

# Congressional Budget Justification

for FY 2011

NUREG-1100, Volume 26



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# Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
OVERVIEW OF THE NRC CONGRESSIONAL BUDGET JUSTIFICATION FOR FY 2011 .....	2
NUCLEAR REACTOR SAFETY .....	4
NUCLEAR MATERIALS AND WASTE SAFETY .....	6
OFFICE OF THE INSPECTOR GENERAL .....	11
<b>INTRODUCTION: RELATIONSHIP OF PROGRAMS TO STRATEGIC GOALS.....</b>	<b>13</b>
<b>APPROPRIATIONS LEGISLATION .....</b>	<b>19</b>
SALARