Hydrokinetic (MHK) - Reduce the cost of energy from Marine & Hydrokinetic technologies 2011 - 2013: Test marine and hydrokinetic devices and components to determine baseline cost, performance, and reliability. (all targets cumulative)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	2 MHK devices tested	3 MHK devices tested	10 MHK devices tested	0.6 LCOE TBD - end of FY2013
Result		Met - 2	Met - 3	Met - 10	Exceeded - 0.53
Endpoint Target	Competitive with local coastal hurdle rates by 2030				
Commentary on 2014 Results (Action Plan if Not Met)	NREL compiled cost information and assumptions for two MHK technologies Verdant power, and ColPwr, both of which have fabricated and tested the performance of their technology in open water. While Verdant power's 1MW array Roosevelt Island Tidal Energy (RITE) projected costs are above the target at ~100c/kWh, ColPwr projected costs for a 50MW array of their Version 3.1 SeaRay WEC technology off Oregon are \$0.53/kWh. The lower projected LCOE for the ColPwr Oregon project is due to the greater power density of the wave environment off Oregon, and the larger scale project (100 units) that allows for cost reduction through economies of scale.				
Documentation, Limitations, Methodology, Validation, and Verification	The Marine and Hydrokinetic industry is at a nascent stage of development, with a variety of device architectures just now being tested in ocean environments at scales that can accurately capture performance and economic characteristics. Annual cost reduction targets are unrealistic at this point – devices must be tested for performance before cost reductions can be realized. Recent analysis shows that the average of Wave and Tidal LCOE at this stage in development is approximately \$0.60/kWh.				

Wind Energy

The mission of the Wind Energy Program is to accelerate widespread United States deployment of clean, affordable, reliable, and domestic wind power to promote national security, economic growth, and environmental quality.

Program	Wind Energy				
Performance Goal (Measure)	Wind - Offshore - Cost of fixed-bottom off-shore wind energy (cents/kWh)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	26.8 cents/kWh	22.5 cents/kWh	20.4 cents/kWh	20 cents/kWh
Result		Exceeded - 22.5	Met - 22.5	Met - 20.4	Exceeded - 18.8
Endpoint Target	16.7 cents/kWh by 2020 using a 7% discount rate.				
Commentary on 2014 Results (Action Plan if Not Met)	Offshore wind remains a relatively immature technology, still gaining its footing in the global electric power sector. Past WWPTO investments in demonstration projects and technology scaling are expected to support lower costs over the long-term but their impacts cannot yet be quantified in the terms of U.S. offshore wind plants, as there are no operational facilities in the U.S. Analysis indicates that the LCOE of offshore wind is declining in real terms (i.e., constant 2010 dollars) but that aggregate inflation is putting upward pressure on pricing independent of the influence of WWPTO investments. When controlling for economy-wide inflation (e.g., 2010 dollars) the offshore wind cost trajectory meets the WWPTO goals. Without controlling for economy wide inflation, the offshore wind LCOE falls 0.1 cents/kWh above the targeted value (in 2013 dollars).				
Documentation, Limitations, Methodology, Validation, and Verification	<p>2009 Baseline: 22.5 cents/kWh (2010 cost estimate revision of 22.5 cents/kWh)</p> <p>Fixed-bottom cost target is an unsubsidized levelized cost of energy in class 6 wind speed areas (9.25 m/s mean wind speed at 50m above ground)</p> <p>Program Focus Areas</p> <ul style="list-style-type: none"> • Increase rotor diameter • Improved controls for lighter tower • Reduce plant losses • Improve component life, reducing operating costs • Reduce platform and other balance of station costs <p>DOE will focus R&D in these areas to achieve the cost target</p>				

Program	Wind Energy				
Performance Goal (Measure)	Wind - Onshore - Cost of land-based wind energy (cents/kWh) 2008 - 2012: measure for modeled reduction in cents/kWh; 2012+ are survey results.				
Fiscal Year	2010	2011	2012	2013	2014
Target	3.8 cents/kWh reduction	0.1 cents/kWh reduction	8 cents/kwh	7.7 cents/kWh	7.2 cents/kWh
Result		Met - 0.1	Met - 8	Met - 7.7	Met - 6.9
Endpoint Target	5.7 cents/kWh by 2020 using a 7% discount rate				
Commentary on 2014 Results (Action Plan if Not Met)	6.9 (2013 Dollars) 6.5 (2010 Dollars) WWPTO investments in technology scaling and advancement have supported the use of wind turbine technology that now captures more energy (per unit of generating capacity) and is driving dramatic reductions in LCOE. Coupled with new transmission development and continued research on wildlife interactions, WWPTO investments have supported record low power sales prices for wind energy.				
Documentation, Limitations, Methodology, Validation, and Verification	2009 Baseline: 8.2 cents/kWh (2010 cost estimate revision of 7.1 cents/kWh) Target is an unsubsidized levelized cost of energy in class 4 wind speed areas (7.25 m/s mean wind speed at 50m above ground). DOE will focus R&D on these areas to achieve the cost target: <ul style="list-style-type: none"> • Increased rotor diameter • Next-generation drivetrain • Reduce plant losses DOE-impactable LCOE (market effects taken out) validated via annual, independent NREL estimation of LCOE of reference plant, normalized for Class IV wind speed. Using a 7% discount rate and 2013 dollars.				

Advanced Manufacturing Office

Reduce the energy intensity and life-cycle energy consumption of manufactured products by researching, developing, and demonstrating energy-efficient manufacturing processes and materials. Promote continuous improvement in energy efficiency among existing facilities and manufacturers. Our goal is to reduce energy consumption of manufactured goods across product life-cycles by 50 percent over 10 years.

Program	Advanced Manufacturing Office				
Performance Goal (Measure)	<p>AMO - Advanced Manufacturing R&D Projects - Advanced Manufacturing R&D Projects - Demonstrate new manufacturing process technologies capable of reducing energy consumption by at least 25% compared to current industrial processes (annual number of new manufacturing processes).</p> <p>2012: increase the build speed of metal components and strength of polymer components. 7 ksi.</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	1 manufacturing process	2 manufacturing processes	2 manufacturing processes
Result			Met - 1	Met - 2	Met - 2
Endpoint Target	Demonstrate 10 manufacturing processes on an industrially relevant scale by 2024, leading to energy savings and increased U.S. competitiveness.				
Commentary on 2014 Results (Action Plan if Not Met)	A bench-scale hybrid desalination unit with 98% contaminant rejection was successfully built and tested in Q4. Novomer successfully demonstrated the continuous operation of a stirred tank reactor and catalyst separations unit in Q3. These are key components to produce acrylic acid from CO ₂ .				
Documentation, Limitations, Methodology, Validation, and Verification	Due to the wide variety of technologies funded through the AMO portfolio, processes will be demonstrated and verified on a case-by-case basis using metrics unique to each case, including energy saved compared to a suitable base case. For a retrospective analysis of impacts, the program (through the Pacific Northwest National Laboratory) has employed a rigorous approach to evaluate energy and emissions impacts, using data gathered following the successful commercialization of supported technologies by tracking unit sales and estimated performance characteristics.				

Program	Advanced Manufacturing Office				
Performance Goal (Measure)	<p>AMO - Next Generation Materials - Develop next generation materials capable of reducing total product life cycle energy consumption by 50%.</p> <p>2012 milestone: Set the baseline production cost of nanoparticles by developing a crosscutting low temperature nano-fermentation synthesis process</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	2 next-generation materials	2 next-generation materials
Result				Met - 2	Met - 2
Endpoint Target	Demonstrate 10 materials on an industrially relevant scale by 2024, leading to energy savings and increased U.S. competitiveness				
Commentary on 2014 Results (Action Plan if Not Met)	The pilot line for protected lithium electrodes was fully operational in Q4. The die caster design for a Buick LaCrosse Magnesium door was completed in Q4.				
Documentation, Limitations, Methodology, Validation, and Verification	Potential refers to an estimated savings compared to existing technologies and is assessed on a case-by-case basis to account for the wide variety of industry domains targeted by AMOs activities. AMO and EERE Strategic Programs have initiated work to develop a comprehensive set of tools to model material flows (from "mine-to-materials") based on life-cycle energy and emissions data and thereby assess the energy and emissions impact.				

Program	Advanced Manufacturing Office				
Performance Goal (Measure)	AMO - Superior Energy Performance - Increase number of manufacturing facilities certified in Superior Energy Performance by ANSI accredited bodies (cumulative number certified since the beginning of FY 2011).				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	10 facilities certified	3 Demonstration Facilities established	40 facilities certified
Result			Met - 10	Exceeded - 5	Not Met - 22
Endpoint Target	3 TBtus of cumulative energy savings from Superior Energy Performance certified manufacturing facilities or about \$15-25 million in energy savings.				
Commentary on 2014 Results (Action Plan if Not Met)	22 SEP facilities certified as of September 2014. Medimmune, Land O'Lakes and Volvo Trucks (Hagerstown, MD) are the in process of being SEP certified. Action Plan: Medimmune, Land O'Lakes and Volvo Trucks (Hagerstown, MD) are the in process of being SEP certified.				
Documentation, Limitations, Methodology, Validation, and Verification	Typical plants involved in the Superior Energy Performance demonstrations have annual energy bills over \$1 million. Three TBtus total cumulative energy savings of these plants over the three year certification period.				

Program	Advanced Manufacturing Office				
Performance Goal (Measure)	AMO - Training - Provide specialized training to new energy efficiency engineers and managers at 24 Industrial Assessment Centers (number of engineers and managers trained each year)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	100 engineers trained	110 engineers and managers trained	300 engineers and managers trained
Result			Not Met - 99	Exceeded - 115	Exceeded - 446
Endpoint Target	Continuously increase the capabilities of the U.S. engineering workforce.				
Commentary on 2014 Results (Action Plan if Not Met)	Maintained a student population of 446 IAC students for the fiscal year.				
Documentation, Limitations, Methodology, Validation, and Verification	2011 Baseline: over 3,100 highly qualified certified students have graduated into the US workforce More than 60% of IAC graduates pursue permanent careers in the energy field. These individuals ultimately support productivity improvement and energy efficiency gains throughout the manufacturing/industrial sectors. Number of engineers trained will reflect data on active IAC student population.				

Program	Advanced Manufacturing Office				
Performance Goal (Measure)	AMO – Demonstration - Support clean manufacturing institute(s) to demonstrate advanced physical and virtual tools which optimize critical processes				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	1 tools	1
Result				Met - 1	Met - 1
Endpoint Target	9 demonstration facilities by 2017.				
Commentary on 2014 Results (Action Plan if Not Met)	Clean Energy Manufacturing Innovation Institute for Composite Materials and Structures was issued 02/25/2014.				
Documentation, Limitations, Methodology, Validation, and Verification	The Clean Energy Manufacturing Innovation Institutes develop and demonstrate new material and processing technologies. These institutes are a part of a multi-agency National Network for Manufacturing Innovation and focus on the development of key technologies for industry.				

Building Technologies

EERE's Building Technologies Program will continue to develop and demonstrate advanced building efficiency technologies and practices to make buildings in the U.S. more efficient, affordable, and comfortable.

Program	Building Technologies				
Performance Goal (Measure)	<p>Buildings - Case Studies - Complete energy calculators, online tools, case studies, specifications and technology field installations, all products that demonstrate at least 20 percent energy savings over business as usual building usage with five year or less payback (annual number of case studies completed)</p> <p>2008 – 2010: Number for # of technology packages completed.</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	4 design technology package completed	10 case studies completed	20 case studies completed	20 case studies completed	20 case studies completed
Result	Met - 4	Exceeded - 38	Met - 20	Met - 20	Met - 20
Endpoint Target	20 products for 100 TBtu savings at full market penetration by 2020				
Commentary on 2014 Results (Action Plan if Not Met)	Results include 10 products for new construction and 10 for existing construction				
Documentation, Limitations, Methodology, Validation, and Verification	The Buildings Program's products will document and help to identify means, methods, and technology solutions for commercial building owners to achieve savings in various building types such as retail, office, higher education, hospitality, warehouse, and healthcare. FY 2014 funds will document solutions with building owners which include overcoming the market barriers, (such as split incentive, high hurdle rates, uncertain risks, and information gaps), quantifying the opportunity/savings/impacts, and documenting the technology solutions for various building types in all climate zones				

Program	Building Technologies				
Performance Goal (Measure)	Buildings - ENERGY STAR - Annual number of completed ENERGY STAR test procedure proposals or final test procedures Note: prior to 2012 the measure was included with the Appliance Standards measure				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	12	12	6
Result			Exceeded - 19	Exceeded - 13	Met - 6
Endpoint Target	75 completed test procedures (cumulative) by 2016				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	<p>FY14 Baseline: 54 ENERGY STAR products.</p> <p>DOE estimated the number of proposals based on the Environmental Protection Agency's work plan for specification development.</p> <p>Program activities assist in achieving this goal by improving the efficiency of new appliances and equipment, establishing test procedures to measure product efficiency, and verifying compliance with these test procedures and specified efficiency levels. The program brings new, efficient technologies developed by R&D into widespread use when the technologies become economically feasible. Test procedures can be found in the Federal Register.</p>				

Program	Building Technologies				
Performance Goal (Measure)	Buildings - Lighting - Decrease the manufacturing cost of a warm white LED package. (Lumens / \$) 2012: Increase lighting efficacy of “warm white light” solid-state lighting in a lab device. 2008-2011 unit was “non-warm white light”				
Fiscal Year	2010	2011	2012	2013	2014
Target	113 lumens per watt of “non-warm white light”	142 lumens per watt of “non-warm white light”	127 lumens per watt of “warm white light”	148 lumens per watt of “warm white light”	128 lumens
Result	Exceeded - 139	Exceeded - 149	Exceeded - 133.1	Met - 148	Exceeded - 150
Endpoint Target	217 lm/\$ by 2020				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the target, achieving 150 lumens/\$.				
Documentation, Limitations, Methodology, Validation, and Verification	2009 Baseline: 50 lm/\$ Target is a manufacturing cost for warm white LED package (2700 - 3000° K)				

Program	Building Technologies				
Performance Goal (Measure)	Buildings - Residential Buildings - Complete annual report which outlines the most cost effective retrofit and new home energy efficiency improvements (called measure packages)				
Fiscal Year	2010	2011	2012	2013	2014
Target	2 retrofit package completed for new homes	1 retrofit packages completed for new and existing homes	2 retrofit packages completed for new and existing homes	1 retrofit package completed for new homes	1 retrofit package completed for new homes
Result	Met - 2	Exceeded - 2	Met - 2	Met - 1	Met - 1
Endpoint Target	10 energy savings packages by FY'18 (covering new and existing homes in each of 5 climate regions).				
Commentary on 2014 Results (Action Plan if Not Met)	Completed annual report which outlines the most cost effective retrofit and new home energy efficiency improvements (called measure packages)				
Documentation, Limitations, Methodology, Validation, and Verification	For existing homes, packages will result in 15-30 percent greater efficiency for FY 2012-2015 and 30-50 percent greater efficiency beginning in FY 2015. For new homes, packages will result in 30 percent greater efficiency for FY 2011-14 and 30-50 percent greater efficiency beginning in FY 2014, based on the Building America benchmark and the International Energy Conservation Code 2009.				

Program	Building Technologies				
Performance Goal (Measure)	Buildings - Standards - Final Rules - Annual number of products for which final rules for test procedures and standards will be issued,				
Fiscal Year	2010	2011	2012	2013	2014
Target	10 products for which final rule is issued	16 products	17 products	31 products	13 products
Result	Met - 10	Met - 16	Exceeded - 29	Not Met - 19	Exceeded - 16
Endpoint Target	Reduce cumulative carbon pollution by 3 billion metric tons by 2030 through standards set since 2009 and promulgate new standards for consumer products and industrial equipment by the end of calendar year 2016.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the target, achieving 16 total (TP Final Rules – 6, Standards Final Rules – 10).				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Baseline: There are over 60 covered products in DOE's portfolio as of July 2012</p> <p>Many of the test procedures and standards rulemakings are legislatively mandated by the Energy Policy and Conservation Act. The number of proposals and final rules are determined by the typical rulemaking cycle, whose completion dates are specified by legislation.</p> <p>The NOPR process involves the proposal of a standards level or test procedure based on testing, engineering and economic analysis, as well as a great deal of stakeholder input, leading to the final proposal.</p>				

Program	Building Technologies				
Performance Goal (Measure)	Buildings – Standards - NOPRs - Annual number of products for which Notices of Proposed Rulemaking (NOPRs) for test procedures and standards will be issued				
Fiscal Year	2010	2011	2012	2013	2014
Target	17	19	34	35	17 NOPRS
Result	Met - 17	Met - 19	Exceeded - 35	Not Met - 20	Exceeded - 18
Endpoint Target	Reduce cumulative carbon pollution by 3 billion metric tons by 2030 through standards set since 2009 and promulgate new standards for consumer products and industrial equipment by the end of calendar year 2016.				
Commentary on 2014 Results (Action Plan if Not Met)	Exceeded the target, achieving 18 total (TP NOPRS - 9 Standards NPORS – 9).				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Baseline: There are over 60 covered products in DOE's portfolio as of July 2012</p> <p>Many of the test procedures and standards rulemakings are legislatively mandated by the Energy Policy and Conservation Act. The number of proposals and final rules are determined by the typical rulemaking cycle, whose completion dates are specified by legislation.</p> <p>The NOPR process involves the proposal of a standards level or test procedure based on testing, engineering and economic analysis, as well as a great deal of stakeholder input, leading to the final proposal</p>				

Federal Energy Management Program

Federal Energy Management Program's (FEMP) mission is to provide the services, tools, and expertise to Federal agencies to help them achieve their energy, greenhouse gas, and water goals established by law and executive order. These are delivered through project funding mechanisms, technical assistance, and communications and training. By increasing its use of energy efficiency and renewable energy, the Federal sector leads by example, meets more of its energy requirements from clean technologies and secure sources, and spurs innovation and commercialization of clean energy technologies.

Program	Federal Energy Management Program				
Performance Goal (Measure)	Federal Energy Management Program (FEMP) Contract - Reduce life-cycle energy consumption of federal facilities through alternative financing and technical assistance (TBtus life cycle energy savings)				
Fiscal Year	2010	2011	2012	2013	2014
Target	50 TBtus	50 TBtus	52 TBtus	47 TBtus	57 TBtus
Result	Exceeded - 56.7	Not Met - 41.6	Not Met - 24.7	Not Met - 27.9	Not Met - 24.4
Endpoint Target	\$8 Billion of total investment in Federal Facilities Energy Conservation Measures through FY 2025, or \$750 Million annually through FY 2020 and \$850 Million annually through 2025				
Commentary on 2014 Results (Action Plan if Not Met)	Action Plan: Now tracking Total Federal Investment in Facilities Energy Conservation Measures Government-Wide.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Baseline: 333 tBtus (2011 annual energy facility consumption of the federal government)</p> <p>Alternative financing activities include Energy Savings Performance Contracts, Utility Energy Services Contracts, Power Purchase Agreements, and public benefit funds. Technical Assistance activities include design assistance, efficiency assessments, renewable energy assessments, commissioning and other activities. The data is collected via a quarterly data calls in which FEMP compiles the progress reported by the National Labs and ESCO's in completing Technical Assistance (TA), ESPC, UESC, Renewable Energy Credit (REC) Projects, along with the estimated Annual Energy Savings and Lifecycle Energy Savings from those projects over the performance period of the contracts. Currently there is no requirement for the labs to report this data; it is mainly voluntary however compliance is high. In addition, the lifecycle energy savings projections for TA projects are based on estimations not actual project implementations, since the tracking of every identified TA project Agencies implement would require a significant amount of resources. However FEMP is working towards that end goal.</p>				

Vehicle Technologies

Aligning with the President's Climate Action Plan and all-of-the-above approach to American energy, the Vehicle Technologies Program supports a broad technology portfolio; adheres to a comprehensive and analysis-based strategy of research, development, demonstration, and deployment activities; and creates strategic public-private partnerships to develop new technologies and move them from the laboratory onto the road.

Program	Vehicle Technologies				
Performance Goal (Measure)	<p>Vehicles - Batteries - Reduce the modeled cost of energy storage for Plug-In Hybrid Electric Vehicles (PHEVs). (\$/kilowatt hours, kWh)</p> <p>2008 – 2010: Measure for modeled production cost of a high-power, 25-kW passenger vehicle lithium-ion battery</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	500 \$ / high-power, 25 kW	700 \$/kWh	500 \$/kWh	400 \$/kWh	300 \$/kWh
Result	Met - 500	Exceeded - 651	Exceeded - 485	Exceeded - 325	Met - 289
Endpoint Target	\$125/kWh by 2022				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The current cost estimates from three DOE-funded battery developers for a PHEV 40 battery average \$289/kWh of useable energy. This cost projection is derived using material costs and cell and pack designs, provided by the developers, that are then input into ANL's peer reviewed and publically available Battery Production and Cost model (BatPaC); the cost is based on a production volume of at least 100,000 batteries per year. The battery cost is derived for batteries that meet DOE/USABC system performance targets. The battery development projects focus on high voltage and high capacity cathodes, advanced alloy anodes, and processing improvements. Proprietary details of the material and cell inputs and cost models are available in spreadsheet form and in quarterly reports.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Baseline: \$1,000/kWh in 2008 This will enable cost competitive market entry of EVs by reducing the cost of electrical vehicle batteries by approximately 70 percent (roughly \$14,000) from FY 12. Battery cost projections are derived by battery manufacturers using USABC's battery manufacturing cost model for specific battery cell and module designs that meet DOE/USABC system performance targets and are based on a production volume of at least 100,000 batteries per year.</p>				

Program	Vehicle Technologies				
Performance Goal (Measure)	Vehicles - Petroleum Use - Reduce the use of petroleum through the adoption of alternative fuel vehicles and infrastructure (million gallons per year)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	570 million gallons per year	700 million gallons per year	775 million gallons per year	850 million gallons per year
Result		Exceeded - 600	Exceeded - 750	Exceeded - 820	Met - 850
Endpoint Target	By 2015, 1B gal/yr. (gge) of petroleum reduction with alternative fuel vehicles and infrastructure. By 2020, 2.5B gal/yr. (gge) of petroleum reduction with alternative fuel vehicles and infrastructure.				
Commentary on 2014 Results (Action Plan if Not Met)	The Clean Cities program has collected metrics to show that it has met this targeted amount of 850 million gallons of annual petroleum reduction through the use of alternative fuel vehicles and infrastructure and other petroleum reduction methods.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>2013 Baseline: 750 Million gallons per year</p> <p>Annual Petroleum reduction/savings for alternative fuel end use is measured through actual fleet and fuel provider reporting; reductions estimated from idle reduction and other activities are tracked & documented by national laboratories and project partners.</p> <p>Documented in the Clean Cities Annual Metrics Report.</p>				

Electricity Delivery and Energy Reliability

Electricity Delivery and Energy Reliability

The Office of Electricity Delivery and Energy Reliability (OE) leads national efforts to modernize the electric grid, enhance security and reliability of energy infrastructure, and facilitate recovery from disruptions to the energy supply.

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Cybersecurity - Demonstrate new protective measures to reduce risks from cyber incidents.				
Fiscal Year	2010	2011	2012	2013	2014
Target	3 number of systems with security audit files developed	2 number of control systems tested	1 Conduct a power system control component study	1 energy delivery field device	Demonstrate a tool that designs-in enhanced communications security for one substation control system component
Result	Met - 3	Met - 2	Met - 1	Met - 1	Met - 1
Endpoint Target	By 2020, resilient energy systems are designed, installed, operated and maintained to survive a cyber-incident while sustaining critical functions.				
Commentary on 2014 Results (Action Plan if Not Met)	Commercial product released that provides designed-in enhanced security for substations. exeGuard included in 3 commercial products at SEL including 3620 (Ethernet security gateway developed under Lemnos project); 3622 (developed under Padlock project), and 3610 (a serial port server developed by SEL).				
Documentation, Limitations, Methodology, Validation, and Verification	Reported in CEDS quarterly report 7/31/2014.				

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Energy Storage - Lower the cost of grid-scale (>1 mw) energy storage technologies.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	2,500 \$/kW for grid-scale application	560 \$/kWh for a 4 hour system	475 \$/kWh for a 4 hour system	400 \$/kWh for a 4 hour system
Result		Met - 2,500	Met - 500	Met - 475	Met - 400
Endpoint Target	By 2020 improve cost-benefit ratio of storage to compete with current peak generation resources and increase commercial use of grid scale storage to buffer renewable to 5%.				
Commentary on 2014 Results (Action Plan if Not Met)	Milestone completed. A prototype 21-cell redox flow battery stack was successfully demonstrated utilizing thinner Nafion [®] NR-212 membranes and a low cost interdigitated flow design. The stack operated at 50% higher current density over FY13 target (240mA/cm ² vs 160mA/cm ²). The resulting stack exceeded target metrics by achieving an average power of 4.9 kW at 240mA/cm ² and double the flow rate (800 cc/min/cell) with an energy efficiency of 75%. The performance of the prototype system under a variety of operating conditions (flow rate, current density, and temperature) will be reported in several presentations and in upcoming journal publications.				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Infrastructure Security and Energy Restoration - Improve data set and performance of near real-time monitoring situational awareness tool, measured by situational awareness capability index (SACI). System created is EAGLE-I (Environment for Analysis of Geo-Located Energy Information). Note: SACI represents the completeness of situational awareness data, measured as a percentage of available data incorporated into situational awareness tool. Available data increases in the future as more becomes available.				
Fiscal Year	2010	2011	2012	2013	2014
Target	1 milestone for completing a study on understanding of the US energy system	1 milestone for a mitigation strategy document	10 % SACI performance	30 % situational awareness capability index score	45 % situational awareness capability index score
Result		Met - 1	Met - 10	Met - 30	Met - 45
Endpoint Target	Maintain greater than 90% SACI by FY2017 to help improve capacity to mitigate effects of disruptions and recovery quickly.				
Commentary on 2014 Results (Action Plan if Not Met)	Achieved 45 % SACI performance re: EAGLE-I. Data gathering and housing processes continue to increase, system performance and speed has increased, and external user-base continues to increase. Modernization and hosting update underway with cooperation from OCIO.				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Permitting, Siting and Analysis - Number of states to which the program provides, upon request, assistance in designing and implementing electricity policies, statutes and regulations.				
Fiscal Year	2010	2011	2012	2013	2014
Target	2 events hosted to facilitate collaborative efforts among groups of States	30 states assisted	30 states/tribes assisted	35 states/tribes assisted	35 states/tribes assisted
Result		Met - 30	Met - 30	Met - 35	Met - 35
Endpoint Target	Increased access to reliable, affordable and sustainable energy sources.				
Commentary on 2014 Results (Action Plan if Not Met)	35 states and tribes assisted				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	R&D Advanced Modeling - Development of capabilities in understanding, modeling and predicting grid behavior.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	1 Develop draft roadmap	1 final roadmap developed	Demonstrate (at laboratory scale) fast state estimation
Result			Not Met - 0	Met - 1	Met - 1
Endpoint Target	Realization of advanced modeling capabilities, including dynamic operation, real-time analysis, and predictive response.				
Commentary on 2014 Results (Action Plan if Not Met)	PNNL demonstrated the performance improvement of their state estimator (incorporating advancements in math/computation). Results discussed in PNNL Quarterly Report (internal) and at the AMGR peer review held in Summer 2014				
Documentation, Limitations, Methodology, Validation, and Verification	PNNL Quarterly Report (internal); AMGR peer review held in Summer 2014				

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Smart Grid R&D - Reductions in load factor (LF), duration of outages (SAIDI) on the distribution system, and outage time of critical loads on smart microgrids (CL)				
Fiscal Year	2010	2011	2012	2013	2014
Target	10 % load factor improvement on a distribution feeder circuit	10 % load factor improvement on a distribution feeder circuit	12 % load factor improvement on a distribution feeder circuit	Demonstrate a smart microgrid at a military facility with no mission-impacting power interruption	Demonstrate an operational prototype of a smart microgrid including integration of electric vehicles and renewable energy
Result	Met - 10	Met - 10	Met - 12	Met - 1	Met - 1
Endpoint Target	Achievement of a self-healing distribution grid that allows for widespread integration of demand response, distributed generation and plug-in electric vehicles by 2020.				
Commentary on 2014 Results (Action Plan if Not Met)	Yearly target achieved. The "shortest restoration path" from the distributed generators to the critical loads in the WSU microgrid-Pullman electric system has been validated, via dynamic simulation, to show that the generator output power does not exceed its maximum capability and the voltages at the critical loads are close to the nominal voltage during the restoration process.				
Documentation, Limitations, Methodology, Validation, and Verification	Topical report, Microgrids as a Resiliency Resource, PNNL-23674, September 2014				

Program	Electricity Delivery and Energy Reliability				
Performance Goal (Measure)	Transmission Reliability - Demonstrate and implement technologies and tools that improve the monitoring of transmission system health and the ability of operators to respond quickly and effectively to address issues.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	5 control centers with electro-mechanical grid stability alarms implemented	1 milestone for a prototype distributed dynamic state estimator	Demonstrate a pre-prototype adaptive relaying system based on real-time synchrophasor data	Demonstrate an Oscillation Detection System in the Eastern Interconnection
Result		Not Met - 2	Met - 1	Met - 1	Met - 1
Endpoint Target	Realization of a nationwide synchrophasor network with 100% sensor coverage of the transmission system by 2020, allowing for complete, real-time monitoring of transmission system health.				
Commentary on 2014 Results (Action Plan if Not Met)	This demonstration commenced in the 4th quarter. It is ongoing to capture oscillations events as they occur in the Entergy system.				
Documentation, Limitations, Methodology, Validation, and Verification	CERTS Quarterly Report to DOE				

Fossil Energy

Fossil Energy R&D

The Coal Program will ensure the availability of near-zero atmospheric emissions, abundant, affordable, domestic energy to fuel economic prosperity, strengthen energy security, and enhance environmental quality.

Program	Fossil Energy R&D				
Performance Goal (Measure)	CCS Demonstrations - Initiate construction of CCS demonstration projects. Once constructed, initiate operation.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	3 CCS Demonstrations initiated	2 CCS project initiated	1 CCS demonstration project initiated
Result			Met - 3	Met - 2	Met - 1
Endpoint Target	Operations initiated at a minimum of five commercial scale CCS demonstrations by 2019 including the Clean Coal Power Initiative (CCPI), FutureGen 2.0, and the Industrial CCS Demonstration projects (funded by both annual appropriations and the American Recovery and Reinvestment Act). At least two of the five demonstrations to initiate operations by 2019 will be CCPI projects.				
Commentary on 2014 Results (Action Plan if Not Met)	GPRA milestone was met. On July 15, 2014 Petra Nova achieved financial close and initiated construction on the W.A. Parish Post Combustion CO2 Capture and Sequestration project (DE-FE0003311). The Notice to Proceed with construction was issued to the engineering, procurement, and construction contractor, meeting the quarterly milestone.				
Documentation, Limitations, Methodology, Validation, and Verification	Documentation is a press release from NRG.				

Program	Fossil Energy R&D				
Performance Goal (Measure)	Carbon Capture and Advanced Energy Systems - Achieving the target signifies that the Carbon Capture & Advanced Energy Systems program is continuing to make progress in meeting its goal of developing cost-effective, reliable carbon capture technologies for pre-combustion, post-combustion, and oxy-combustion capture applications.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	< 55 \$ per tonne CO2 captured	≤ 53 \$ per tonne CO2 captured
Result				Met - 53	Met - 53
Endpoint Target	By 2020, Advanced Energy Systems with a CO2 capture cost of no more than \$40 per tonne.				
Commentary on 2014 Results (Action Plan if Not Met)	Annual performance measure met. Engineering, systems, and cost analysis show that, when integrated together into a pulverized coal (PC) power plant with post-combustion capture, technology advancements in the Capture Program area provide a pathway to achieve a cost of capture less than \$53 per tonne of CO2. R&D progress in CO2 capture heat integration (Southern Company Services, Inc./Mitsubishi Heavy Industries, Ltd.) and advanced absorber design (Neumann Systems Group, Inc.) provided the basis for this year's independent assessment.				
Documentation, Limitations, Methodology, Validation, and Verification	The analysis supporting the validation of the annual performance measure is documented in the FY 2014 Coal Program GPRA Annual Report.				

Program	Fossil Energy R&D				
Performance Goal (Measure)	Carbon Storage - Inject CO2 in large-volume field test sites to demonstrate the formations' capacity to permanently, economically, and safely store carbon dioxide.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	3 MMTs injected (since 2009)	4 MMTs injected (since 2009)	5 MMTs injected (since 2009)
Result			Met - 3.6	Met - 4.7	Met - 7.6
Endpoint Target	Inject 9.0 million metric tons of CO2 in large-volume field test sites representing different storage classes, since January 2009, to demonstrate and monitor for the formations' capacity to permanently, economically, and safely store carbon dioxide. A long-term goal is to ensure the cost effective ability to ensure 99 percent storage permanence of CO2 while minimizing the environmental footprint of carbon storage activities.				
Commentary on 2014 Results (Action Plan if Not Met)	The performance measure for 2014 has been met with 7,638,883 metric tons of CO2 injected at large-volume field projects conducted by the Southeast Regional Carbon Sequestration Partnership (SECARB), the Midwest Carbon Sequestration Consortium (MGSC), the Midwest Regional Carbon Sequestration Partnership (MRCSP), the Southwest Regional Carbon Sequestration Partnership (SWP), and the Plains CO2 Reduction (PCOR) Partnership. Detailed information on individual projects can be viewed in Q4 below. The technical knowledge developed by the Regional Carbon Sequestration Partnerships' large-scale injection projects will result in best practices that can be used by all projects as they perform additional large-volume field tests. These field tests will demonstrate the capacity of the formations to store carbon by developing technologies that can safely and economically inject and monitor the CO2 from coal-based energy systems. Preparing carbon capture and storage (CCS) for broad scale deployment requires significant technical and non-technical work to be completed at these large-volume field projects which are the precursor for future integrated demonstrations of CCS.				
Documentation, Limitations, Methodology, Validation, and Verification	SECARB reports injection volumes in their monthly reports, and quarterly progress reports. A letter from their Principal Investigator confirming injection amounts was received at NETL.				

Petroleum Reserves

The Strategic Petroleum Reserve (SPR) protects the U.S. from future disruptions in critical petroleum supplies and meets the U.S. obligations under the International Energy Program (Energy Policy and Conservation Act, P.L. 94-163, as amended, Section 151). SPR also includes Defense Department crude oil, stored for national defense purposes.

Program	Petroleum Reserves				
Performance Goal (Measure)	Drawdown Readiness - Ensure drawdown readiness by achieving greater than 95% of monthly maintenance and accessibility goals.				
Fiscal Year	2010	2011	2012	2013	2014
Target	95 % of monthly maintenance achieved	95 % of monthly maintenance achieved	> 95 % of monthly maintenance achieved	95 % of monthly maintenance achieved	≥ 95 % of monthly maintenance achieved
Result	Met - 98.4	Met - 98	Met - 95.98	Met - 96.45	Met - 96.8
Endpoint Target	Achieve 95% of monthly maintenance and accessibility goals in all years.				
Commentary on 2014 Results (Action Plan if Not Met)	Drawdown readiness achieved at 96.8% of monthly maintenance and accessibility goals.				
Documentation, Limitations, Methodology, Validation, and Verification	Data verified in monthly maintenance and accessibility reports.				

Program	Petroleum Reserves				
Performance Goal (Measure)	SPR Operating Cost - Ensure cost efficiency of SPR operations by achieving low operating cost per barrel of capacity				
Fiscal Year	2010	2011	2012	2013	2014
Target	< 0.22 \$ operating cost per barrel	< 0.229 \$ operating cost per barrel	< 0.225 \$ operating cost per barrel	< 0.25 \$ operating cost per barrel	< 0.25 \$ operating cost per barrel
Result	Met - 0.213	Met - 0.224	Met - 0.221	Met - 0.239	Met - 0.239
Endpoint Target	Achieve < \$0.25 operating cost per barrel.				
Commentary on 2014 Results (Action Plan if Not Met)	Ensured cost efficiency of SPR operations by achieving the low cost of 0.239 \$ operating cost per barrel.				
Documentation, Limitations, Methodology, Validation, and Verification	Data can be verified with SPR operations reports.				

Program	Petroleum Reserves				
Performance Goal (Measure)	Sustained (90 day) Drawdown Rate - Enable ready distribution of SPR oil by achieving maximum sustained (90 day) drawdown rate of 4.4 million barrels per day.				
Fiscal Year	2010	2011	2012	2013	2014
Target	4.4 million barrels per day	4.4 million barrels per day	≥ 4.4 million barrels per day	4.25 MMB/Day drawdown readiness rate	4.25 MMB/Day drawdown readiness rate
Result	Met - 4.4	Met - 4.4	Not Met - 4.25	Met - 4.25	Met - 4.25
Endpoint Target	Maintain a 90 day drawdown rate of 4.4 million barrels per day				
Commentary on 2014 Results (Action Plan if Not Met)	Enabled ready distribution of SPR oil by achieving maximum sustained (90 day) drawdown rate of 4.25 million barrels per day.				
Documentation, Limitations, Methodology, Validation, and Verification	Data can be verified with the SPR drawdown report.				

Nuclear Energy

The mission of the Reactor Concepts Research, Development and Demonstration (RD&D) program is to develop new and advanced reactor designs and technologies that advance the state of reactor technology to improve its competitiveness, and help advance nuclear power as a resource capable of meeting the Nation's energy, environmental, and national security needs.

Program	New Nuclear Generation Technologies				
Performance Goal (Measure)	Light Water Reactor Sustainability - This program is developing the scientific basis to extend existing nuclear power plant operating life beyond the current 60 year limit. The scientific basis will assist the NRC in making life-extension regulatory decisions. For FY2012 and beyond the performance measure is to meet 90% of planned annual milestones.				
Fiscal Year	2010	2011	2012	2013	2014
Target	1 develop scientific knowledge to extend existing nuclear plant operating life beyond the current 60 year limit	57 scheduled deliverables	90 % of annual milestones completed	90 % annual program milestones met	≥ 90 % annual program milestones met
Result		Met - 57	Met - 100	Met - 96	Met - 100
Endpoint Target	NE-developed tools and assessments will help establish the scientific bases for existing plants to receive license extensions from the NRC in the 2030 timeframe.				
Commentary on 2014 Results (Action Plan if Not Met)	The LWRS program completed significant research this year on materials degradation, in particular on concrete degradation. The status of concrete degradation research was summarized in a detailed briefing to the Nuclear Regulatory Commission's (NRC's) Advisory Committee on Reactor Safeguards (ACRS). A RELAP-7 Theory Manual was published representing a significant step in the RELAP-7 code development. A joint project with EPRI was completed on prognostics for generator step-up transformers that should allow for better predictions of pending failures.				
Documentation, Limitations, Methodology, Validation, and Verification	Completed milestones are documented in the PICS-NE system database.				

Nuclear Infrastructure

The mission of the Idaho Facilities Management (IFM) program is to manage the planning, acquisition, operation, maintenance, and disposition of the Office of Nuclear Energy (NE)-owned facilities and capabilities at the Idaho National Laboratory (INL).

Program	Nuclear Infrastructure				
Performance Goal (Measure)	Facility Availability - Idaho Facilities Management Program - Enable nuclear research and development activities by providing operational facilities and capabilities, as measured by availability percentages.				
Fiscal Year	2010	2011	2012	2013	2014
Target	75 % availability	80 % availability	80 % availability	80 % availability	≥ 80 % availability
Result	Met - 89	Not Met - 71.6	Not Met - 70.5	Not Met - 64.2	Not Met - 77
Endpoint Target	Maintain the percentage of facilities and capabilities that are available for research and development activities at 90% or better.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The Cumulative Availability of the Advanced Test Reactor (ATR) for FY 2014 was 65.9% The Cumulative Availability of the Materials and Fuels Complex (MFC) for FY 2014 was 88.6%</p> <p>Advanced Test Reactor: Equipment challenges occurring throughout the year yielded the majority of schedule interruptions leading to the Advanced Test Reactor achieving less than its overall 80% desired operating schedule adherence. The most recent challenge involved an unplanned outage to investigate and repair a leak in the Loop 2E-NW pressurizer. These delays required the experiment schedule in the Integrated Strategic Operational Plan to be adjusted. The overall impact of the delays should be minimal to the operational schedule, barring rise of any major equipment issues.</p> <p>Materials and Fuels Complex: The MFC FY 2014 performance was good as evidenced by 86 outcomes supported by MFC resources (facilities and/or personnel) out of 107 being completed by the performance and/or milestone date. Out of the remaining outcomes, five were completed late. MFC and the respective affected programs worked to identify and minimize programmatic impacts, if any, resulting from the missed milestones.</p> <p>Action Plan: In order to achieve 80% scheduled availability, Nuclear Reactor Infrastructure will continue to focus on equipment reliability and effective outage planning. This includes oversight of the Plant Health Committee utilization and prioritization of funding to deal with safety system health and obsolescence and ensuring progress is made towards the critical spares inventory. In FY 2015, the IFM program will continue to analyze facility availability with the goal of developing more representative metrics in this area.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	Performance Memorandum provided by Ray Furstenau, Principal Deputy Manager for Nuclear Energy, dated October 10, 2014, providing performance information of IFM Facility Availability and IFM GPPs for the fourth quarter FY 2014.				

Environmental Management

Tank Waste and Nuclear Materials

The EM program strategy is to work aggressively to reduce the footprint of our contaminated sites while bringing to bear the Department's formidable research and development assets to develop and deploy transformational technologies that will both accelerate and lower the cost to disposition the Department's highest curie materials that present high risk to public health and the environment.

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Depleted uranium and uranium (DU&U) packaged for disposition - Number of metric tons of DU and U packaged in a form suitable for disposition				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	37,046 metric tons of depleted and other uranium	56,901 metric tons of depleted and other uranium	68,730 metric tons
Result			Not Met - 26,281	Not Met - 46,030	Not Met - 68,624
Endpoint Target	This metric has a life cycle estimate of 737,408 cubic meters.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>The EM Program packaged for disposition a cumulative total of 68,624 metric tons of depleted and natural abundance uranium.</p> <p>Action Plan: The EM Program did not meet its target for this metric in FY 2014. This was due to mechanical and operational issues at the facilities at Portsmouth and Paducah dedicated to the disposition of depleted uranium hexafluoride. The EM Program will be focusing its efforts to insure that these facilities will be operating at optimal capacity in the coming year.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for this metric the Daily Production Report, produced Depleted Uranium Hexafluoride Conversion Facilities for both the Portsmouth and Paducah sites.</p>				

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Enriched Uranium Containers Packaged - Package for disposition a cumulative total of enriched uranium containers.				
Fiscal Year	2010	2011	2012	2013	2014
Target	7,729 containers	7,953 Canisters	8,016 containers	8,016 containers	8,016 canisters of enriched uranium
Result	Exceeded - 7,863	Exceeded - 8,007	Met - 8,016	Met - 8,016	Met - 8,016
Endpoint Target	This metric has a life cycle of 8,603 containers.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for its performance metrics for this metric with the inspection records, shipping manifests and disposal records.				

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	High Level Waste Packaged for Disposition - Package for disposition a cumulative total of high level waste.				
Fiscal Year	2010	2011	2012	2013	2014
Target	3,256 canisters of high level waste	3,571 canisters of high level waste	3,801 containers of high level waste	4,077 canisters of high level waste	4,153 canisters of high level waste
Result	Exceeded - 3,260	Not Met - 3,526	Met - 3,802	Not Met - 4,028	Met - 4,154
Endpoint Target	This measure has a life cycle estimate of 24,054 canisters.				
Commentary on 2014 Results (Action Plan if Not Met)	The EM program package a cumulative total of 4,154 HLW containers for disposition				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for this metric: shift reports from the DWPF.				

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Liquid Waste Eliminated (thousands of gallons) - Liquid Waste Eliminated (thousands of gallons)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	5,684 thousands of gallons	6,993 thousands of gallons	7,343 thousands of gallons
Result			Not Met - 5,340	Not Met - 6,133	Not Met - 6,592
Endpoint Target	This metric has a life cycle estimate of 90,814 thousands of gallons.				
Commentary on 2014 Results (Action Plan if Not Met)	The EM Program eliminated 6,592 millions of gallon of Liquid Waste Action Plan: EM is behind on this metric due to shortfall at the SRS and ID				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. Also, for this specific metric, the use of Quality Assurance Inspection Records for waste packaging.				

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Liquid Waste Tanks Closed - Close a cumulative total of liquid waste tanks.				
Fiscal Year	2010	2011	2012	2013	2014
Target	9 tanks closed	9 tanks closed	15 tanks closed	11 tanks closed	13 tanks closed
Result	Met - 9	Met - 9	Not Met - 11	Met - 11	Met - 13
Endpoint Target	This metric has a life cycle estimate of 239 tanks closed.				
Commentary on 2014 Results (Action Plan if Not Met)	At the end of FY 2014 the EM program closed a cumulative total of 13 liquid waste tanks.				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Material Access Areas Eliminated (number of MAA eliminated) - Material Access Areas Eliminated (number of MAA eliminated)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	31 MAAs eliminated	30 MAAs eliminated	30 MAAs eliminated
Result			Not Met - 30	Met - 30	Met - 30
Endpoint Target	This metric has a life cycle estimate of 35 Material Access Areas eliminated.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management.				

Program	Tank Waste and Nuclear Materials				
Performance Goal (Measure)	Spent Nuclear Fuel packaged for final disposition - Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	2,128 metric tons	2,128 metric tons	2,128 metric tons of heavy metal
Result			Met - 2,128	Met - 2,128	Met - 2,130
Endpoint Target	This metric has a life cycle estimate of 2,451 metric tons of heavy metal.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management.				

Waste Management

Program	Waste Management				
Performance Goal (Measure)	Legacy and Newly Generated LLW and Mixed LLW Disposed - Legacy and Newly Generated Low-Level Waste and Mixed Low-Level Waste Disposed (cubic meters)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	1,224,799 cubic meters	1,253,146 cubic meters	1,298,854 cubic meters
Result			Met - 1,226,504	Met - 1,265,992	Not Met - 1,292,571
Endpoint Target	This metric has a life cycle estimate of 1,573,667 cubic meters disposed.				
Commentary on 2014 Results (Action Plan if Not Met)	For the fourth quarter of FY 2014 the EM Program disposed of 1,292,571 cubic meters of Legacy and Newly generated LLW and MLLW, 6,283 cubic meters short of its target for FY 2014.				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. Shipping manifests for the transport of waste.				

Program	Waste Management				
Performance Goal (Measure)	TRU Waste Disposition - Disposition of a cumulative total of cubic meters of transuranic waste consisting of Remote Handled TRU and Contact Handled TRU.				
Fiscal Year	2010	2011	2012	2013	2014
Target	70,245 cubic meters of transuranic waste	76,728 cubic meters of transuranic waste	80,502 cubic meters of transuranic waste	97,858 cubic meters of transuranic waste	≤ 102,591 cubic meters of transuranic waste
Result	Exceeded - 70,744	Met - 76,494	Exceeded - 81,138	Not Met - 96,016	Not Met - 99,179
Endpoint Target	This metric has a life cycle estimate of 148,526 cubic meters				
Commentary on 2014 Results (Action Plan if Not Met)	At the end of the fourth quarter of FY 2014, the EM program dispositioned a cumulative total of 99,179 cubic meters of combined Remote Handled and Contact Handled Transuranic Waste.				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. The EM Program also maintains a means of documenting this specific performance metric: Shipping Manifests.				

Site Restoration

Program	Site Restoration				
Performance Goal (Measure)	Geographic sites closed - Geographic sites closed				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	91 sites	90 sites	91 sites
Result			Not Met - 90	Met - 90	Met - 91
Endpoint Target	This metric has a life cycle estimate of 107 geographic sites.				
Commentary on 2014 Results (Action Plan if Not Met)	The EM Program closed 91 Cumulative sites				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management.				

Program	Site Restoration				
Performance Goal (Measure)	Industrial facilities completed - Industrial facilities completed				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	1,900 facilities completed	1,961 facilities completed	2,070
Result			Not Met - 1,895	Met - 2,128	Met - 2,095
Endpoint Target	This metric has a life cycle estimate of 4,107 facilities				
Commentary on 2014 Results (Action Plan if Not Met)	For the 4th Quarter of 2013 EM completed 2,095 Industrial Facility Remediations				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for this metric, Decommissioning Project Final Report as well as State and federal regulator acceptance of completion report.				

Program	Site Restoration				
Performance Goal (Measure)	Nuclear Facility Completions (number of facilities) - Complete remediation work at a cumulative total of nuclear facilities.				
Fiscal Year	2010	2011	2012	2013	2014
Target	99	94	130 facilities	131 facilities	138 facilities
Result	Not Met - 93	Met - 94	Not Met - 128	Met - 131	Not Met - 146
Endpoint Target	This metric has a life cycle estimate of 487 facilities.				
Commentary on 2014 Results (Action Plan if Not Met)	For the 4th Quarter of 2014 EM completed a cumulative total of 146 Nuclear Facilities				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for this metric, Decommissioning Project Final Report as well as State and federal regulator acceptance of completion report.				

Program	Site Restoration				
Performance Goal (Measure)	Radioactive Facilities - Complete remediation work at a cumulative total of radioactive facilities.				
Fiscal Year	2010	2011	2012	2013	2014
Target	369 radioactive facilities	393 radioactive facilities	525 radioactive facilities	534 radioactive facilities	561 radioactive facilities
Result	Met - 369	Not Met - 386	Met - 408	Met - 555	Met - 561
Endpoint Target	This metric has a life cycle estimate of 960 radioactive facilities				
Commentary on 2014 Results (Action Plan if Not Met)	At the end of FY 2014 the EM Program completed 561 Radioactive Facilities				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. EM also maintains a variety of sources for validation and verification of specific results for this metric, Decommissioning Project Final Report as well as State and federal regulator acceptance of completion report.				

Program	Site Restoration				
Performance Goal (Measure)	Release Site Remediation Completions - Complete remediation work at a cumulative total release sites.				
Fiscal Year	2010	2011	2012	2013	2014
Target	6,983 release sites	7,157 release sites	7,361 release sites	7,627 release sites	8,035 release sites
Result	Not Met - 6,979	Not Met - 7,118	Not Met - 7,496	Not Met - 7,849	Not Met - 7,945
Endpoint Target	This metric has a life cycle estimate of 10,992 release sites.				
Commentary on 2014 Results (Action Plan if Not Met)	In the 4th Quarter of 2014 EM completed remediation on a cumulative total of 7,945 release sites				
Documentation, Limitations, Methodology, Validation, and Verification	To validate and verify program performance, the EM program conducts various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Acquisition and Project Management. State and federal regulator acceptance of the Remedial Action Report.				

Legacy Management

The mission of the LM program is to fulfill the Department's post-closure responsibilities and ensure the future protection of human health and the environment. As part of the mission, LM performs long-term surveillance and maintenance. That activity is the target of LM's performance measures

Program	Legacy Management				
Performance Goal (Measure)	Environmental Remedies - Conduct surveillance and maintenance activities 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 at all sites within Legacy Management's responsibility.				
Fiscal Year	2010	2011	2012	2013	2014
Target	85 sites inspected	87 sites inspected	87 activities	89 activities	89 sites
Result	Exceeded - 87	Met - 87	Met - 87	Met - 89	Met - 89
Endpoint Target	Continued inspections on all sites until risk has been reduced to the point that further inspections are not needed.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Legacy Management				
Performance Goal (Measure)	Surveillance and Maintenance Cost - 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 each year.				
Fiscal Year	2010	2011	2012	2013	2014
Target	2 percent reduction below the baseline	2 percent reduction below the baseline	4 percent reduction below the baseline	2 percent reduction	2 % cost savings
Result	Exceeded - 3.5	Met - 14.3	Met - 11.4	Met - 11.8	Exceeded - 7.9
Endpoint Target	Achieve a 2 percent reduction below the baseline each year.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification					

Office of Science

Advanced Scientific Computing Research

Support research to discover, develop, and deploy the computational and networking capabilities to analyze, model, simulate, and predict complex phenomena important to DOE

Program	Advanced Scientific Computing Research				
Performance Goal (Measure)	ASCR Facility Operations - Average achieved operation time of ASCR user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	≥ 90 %	≥ 90 %	≥ 90 %
Result			Met - 98.5	Met - 98.4	Met – 98.8
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	ASCR user facilities operated at 98.8% for the year.				
Documentation, Limitations, Methodology, Validation, and Verification	This data comes directly from the batch queue accounting system at NERSC, OLCF and ALCF The Number of CPU hours accounted for by system failures and other unscheduled downtime. Reports detailing this progress reside in the files of the ASCR Office (SC-21).				

Program	Advanced Scientific Computing Research				
Performance Goal (Measure)	ASCR Research - Discovery of new applied mathematics and computer science tools and methods that enable DOE applications to deliver scientific and engineering insights with a significantly higher degree of fidelity and predictive power				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	1	10 petaflop upgrades	Support at least two new teams to conduct fundamental computer science research and at least three applied mathematics research teams that address issues of fault tolerance or energy management for next-generation computing systems.
Result			Not Met - 0	Met - 10	Met - 11
Endpoint Target	Develop and deploy high-performance computing hardware and software systems through exascale platforms				
Commentary on 2014 Results (Action Plan if Not Met)	Annual target met. Eleven new teams have been formed conducting fundamental computer science research in the following areas: Scientific Data Management, Analysis and Visualization at Extreme Scale; Analytical Modeling for Extreme-Scale Computing Environments; and Exploratory Research for Extreme-Scale Science. Additionally, nine new applied mathematics research teams have been created conducting fundamental research that is expected to advance DOE goals for fault tolerance or energy management for next-generation computing systems. Details can be found on the ASCR website as contracts are finalized: (Math) http://science.energy.gov/ascr/research/applied-mathematics/ and (Computer Science) http://science.energy.gov/ascr/research/computer-science/				
Documentation, Limitations, Methodology, Validation, and Verification	Research effort tracked through annual progress reports and quarterly program manager review of project accomplishments. Documents will be stored in ASCR files. New awards will be documented through PAMS.				

Basic Energy Sciences

Support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support the DOE mission in energy, environment, and national security

Program	Basic Energy Sciences				
Performance Goal (Measure)	BES Construction/MIE Cost & Schedule - Cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects				
Fiscal Year	2010	2011	2012	2013	2014
Target	< 10 %	< 10 %	< 10 %	< 10 %	< 10 %
Result	Met	Met	Met	Met	Met
Endpoint Target	Adhering to the cost and schedule baselines for a complex, large scale, science project is critical to meeting the scientific requirements for the project and for being good stewards of the taxpayers' investment in the project.				
Commentary on 2014 Results (Action Plan if Not Met)	Target met. Cost-weighted mean percent variance from cost baseline was -2% and from the schedule baseline was -4%.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>BES Projects include those that have an approved performance baseline at the start of FY 2014, which include: NSLS-II, LCLS-II and MIEs (APS-U and NEXT).</p> <p>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).</p>				

Program	Basic Energy Sciences				
Performance Goal (Measure)	BES Facility Operations - Average achieved operation time of BES user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 90 %	≥ 90 %	≥ 90 %	≥ 90 %	≥ 90 %
Result	Met - 101.1	Met - 101.3	Met - 97	Met - 97.9	Met - 104.6
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	BES user facilities operated for 34,932 hours in FY14, which is 104.6% of planned (33,400) operating hours.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>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).</p> <p>The total planned operating hours for this goal is obtained from the planned operating hours of these individual user facilities in FY14: NSLS 4,400; SSRL 5,400; ALS 5,100; APS 5,000; LCLS 4,400; HFIR 3,400; Lujan 1,300; and SNS 4,400 for a total of 33,400 hours (33,400 hours is 90%).</p>				

Program	Basic Energy Sciences				
Performance Goal (Measure)	BES Solar Fuels - Demonstrate a scalable solar-fuels generator using Earth-abundant elements that produces fuel (without wires) from the Sun 10 times more efficiently than current agriculturally produced plants				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	Establish benchmarking capabilities for comparison of homogeneous/heterogeneous catalysts and light absorbers under standardized testing conditions.	Design first prototype device for testing components, such as catalysts, light harvesters, membranes, and interfaces, as an integrated system.
Result				N/A	Met - 1
Endpoint Target	Demonstration of a scalable solar-fuels generator using Earth-abundant elements that produces fuel (without wires) from the Sun 10 times more efficiently than current agriculturally produced plants; the performance goal will be achieved by the Fuels from Sunlight Energy Innovation Hub.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>Prototype devices have been developed that are enabling testing of both the components, such as catalysts, light harvesters, membranes, and interfaces, and the overall design as an integrated solar-driven system. The prototypes include a fully integrated membrane-free neutral pH solar-driven water-splitting system and a fully integrated acid-stable and scalable louvered solar-driven water-splitting system for hydrogen production.</p> <p>REFERENCES: Performance of the membrane-free prototype is discussed in the scientific article, "An experimental and modeling/simulation-based evaluation of the efficiency and operational performance characteristics of an integrated, membrane-free, neutral pH solar-driven water-splitting system," published in 2014 in the Journal Energy and Environmental Science. An article describing the acid-stable, louvered prototype design has been submitted for publication.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	The DOE Energy Innovation Hub for Fuels from Sunlight is responsible for achieving this performance goal. The Hub's performance during the initial five-year award period will be assessed using these metrics: completion of proposed milestones, assessment by annual peer review, scientific productivity, technology transfer to the private sector, integration of R&D across the solar fuels community, and training of the next-generation of solar fuels scientists and engineers. Performance against milestones will be evaluated by annual peer reviews and monitored by quarterly progress reports. Documentation on the annual peer reviews and quarterly progress reports reside in files in the BES program office (SC-22).				

Biological and Environmental Research

Support fundamental research to address diverse and critical global challenges, from the sustainable and affordable production of renewable biofuels to understanding and predicting climate change and greenhouse gas emissions relevant to energy production and technology use

Program	Biological and Environmental Research				
Performance Goal (Measure)	BER Climate Model - Develop a coupled climate model with fully interactive carbon and sulfur cycles, as well as dynamic vegetation to enable simulations of aerosol effects, carbon chemistry, and carbon sequestration by the land surface and oceans and the interactions between the carbon cycle and climate				
Fiscal Year	2010	2011	2012	2013	2014
Target	Provide a new parameterization for aerosol effects on cloud drizzle for incorporation into atmospheric models	Earth system model to be used in generating scenarios for IPCC Fifth Assessment Report and provide integrated aerosol sub-model that includes direct and indirect forcing	Demonstrate coupled climate models at 20-kilometer resolution	Use new climate model simulations to quantify interactions between clouds and climate changes.	Use global models to estimate most sensitive elements of terrestrial carbon to climate change for tropics, mid-latitudes, and polar regions.
Result	Met	Met	Met	Met	Met
Endpoint Target	BER supports the Community Earth System Model, a leading U.S. climate model, and addresses two of the most critical areas of uncertainty in contemporary climate science—the impact of clouds and aerosols. Delivery of improved scientific data and models (with quantified uncertainties) about the potential response of the Earth atmosphere system to more accurately predict the Earth’s future climate is essential to plan for future energy needs, water resources, and land use. DOE will continue to advance the science necessary to further develop predictive climate and earth system models at the regional spatial scale and decadal to centennial time scales, involving close coordination with the U.S. Global Change Research Program and through the international science community.				
Commentary on 2014 Results (Action Plan if Not Met)	Target met. The BER climate modeling program used global simulations with the Community Land Model to evaluate dominant forces and regions of terrestrial carbon-climate feedbacks. Land-use land-cover change dominates forcings since pre-industrial, with regional changes in carbon stocks correlating with precipitation changes. A detailed report is posted at http://www.climatemodeling.science.energy.gov/about/fy14-performance-metrics .				

Documentation, Limitations, Methodology, Validation, and Verification	<p>Quarterly - Emails from the designated performers reporting the research results (per documented control process).</p> <p>EOY - Emails reporting the results and publication/availability of the results (per documented control process).</p> <p>Report is available at http://www.climate modeling.science.energy.gov/about/fy14-performance-metrics.</p>
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Program	Biological and Environmental Research				
Performance Goal (Measure)	BER Facility Operations - Average achieved operation time of BER user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	≥ 98 %	≥ 98 %	≥ 98 %
Result			Met - 102	Met - 100	Met - 102
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	BER user facilities operated for 21,108.7 hours during FY14, achieving 102% of planned (20,762.6) operating hours.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Quarterly - Emails reporting the progress (per documented control process).</p> <p>EOY - Emails reporting the results and data availability (per documented control process).</p> <p>The e-mails reside at: http://science.energy.gov/ber/facilities/facility-metrics/</p>				

Fusion Energy Sciences

Support research to expand the fundamental understanding of matter at very high temperatures and densities and to build the scientific foundation of fusion energy

Program	Fusion Energy Sciences				
Performance Goal (Measure)	FES Construction/MIE Cost & Schedule - Cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	< 10 %	< 10 %	< 10 %	< 10 %
Result		Met	Met	Met	Met
Endpoint Target	Adhering to the cost and schedule baselines for a complex, large scale, science project is critical to meeting the scientific requirements for the project and for being good stewards of the taxpayers' investment in the project.				
Commentary on 2014 Results (Action Plan if Not Met)	Cost-weighted mean percent variance from cost baseline was -4% and from the schedule baseline was -5%				
Documentation, Limitations, Methodology, Validation, and Verification	Information is available in the PARS II System for NSTX Upgrade.				

Program	Fusion Energy Sciences				
Performance Goal (Measure)	FES Facility Based Experiments - Experiments conducted on major fusion facilities (DIII-D, Alcator C-Mod, NSTX) leading toward predictive capability for burning plasmas and configuration optimization				
Fiscal Year	2010	2011	2012	2013	2014

<p>Target</p>	<p>Conduct experiments on major fusion facilities to improve understanding of the heat transport in the tokamak scrape-off layer (SOL) plasma, strengthening the basis for projecting divertor conditions in ITER. The divertor heat flux profiles and plasma characteristics in the tokamak SOL will be measured in multiple devices to investigate the underlying thermal transport processes. The unique characteristics of C-Mod, DIII-D, and NSTX will enable collection of data over a broad range of SOL and divertor parameters (e.g., collisionality, beta, parallel heat flux, and divertor geometry). Coordinated experiments using common analysis methods will generate data that will be compared with theory and simulation.</p>	<p>Improve the understanding of the physics mechanisms responsible for the structure of the pedestal and compare with the predictive models described in the companion theory milestone. Perform experiments to test theoretical physics models in the pedestal region on multiple devices over a broad range of plasma parameters (e.g., collisionality, beta, and aspect ratio). Detailed measurements of the height and width of the pedestal will be performed, augmented by measurements of the radial electric field.</p>	<p>Conduct experiments and analysis on major fusion facilities leading toward improved understanding of core transport and enhanced capability to predict core temperature and density profiles. Assess the level of agreement between predictions from theoretical and computational transport models and the available experimental measurements of core profiles, fluxes and fluctuations. The research is expected to exploit the diagnostic capabilities of the facilities (Alcator C-Mod, DIII-D, NSTX) along with their abilities to run in both unique and overlapping regimes.</p>	<p>Conduct experiments and analysis to explore enhanced confinement regimes without large edge instabilities, but with acceptable edge particle transport and a strong thermal transport barrier. Coordinated experiments, measurements, and analysis will be carried out to assess and understand the operational space for these conditions. By exploiting the complementary parameters and tools of the devices, joint teams will work to strengthen the basis for extrapolation of these regimes to ITER and other future fusion devices.</p>	<p>Conduct experiments and analysis to investigate and quantify plasma response to non-axisymmetric (3D) magnetic fields in tokamaks. Effects of 3D fields can be both beneficial and detrimental, and research will aim to validate theoretical models in order to predict plasma performance with varying levels and types of externally imposed 3D fields. Dependence of response to multiple plasma parameters will be explored in order to gain confidence in predictive capability of the models.</p>
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Target Cont.		<p>The evolution of these parameters during the discharge will be studied. Initial measurements of the turbulence in the pedestal region will also be performed to improve understanding of the relationship between edge turbulent transport and pedestal structure.</p>	<p>The work will emphasize simultaneous comparison of model predictions with experimental energy, particle and impurity transport levels and fluctuations in various regimes, including those regimes with significant excitation of electron modes. Along with new experiments, work will include analysis of relevant previously-collected data and collaboration among the research teams. The results achieved will be used to improve confidence in transport models used for extrapolations to planned ITER operation.</p>		
Result	Met	Met	Met	Met	Met

Endpoint Target	Magnetic fields are the principal means of confining the hot ionized gas of a plasma long enough to make practical fusion energy. The detailed shape of these magnetic containers leads to many variations in how the plasma pressure is sustained within the magnetic bottle and the degree of control that experimenters can exercise over the plasma stability. These factors, in turn, influence the functional and economic credibility of the eventual realization of a fusion power reactor. The key to their success is a detailed physics understanding of the confinement characteristics of the plasmas in these magnetic configurations. The major fusion facilities can produce plasmas that provide a wide range of magnetic fields, plasma currents, and plasma shapes. By using a variety of plasma control tools, appropriate materials, and having the diagnostics needed to measure critical physics parameters, scientists will be able to develop optimum scenarios for achieving high performance plasmas in the International Thermonuclear Experimental Reactor and, ultimately, in reactors.
Commentary on 2014 Results (Action Plan if Not Met)	Target met. Experiments were conducted on DIII-D and C-Mod during the year, and data from all three facilities were analyzed to support the research target. A coordinated research effort investigated and quantified the plasma response to non-axisymmetric (3D) magnetic fields in tokamaks. The final joint report summarized the findings regarding 3D effects on several aspects of tokamak performance and the comparisons to various MHD models. The research demonstrates that applied 3D fields have important applications that include disruption avoidance, instability suppression and mitigation, and maintaining high confinement plasma conditions. The joint work represents significant progress in the study of 3D field effects in tokamak plasmas, and will provide a springboard for future research.
Documentation, Limitations, Methodology, Validation, and Verification	V&V data are contained in progress reports maintained by the FES program office.

Program	Fusion Energy Sciences				
Performance Goal (Measure)	FES Facility Operations - Average achieved operation time of FES user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 90 %	≥ 90 %	≥ 90 %	≥ 90 %	≥ 90 %
Result	Met - 109	Not Met - 77	Met - 114	Met - 110	Met - 101
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	The FES user facilities operated for 1,120 hours in FY14, 101% of the planned (1,104) operating hours.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>V&V data are contained in progress reports maintained by the FES program office. FES's major national fusion facilities are:</p> <ul style="list-style-type: none"> - the DIII-D Tokamak at General Atomics in San Diego, California (scheduled to operate for 720 hours); - the Alcator C-Mod Tokamak at the Massachusetts Institute of Technology (scheduled to operate for 384 hours); - The National Spherical Torus Experiment at the Princeton Plasma Physics Laboratory. (There are no operations planned for NSTX during FY14 due to the shutdown of the facility for the major NSTX upgrade project.) <p>1104 hours total (baseline) is expected for FY14.</p>				

Program	Fusion Energy Sciences				
Performance Goal (Measure)	FES Theory and Simulation - Performance of simulations with high physics fidelity codes to address and resolve critical challenges in the plasma science of magnetic confinement				
Fiscal Year	2010	2011	2012	2013	2014
Target	Gyrokinetic simulations of turbulent transport of toroidal momentum with Boltzmann and with kinetic electrons will be carried out. These simulations will explore the Ion Temperature Gradient and the Collisionless Trapped Electron Mode regimes.	A focused analytic theory and computational effort, including large-scale simulations, will be used to identify and quantify relevant physics mechanisms controlling the structure of the pedestal. The performance of future burning plasmas is strongly correlated with the pressure at the top of the edge transport barrier (or pedestal height).	Improve our understanding of the effects of relatively small nonaxisymmetric fields in tokamak equilibria, with a focus on effects that are of potential importance for ITER. Focus particularly on understanding experiments on the DIII-D tokamak in which relatively small nonaxisymmetric fields are used to suppress edge localized modes (ELMs).	Carry out advanced simulations to address two of the most problematic consequences of major disruptions in tokamaks: the generation and subsequent loss of high-energy electrons (runaway electrons), which can damage the first wall, and the generation of large electromagnetic loads induced by disruptions. Assess the severity of these effects on ITER.	Understanding alpha particle confinement in ITER, the world's first burning plasma experiment, is a key priority for the fusion program. Linear instability trends and thresholds of energetic particle-driven shear Alfvén eigenmodes in ITER are determined for a range of parameters and profiles using a set of complementary simulation models (gyrokinetic, hybrid, and gyrofluid).

Target Cont.		<p>Predicting the pedestal height has proved challenging due to a wide and overlapping range of relevant spatiotemporal scales, geometrical complexity, and a variety of potentially important physics mechanisms. Predictive models will be developed and key features of each model will be tested against observations, to clarify the relative importance of various physics mechanisms, and to make progress in developing a validated physics model for the pedestal height</p>	<p>ELMs pose a threat to the goals of the ITER experiment, and a similar method for suppressing ELMs is under consideration for ITER. An improved first-principles understanding of the DIII-D experiments will improve our ability to make reliable predictions of ITER performance.</p>		<p>Initial nonlinear simulations are carried out to assess the effects of the unstable modes on energetic particle transport.</p>
Result	Met	Met	Met	Met	Met
Endpoint Target	<p>Advanced simulations based on high physics fidelity models offer the promise of advancing scientific discovery in the plasma science of magnetic fusion by exploiting the Science high performance computing resources and associated advances in computational science. These simulations are able to address the multiphysics and multiscale challenges of the burning plasma state and contribute to the FES goal of advancing the fundamental science of magnetically confined plasmas to develop the predictive capability needed for a sustainable fusion energy source.</p>				
Commentary on 2014 Results (Action Plan if Not Met)	<p>This study used six different codes (gyrokinetic and hybrid MHD) to study the effect of toroidal Alfvén eigenmodes (TAEs) on fast particle transport for various ITER operating scenarios. The results of massively parallel linear and nonlinear simulations showed that the ITER steady-state scenario is strongly unstable to high-mode TAEs which can lead to a flattening of the alpha particle profile and may induce significant losses of fast particles (alphas and beam ions) to the ITER first wall.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>V&V data are contained in progress reports maintained by the FES program office.</p>				

High Energy Physics

Support research toward understanding how the universe works at its most fundamental level by discovering the most elementary constituents of matter and energy, probing the interactions among them, and exploring the basic nature of space and time itself

Program	High Energy Physics				
Performance Goal (Measure)	HEP Construction/MIE Cost & Schedule - Cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects				
Fiscal Year	2010	2011	2012	2013	2014
Target	< 10 %	< 10 %	< 10 %	< 10 %	< 10 %
Result	Met	Met	Met	Met	Met
Endpoint Target	Adhering to the cost and schedule baselines for a complex, large scale, science project is critical to meeting the scientific requirements for the project and for being good stewards of the taxpayers' investment in the project.				
Commentary on 2014 Results (Action Plan if Not Met)	Target met. Cost weighted mean variance from the cost baseline was -4% and from the schedule baseline was 0%.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Derived from Quarterly Project Reports for the following projects: 1. NOvA;</p> <p>Cost and schedule variance calculated by Earned Value for each project is averaged, weighted by the Total Project Cost for that project.</p> <p>The supporting documentation resides in the files of the HEP Office (SC-25), and a web site is under development.</p>				

Program	High Energy Physics				
Performance Goal (Measure)	HEP Facility Operations - Average achieved operation time of HEP user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %
Result	Met - 89.4	Met - 81	Met - 84	Not Met - 56	Met - 85
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	HEP user facilities operated for 11,339 hours Fermilab Accelerator Complex was able to operate for an additional 1,300 hours during Q4FY14.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Derived from letters from Lab Directors or designee. Fermi data are reported at http://www-bdnew.fnal.gov/operations/lum/supertable.html.</p> <p>The scientific user facilities and scheduled hours:</p> <ul style="list-style-type: none"> - Total hours scheduled is 8812 hours (7050 hours is 80%). - FACET is scheduled to for 3532 hours during Q1, Q2 and Q3 (2826 hours is 80%). - Fermilab Accelerator Complex is scheduled to run 5280 hours in FY 2014 (4224 is 80%). <p>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 budget submission.</p>				

Program	High Energy Physics				
Performance Goal (Measure)	HEP Neutrino Model - Carry out series of experiments to test the standard 3-neutrino model of mixing				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	Measure the mixing angle between muon neutrinos and electron neutrinos ($\sin^2(2\theta_{13})$) by measuring the disappearance of electron antineutrinos with the Daya Bay Reactor Experiment. This measurement should have an uncertainty of 0.0075 or smaller.	Begin operation of full NOvA detector using neutrino beam from Fermilab for purpose of measuring mixing angle between muon neutrinos and electron neutrinos ($\sin^2(2\theta_{13})$) using the appearance electron neutrinos.
Result				Met	Met
Endpoint Target	Like the quarks, it is believed that mixing between neutrinos can be described by a unitary matrix. Measuring the independent parameters of this matrix in different ways and with adequate precision will demonstrate whether this model of neutrinos is correct. Such a model is needed to correctly extract evidence for CP violation in the neutrino sector.				
Commentary on 2014 Results (Action Plan if Not Met)	Target met. NOvA received CD-4 Approve Beginning of Operations. Neutrino events were seen in all sections of the far detector demonstrating successful operation.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>QTR: progress reports</p> <p>EOY: a letter or report from the Laboratory Director at Fermi National Accelerator Laboratory confirming that the full NOvA detector and the NuMI neutrino beam are operational.</p> <p>The supporting documentation resides in the files of the HEP Office (SC-25), and a web site is under development.</p>				

Nuclear Physics

Support research to discover, explore, and understand all forms of nuclear matter, supporting experimental and theoretical research to create, detect, and describe the different forms and complexities of nuclear matter that can exist in the universe, including those that are no longer found naturally

Program	Nuclear Physics				
Performance Goal (Measure)	NP Construction/MIE Cost & Schedule - Cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects				
Fiscal Year	2010	2011	2012	2013	2014
Target	< 10 %	< 10 %	< 10 %	< 10 %	< 10 %
Result	Met	Met	Met	Met	Met
Endpoint Target	Adhering to the cost and schedule baselines for a complex, large scale, science project is critical to meeting the scientific requirements for the project and for being good stewards of the taxpayers' investment in the project.				
Commentary on 2014 Results (Action Plan if Not Met)	Target met. Cost weighted mean variance from the cost baseline was -2% and from the schedule baseline was -2%.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Derived from the Monthly Report preceding the end of the quarter for the following projects: - 12 GeV CEBAF Upgrade</p> <p>Cost and schedule variance calculated by Earned Value for each project is averaged, weighted by the Total Project Cost for that project.</p> <p>The supporting documentation resides in the files of the ONP (SC-26).</p>				

Program	Nuclear Physics				
Performance Goal (Measure)	NP Facility Operations - Average achieved operation time of NP user facilities as a percentage of total scheduled annual operation time				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %
Result	Met - 88.1	Met - 86.4	Met - 89	Met - 86.9	Met - 110
Endpoint Target	Many of the research projects that are undertaken at the Office of Science's scientific user facilities take a great deal of time, money, and effort to prepare and regularly have a very short window of opportunity to run. If the facility is not operating as expected the experiment could be ruined or critically setback. In addition, taxpayers have invested millions or even hundreds of millions of dollars in these facilities. The greater the period of reliable operations, the greater the return on the taxpayers' investment.				
Commentary on 2014 Results (Action Plan if Not Met)	NP user facilities operated 6,873 hours, 110% of the planned (6,270) operating hours.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>The total planned operating hours for ATLAS and RHIC is 6,270 hours (80% is 5,016 hours). The achieved operation time of a facility as a percentage of the total scheduled annual operating time is calculated as follows: Operation Time = (Actual Operating Hours) divided by (Actual Operating Hours + Actual unscheduled downtime) where (Actual Operating Hours) = (Hours for Research + Hours for Beam Studies + Hours for Tuning/Setup).</p> <p>Quarterly: Emails from ANL (ATLAS) and BNL (RHIC) management to NP Office with statistics regarding breakout of beam hours (per documented control process); NP program office worksheet showing calculations and compiled average.</p> <p>EOY: Official letters from ANL (ATLAS) and BNL (RHIC) 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.</p> <p>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%.</p>				

Program	Nuclear Physics				
Performance Goal (Measure)	NP Nuclear Structure - Conduct fundamental research to discover, explore, and understand all forms of nuclear matter.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	Complete initial measurements with high resolving power tracking array, GRETINA, for sensitive studies of structural evolution and collective modes in nuclei.	Perform mass measurements and nuclear reaction studies to infer weak interaction rates in nuclei in order to constrain models of supernovae and stellar evolution.
Result				Met	Met
Endpoint Target	Increase the understanding of the existence and properties of nuclear matter under extreme conditions, including that which existed at the beginning of the universe				
Commentary on 2014 Results (Action Plan if Not Met)	Target Met. Mass measurements for very neutron-rich isotopes of the light fission peak have been completed using the improved CARIBU gas catcher modified to deliver a 5-fold improvement in the yield of these isotopes. The mass of 36 neutron-rich isotopes was measured to a typical accuracy of 0.05 ppm, improving both the knowledge of masses in the region and the resulting calculated weak interaction rates.				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Quarterly: Emails from ANL ATLAS Chief Scientist to NP Office with progress towards achieving goals.</p> <p>EOY: Official letter from ANL ATLAS Chief Scientist to NP Office reporting and certifying progress made towards achieving goal.</p> <p>Documentation resides in the Office of Nuclear Physics (SC-26) files. While the accomplishment of this NSAC target requires activities at the NSF-supported National Superconducting Cyclotron Laboratory, an important element is research at the DOE ATLAS facility at ANL, using the CARIBU source. The DOE PMM FY14 target is met when data on mass measurements of the light fission peak is collected using the CARIBU source at ANL.</p>				

ARPA-E

Advanced Research Projects Agency - Energy

Fund specific high-risk, high-payoff, game-changing research and development projects to meet the nation's long-term energy challenges

Program	Advanced Research Projects Agency - Energy				
Performance Goal (Measure)	Award Funding - Cumulative percentage of award funding committed 45 days after award selections are announced				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	≥ 70 %	≥ 70 %	≥ 70 %
Result			Met - 70	Met - 70	Met - 70
Endpoint Target	No endpoint - continuous measure of efficiency in awarding funds				
Commentary on 2014 Results (Action Plan if Not Met)	In FY14, per target, more than 70% of awardee funding was committed within 45 days of selection. After announcement, selected funds are reserved and tracked in ARPA-E planning worksheets. These worksheets are reviewed by ARPA-E leadership on a monthly basis. FOAs announced in FY14 (e.g., REBELS) are on track to have 70% of awardee funding committed within 45 days of selection. As such, an "On Track" has been reported in PMM and the Congressional Budget Justification.				
Documentation, Limitations, Methodology, Validation, and Verification	ARPA-E Internal Records				

Program	Advanced Research Projects Agency - Energy				
Performance Goal (Measure)	Follow-on Funding - Cumulative percentage of follow-on funding from other federal and private organizations				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	≥ 15 %	≥ 20 %	≥ 20 %
Result			Met - 15	Met - 20	Met - 20
Endpoint Target	No endpoint - continuous measure of encouraging follow-on funding				
Commentary on 2014 Results (Action Plan if Not Met)	ARPA-E continued to track and review funding received from other federal and private organizations for all active projects. As reported in the FY16 Budget Request, ARPA-E awardees have received \$625 million in follow-on funding. This represents over 45% of the more than \$1.3 billion in federal funds received to date (i.e., ARRA through FY14 appropriations). Note this measure was not reported in the FY15 Budget Request and should be sun-setted at the end of FY14. Starting in FY15 ARPA-E will report on the status of new company formation.				
Documentation, Limitations, Methodology, Validation, and Verification	ARPA-E Internal Records				

Chief Information Officer

Strengthen enterprise situational awareness to foster near-real-time risk management and combat the advanced persistent threat; forge interagency and sector partnerships to protect critical infrastructure, promote information sharing, and advance technologies for cyber defenses.

Program	CIO				
Performance Goal (Measure)	Continuous Monitoring - Implement automated Continuous Monitoring of security controls to provide the Department with higher cybersecurity protection.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	80 %	95 % implementation of Continuous Monitoring
Result				Met - 88	Not Met - 94
Endpoint Target	By the end of FY 2014, manage and implement Continuous Monitoring at 95%, specifically with Automated Asset Management, Automated Configuration Management, and Automated Vulnerability Management, to provide consistent automation of continuous monitoring activities across the Department.				
Commentary on 2014 Results (Action Plan if Not Met)	The FY14Q4 FISMA results did not meet the 95% target for each Continuous Monitoring capability. Action Plan: Further analysis is recommended.				
Documentation, Limitations, Methodology, Validation, and Verification	Data Source: Office of the Chief Information Officer Documentation: DOE Cybersecurity Reports				

Program	CIO				
Performance Goal (Measure)	Remote Access 2 factor PIV Access - Remote Access 2 factor PIV Access				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	38 %	70 %
Result				Not Met - 12	Not Met - 25
Endpoint Target	By the end of FY 2014, manage and implement Remote Access 2 Factor Personal Identity Verification (PIV) Access for Federal Networks at 75% in order to provide the Department with higher cybersecurity protection.				
Commentary on 2014 Results (Action Plan if Not Met)	The FY 2014 Q3 results indicate that this measure is no longer considered a CAP Goal for FY 2014. However, measures for privileged and unprivileged Remote Access 2 Factor PIV Access for Federal Networks were provided for FY 2014 Q4 and did not meet the target of 60% (privileged) and 75% (unprivileged). Action Plan: IM-30 to determine best action forward.				
Documentation, Limitations, Methodology, Validation, and Verification	Data Source: Office of the Chief Information Officer Documentation: DOE Cybersecurity Reports				

Program	CIO				
Performance Goal (Measure)	TIC/MTIPS Consolidation - TIC/MTIPS Consolidation				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	60 %	< 95 %
Result				Not Met - 26	Not Met - 72
Endpoint Target	By the end of FY 2014, manage and implement Trusted Internet Connection (TIC) and Managed Trusted Internet Protocol Service (MTIPS) consolidation at 95% in order to provide the Department with higher cybersecurity protection.				
Commentary on 2014 Results (Action Plan if Not Met)	The Trusted Internet Connection (TIC) and Managed Trusted Internet Protocol Service (MTIPS) consolidation effort reached 90% of the planned 2014 target. Action Plan: IM-30 to determine best action forward.				
Documentation, Limitations, Methodology, Validation, and Verification	Data Source: Office of the Chief Information Officer Documentation: DOE Cybersecurity Reports				

Office of Management

Program	Departmental Administration				
Performance Goal (Measure)	<p>Project Success - On a 3-year rolling basis, the percentage of departmental projects baselined since the start of FY 2008 that were completed within the original scope baseline and not to exceed 110% of the cost as reflected in the performance baseline established at Critical Decision 2.</p> <p>This measure was created on April 23, 2014, specifically for the purpose of tracking progress on the FY14-15 Management Agency Priority Goal. It tracks all projects post-root cause analysis (RCA), while the measure "Capital asset projects" tracks only construction projects.</p>				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	> 90 %
Result					Not Met - 76
Endpoint Target	On a three-year rolling basis, complete at least 90% of departmental projects baselined since the start of FY 2008 within the original scope baseline and not to exceed 110% of the cost as reflected in the performance baseline established at Critical Decision 2 through FY 2015.				
Commentary on 2014 Results (Action Plan if Not Met)	<p>On a three-year rolling basis, complete at least 90% of departmental projects baselined since the start of FY 2008 within the original scope baseline and not to exceed 110% of the cost as reflected in the performance baseline established at Critical Decision 2 through FY 2015.</p> <p>Action Plan: Achieved 76% project success rate.</p> <p>Action Plan: Address performance at Secretarial-level Contract and Project Management Council. Develop work classification guidance for capital asset projects. Develop guidance for the identification and establishment of key performance parameters. Develop guidance for the preparation of life cycle cost analyses for capital assets. Develop targeted training modules in the core areas of earned value management.</p>				
Documentation, Limitations, Methodology, Validation, and Verification	<p>Data Source: Project Systems Division, within the Office of Project Management, Office of Acquisition and Project Management, Office of Management</p> <p>Documentation: Project Assessment and Reporting System (PARS IIe)</p> <p>Methodology: The analyst will query the Department's Project Assessment and Reporting System (PARS IIIe) for any capital asset project that achieved Critical Decision 4, Project Completion, over the past three fiscal years to determine project success. Data is not available until 45 days after the end of the quarter.</p>				

Loan Guarantee

The mission of the Loan Programs Office (LPO) is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of our national clean energy objectives.

Program	Loan Program Office				
Performance Goal (Measure)	ATVM Battery Production Capacity - Battery production capacity of 100,000 lithium-ion EV batteries (2,400,000 kWh) established				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	≥ 100,000 Batteries	≥ 100,000 Batteries
Result				Met - 100,000	Met - 100,000
Endpoint Target	Assist in the development of advanced battery manufacturing capacity to support 100,000 electric vehicles each year, through 2016.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	The project is changing its way of reporting the target capacity. Currently, each battery has a storage capacity of 24 KWh. If multiplied by 100,000, then the total battery production capacity is 2.4 GWh (in terms of energy, not quantity). However, because the project is changing the size and storage configuration of some of the batteries, LPO has given them a tolerance of 10%. This means the new battery production capacity will be 2.2 GWh per year.				

Program	Loan Program Office				
Performance Goal (Measure)	ATVM Reduction in Petroleum Usage - Reduction in petroleum usage (in millions of gallons of fuel per year) achieved through the use of advanced technology vehicles manufactured (at least in part) with funding provided through the ATVM loan program as compared to vehicles available in the base year.				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	≥ 200 Million Gallons	250 Million Gallons
Result				Met - 210	Met - 306
Endpoint Target	Achieve 290 million gallons per year savings through 2016				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	<p>LPO uses two methods for calculating gallons of fuel saved. The first one is EIA's method for calculating petroleum displaced employing the following formula:</p> $\text{Petroleum Displaced} = \text{Project Production Volume} * \left(\frac{12,000}{29.4} \right)$ <p>The 12,000 is the annual average vehicle miles driven. The 29.4 (mpg) is a fuel economy baseline established in 2005 by legislation and used primarily for electronic vehicles (EVs), keeping physical size of the vehicles relatively close. The second method LPO uses to keep track of petroleum reduction involve estimates provided by the Project. These estimates take the actual petroleum reduction average across the entire Project's fleet compared to the average reduction in 2005. These numbers are provided yearly by the Borrower and verified by LPO's technical staff.</p>				

Loan Programs Office

The mission of the Loan Programs Office (LPO) is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of our national clean energy objectives.

Program	Loan Program Office				
Performance Goal (Measure)	CO₂ Reductions Loans Guarantee - Estimated annual CO ₂ emissions reductions of projects receiving loan guarantees that have achieved commercial operations compared to 'business as usual' energy generation. (metric tons, mt)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	N/A	N/A	N/A	5
Result					Met - 8.3
Endpoint Target	Achieve 16.4 mt of avoided CO ₂ emissions by the end of FY 2016.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification	<p>[(Revision) The numbers will be an all-time Cumulative vs an annual cumulative.] LPO has revised the methodology for reporting the “Estimated annual greenhouse gas emissions reductions” from projects receiving loan guarantees that have achieved commercial operations. Previously, the emissions reductions had been calculated for each generation project as:</p> $\frac{\text{Additional Capacity Online}}{\text{Nameplate Capacity}} \times \text{Estimated Annual CO}_2 \text{ Avoided}$ <p>“Additional Capacity Online” being the incremental GW capacity brought online in the given quarter. This value was summed for each project, and then represented cumulatively. LPO is reporting CO₂ avoided using the following EIA formula:</p> $\text{Avoided CO}_2 = \frac{\text{US CO}_2 \text{ Emissions Estimates}}{\text{US Electric Generation Estimate}} * \text{Project's Generation Output (MWH)}$ <p>. US CO₂ emissions estimates are from national energy consumption at conventional power plants and combined-heat-power plants. US electric generation estimates are from electric power industry net generation. These two estimates produce a conversion factor which is updated almost yearly by EIA. This conversion factor is then multiplied by LPO’s projects generation to calculate their specific CO₂ avoidance contribution (data provided by project sponsors and reviewed by LPO technical staff). Results are documented by LPO internal records.</p>				

Program	Loan Program Office				
Performance Goal (Measure)	Generation Capacity of Projects Receiving Loan Guarantees - Annual generation capacity from projects receiving DOE loan guarantees that have achieved commercial operations. (Gigawatts, GW)				
Fiscal Year	2010	2011	2012	2013	2014
Target	N/A	≥ 0.1 GW	≥ 1.3 GW	≥ 2.8 GW	≥ 3.8 GW
Result		Met - 0.1	Met - 1.5	Not Met - 1.9	Not Met - 3.2
Endpoint Target	Achieve 4.0 GW of annual electricity generation capacity by FY 2015				
Commentary on 2014 Results (Action Plan if Not Met)	Action Plan: The primary reason for the shortfall in capacity is schedule delays for two solar projects; one project at 250MW was scheduled to come on-line in Q2 2014 and is delayed until Q2 2015. The other project, while coming on-line incrementally, was expected to have an additional 102MW on-line in FY2014 that is delayed until Q1 2015.				
Documentation, Limitations, Methodology, Validation, and Verification	Current methodology involves keeping track of the period when a project comes on-line and how much capacity it has. The sum of all generation capacity within the fiscal year is recorded and added to the cumulative capacity already online.				

Energy Information Administration

Energy Information Administration

EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment

Program	Energy Information Administration				
Performance Goal (Measure)	Quality of EIA Information Products - Percentage of customers who are satisfied or very satisfied with the quality of EIA information.				
Fiscal Year	2010	2011	2012	2013	2014
Target	90 % customer satisfaction rating	90 % customer satisfaction rating	90 % customer satisfaction rating	90 % customer satisfaction rating	90 % customer satisfaction rating
Result	Met - 91	Met - 90	Met - 91	Met - 92	Met - 95
Endpoint Target	This is an ongoing annual performance measure, as information quality is central to EIA's mission.				
Commentary on 2014 Results (Action Plan if Not Met)	95% of respondents to EIA's annual web customer satisfaction survey indicated they were satisfied or very satisfied with the quality of EIA's information, meeting the target of 90%. This score was up from 92% satisfied last year, and is the highest score in recent years. The survey, fielded for a seven-day period in August 2014, had nearly 10,000 responses.				
Documentation, Limitations, Methodology, Validation, and Verification	A consistently high customer satisfaction rating is indicative of EIA's ability to provide stakeholders with information that supports a productive national dialogue on emerging energy issues. To this end, EIA fields an OMB-approved annual customer survey on its website to collect a range of information from users, including customer type; frequency of website use; purpose of visit to the site; user perceptions of EIA; and an overall assessment of customer satisfaction relative to the quality of EIA's information. EIA's Office of Communications analyzes and archives survey results, which are then disseminated agency-wide.				

Program	Energy Information Administration				
Performance Goal (Measure)	Timeliness of EIA Information Products - Percentage of selected EIA recurring products meet their release date targets (all product types).				
Fiscal Year	2010	2011	2012	2013	2014
Target	95 % of products released on schedule	95 % of products released on schedule	95 % of products released on schedule	95 % of products released on schedule	95 % of products released on schedule
Result	Met - 97	Met - 97	Met - 97	Met - 96	Met - 96
Endpoint Target	This is an ongoing annual performance measure, as timely delivery of energy information is central to EIA's mission.				
Commentary on 2014 Results (Action Plan if Not Met)	96% of the selected recurring products met their scheduled release dates, meeting the target of 95%. The products tracked covered a wide range of fuels and energy topics, and the frequency ranged from weekly releases to multi-year. Many of the dates missed were for quarterly and annual releases, where the exact date is not as critical as for weekly or monthly products.				
Documentation, Limitations, Methodology, Validation, and Verification	Timely delivery of EIA's statistics and analyses ensures that policymakers, market participants, and the broader public have reliable access to information used in a wide range of energy-related decisions. EIA therefore tracks scheduled and actual release dates for an extensive list of web-based products that span the energy sector and represent a range of periodicity, including weekly, monthly, quarterly, annual, and multi-year release cycles. A quasi-independent internal quality assurance team verifies the data and calculations and stores the file.				

Southeastern Power Administration

Southeastern Power Administration

Southeastern markets and delivers reliable, cost-based Federal hydroelectric power and provides related services throughout the Southeastern United States.

Program	Southeastern Power Administration				
Performance Goal (Measure)	SEPA Repayment of Federal Power Investment - 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	<=\$1,982 million dollars AUI	<=\$2,016 million dollars AUI	<=\$2,089 million dollars AUI	<=\$2,133 million dollars AUI	<=\$2,132 million dollars AUI
Result	Met – \$29 million UI	Met – \$19.8 million UI	Met – \$22.7 million UI	Met - \$82.9 million UI	Met – \$66.3million UI
Endpoint Target	Continue to meet repayment of Federal investment, thereby achieving and maintaining financial integrity.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Southeastern Power Administration				
Performance Goal (Measure)	SEPA System Reliability Performance - NERC - 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				
Fiscal Year	2010	2011	2012	2013	2014
Target	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90
Result	Met	Met	Met	Met	Met
Endpoint Target	Ensure the integrity of the Nation's integrated grid by operating in compliance with National Energy Reliability Standards.				
Commentary on 2014 Results (Action Plan if Not Met)	All metrics MET				
Documentation, Limitations, Methodology, Validation, and Verification					

Southwestern Power Administration

Southwestern Power Administration

To market and reliably deliver Federal hydropower with preference to public bodies and cooperatives. This is accomplished by maximizing the use of Federal assets to repay the Federal investment and participating with other water resource users in an effort to balance their diverse interests with power needs within broad parameters set by the U.S. Army Corps of Engineers and implementing public policy.

Program	Southwestern Power Administration				
Performance Goal (Measure)	SWPA - System Reliability Performance - Outages - Effectively operate the transmission system to limit the number of accountable outages to no more than 3 annually.				
Fiscal Year	2010	2011	2012	2013	2014
Target	< 3 accountable outages	< 3 accountable outages	≤ 3 accountable outages	< 3 accountable outages	< 3 accountable outages
Result	Met - 1	Met - 0	Met - 1	Met - 1	Met - 0
Endpoint Target	Southwestern provides reliable service to customers each year, thereby maintaining power system reliability.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Southwestern Power Administration				
Performance Goal (Measure)	SWPA Annual Operating Cost Performance - Provide power at the lowest possible cost by keeping total operation and maintenance expense per kilowatt-hour generated below the national median for public power. (\$/kilowatt hour, kWh)				
Fiscal Year	2010	2011	2012	2013	2014
Target	0.062 \$/kWh	0.060 \$/kWh	< 0.063 \$/kWh	< 0.063 \$/kWh	< 0.063 \$/kWh
Result	Met - 0.0143	Met - 0.0163	Met - 0.0156	Met - 0.0158	Met - 0.0182
Endpoint Target	Southwestern will continue to control annual Operations and Maintenance costs, thereby providing power at the lowest possible cost.				
Commentary on 2014 Results (Action Plan if Not Met)	Southwestern: \$0.0182 National Average: \$0.063 Therefore, Southwestern is less than the National Industry Average.				
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Southwestern Power Administration				
Performance Goal (Measure)	SWPA Repayment of the Federal Power Investment - 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	<=\$1,023 million dollars UI	<=\$1,306 million dollars UI	<=\$1,336 million dollars UI	<=\$1,477 million dollars UI	<=\$1,326 million dollars UI
Result	Met	Met	Met	Met	Met – \$442 million UI
Endpoint Target	Continue to meet legislated cost recovery requirements for timely repayment of Federal investment in maintaining financial integrity of projects/program.				
Commentary on 2014 Results (Action Plan if Not Met)					
Documentation, Limitations, Methodology, Validation, and Verification					

Program	Southwestern Power Administration				
Performance Goal (Measure)	SWPA System Reliability Performance - NERC - Meet industry averages (CPS1: 162.3 and CPS2: 96.7) 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90	CPS1>100 CSP2>90
Result	Met – CPS1 - 199.99 CPS2 - 99.87	Met – CPS1 - 199.96 CPS2 - 99.82	Met – CPS1 - 163.03 CPS2 - 99.83	Met – CPS1 - 186.74 CPS2 - 99.96	Met – CPS1 - 188.58 CPS2 - 99.72
Endpoint Target	Southwestern ensures the integrity of the nation's integrated grid by operating in compliance with National Energy Reliability Standards.				
Commentary on 2014 Results (Action Plan if Not Met)	Southwestern achieved 6 out of 6 control compliance ratings.				
Documentation, Limitations, Methodology, Validation, and Verification					

Western Area Power Administration

Western Area Power Administration

Western markets and delivers reliable, cost-based Federal hydroelectric power and provides related services throughout the central and western United States.

Program	Western Area Power Administration				
Performance Goal (Measure)	WAPA - Repayment of Investment Performance - 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	≤ 8.93 billion dollars UI	≤ 8.52 billion dollars UI	≤ 8.692 billion dollars UI	≤ 8.594 billion dollars UI	≤ 8.667 billion dollars UI
Result	Met - 6.216	Met - 6.136	Met - 6.166	Met - 6.204	Met- 5.476
Endpoint Target	Continue to meet legislated cost recovery requirements for timely repayment of Federal investment in maintaining financial integrity of projects/program.				
Commentary on 2014 Results (Action Plan if Not Met)	On Track (Green) Collective repayment for Western's projects through the 4th quarter of FY 2014 indicate that UI is on target to be less than or equal to AUI.				
Documentation, Limitations, Methodology, Validation, and Verification	Repayment statistics are compiled annually by project from the most recent final power repayment studies developed by Rates/Power Marketing Offices using audited financial data. These studies identify project investment category totals for unpaid Federal investment (UI) and the amount of allowable unpaid Federal investment (AUI). AUI is the amount of investment for which repayment is not yet required based on the duration of the repayment period. If at any point, the unpaid levels exceed those allowed in accordance with the principles established in RA6120.2, repayment is behind schedule. As to the application of principal in the PRS, generally repayment is applied to the highest interest rate first. However, e.g. if in year 20 of a 20-year investment, AUI is zero, a "required payment" must be made regardless of the interest rate. Note: Annual planned repayment estimates are developed in the PRS, and are based on average hydrology that can vary greatly, adversely impacting both revenue and expenses. Moreover, annual repayment of Federal investment in infrastructure/facilities isn't required, but assumes repayment within the average service life up to a maximum of 50 years. Documentation: Final PRS				

Program	Western Area Power Administration				
Performance Goal (Measure)	WAPA - System Reliability Performance - NERC Rating - WAPA - System Reliability Performance - NERC Rating - System Reliability Performance: Attain acceptable North American Electric Reliability Corporation (NERC) ratings for the following Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS1 measures generation/load balance and support system frequency on 1-minute intervals (rating>100); and 2) CPS2 limits any imbalance magnitude to acceptable levels (rating>90).				
Fiscal Year	2010	2011	2012	2013	2014
Target	> 100 CPS1 rating with CPS2>90	> 100 CPS1 rating with CPS2>90	> 100 CPS1 rating with CPS2>90	> 100 CPS1>100, CPS2>90	> 100 CPS1 rating with CPS2>90
Result	Met	Met - 164	Met - 165	Met - 152.91	Met - 171.78
Endpoint Target	Ensure the integrity of the nation's integrated grid by operating in compliance with National Energy Reliability Standards				
Commentary on 2014 Results (Action Plan if Not Met)	Met (Green) CPS1 average 171.78; CPS2 average 88.5 Western's control areas achieved "Pass" ratings for CPS1 and CPS2 during the 4th quarter of FY 2014. (Note: CPS2 compliance is currently waived to reflect participation in the WECC Reliability-based Control Trial.)				
Documentation, Limitations, Methodology, Validation, and Verification	A balancing authority's (BA) ability to balance supply and demand is measured by its area control error (ACE), a real-time value that is continuously tracked in each BA's SCADA system. The NERC CPS establishes the statistical boundaries for ACE values, ensuring the system frequency is always within its scheduled value. CPS1 defines the permissible distribution of all ACE values in an interconnection, based on the expected frequency performance, and must be met 100 percent of the time. CPS2 limits the magnitude of the impact that a BA places on its respective interconnection and must be met at least 90 percent of the time. Per NERC standards, ACE values must be calculated and recorded at least every 4 seconds on a real-time basis. Documentation: NERC Control Performance Report.				

Bonneville Power Administration

Bonneville Power Administration

The mission of Bonneville as a public service organization is to provide reliable and adequate power and transmission service at low rates for our customers and constituents in the Pacific Northwest and to mitigate impacts of the federal hydro system on fish and wildlife.

Program	Bonneville Power Administration				
Performance Goal (Measure)	BPA Hydropower Generation Efficiency Performance - Achieve 97% 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.				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 97.5 percent	≥ 97.5 percent	≥ 97.5 percent	≥ 97.5 percent	≥ 97.5 percent
Result	Met - 99.6	Met - 100.6	Met - 102	Met - 102.3	Met - 100.7
Endpoint Target	Maintain at least 97.5% Heavy-Load-Hour Availability				
Commentary on 2014 Results (Action Plan if Not Met)	Bonneville and its FCRPS partners met this operational goal for the hydropower system with a result of 101.7% through the end of the quarter. Official results through the end of Q3 were 101.6%.				
Documentation, Limitations, Methodology, Validation, and Verification	Documented in the Quarterly Findings Memo (from BPA Chief Operating Officer to BPA Administrator). The data source for actual generation availability is the real-time module of BPA's Outage Database which is populated with data received directly from the generating projects. The data source for planned generation availability is the planning module of the Outage Database. Considerable effort is made to align generation availability with water supply and market demand and the HLHA measure is designed to improve that alignment. HLHA is the ratio of two metrics reported as a percentage and as a 12-month rolling average. The numerator is actual generation availability in megawatts during heavy load hours (0700 - 2200, Monday through Saturday). The denominator is planned generation availability in megawatts over the same time period. "Target Met" if ≥ 97.5% or "Target Not Met" if < 97.5%.				

Program	Bonneville Power Administration				
Performance Goal (Measure)	BPA Repayment of Federal Power Investment - Meet planned annual repayment of principal on Federal power investments.				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 100 percent	≥ 100 percent	≥ 100 percent	≥ 100 percent	≥ 100 percent
Result	Met - 100	Met - 100	Met - 100	Met - 100	Met - 100
Endpoint Target	Continue to meet planned annual repayment of principal				
Commentary on 2014 Results (Action Plan if Not Met)	BPA made a total annual payment of \$991 Million of which \$567 Million was principal amortization. Of the \$567 million of principal amortization, \$321 million was early repayment of federal debt. BPA met this performance target for the 31st straight year, demonstrating Bonneville's ongoing commitment to meeting its obligations to U.S. taxpayers.				
Documentation, Limitations, Methodology, Validation, and Verification	Documented in the Quarterly Findings Memo (from BPA Chief Operating Officer to BPA Administrator). Quarterly financial review reports with year-end cash estimates are the basis of quarterly results. Transactional records from U.S. Treasury systems during the year and a transactional report submitted from BPA to U.S. Treasury in September confirm actual annual results. BPA's operational and financial forecasts may change over the year due to changing market conditions, hydro operations, other changing economic conditions, and the evolving competitive electric utility industry in the Pacific Northwest. For quarters one through three we report BPA's forecast of the portion of its planned year-end repayment. For quarter four we note any advance principal repayment and report the actual portion of planned repayment that is made as follows: "Target Met" if ≥ 100% or "Target Not Met" if < 100%.				

Program	Bonneville Power Administration				
Performance Goal (Measure)	BPA System Reliability Performance - NERC Rating - Attain average North American Reliability Council (NERC) compliance ratings for NERC Control Performance Standard 1 (CPS1) which measures generation/load balance on one-minute intervals (rating > or = 100).				
Fiscal Year	2010	2011	2012	2013	2014
Target	≥ 100 CPS1 rating	≥ 100 CPS1 rating	≥ 100 CPS1 rating	≥ 100 CPS1 rating	≥ 100 CPS1 rating
Result	Met - 100	Met - 137.93	Met - 132.69	Met - 116.09	Met - 130.39
Endpoint Target	Maintain CSP1 score of >= 100				
Commentary on 2014 Results (Action Plan if Not Met)	Meeting this target demonstrates Bonneville's ongoing commitment and ability to provide reliable transmission for the region.				
Documentation, Limitations, Methodology, Validation, and Verification	Documented in the Quarterly Findings Memo (from BPA Chief Operating Officer to BPA Administrator). Results for CPS1 are reported on the Transmission Services internal web site. CPS1 is calculated monthly as a rolling 12-month average at the end of each quarter and reported as follows: "Target Met" if CPS1 ≥ 100% or "Target Not Met" if CPS1 < 100%.				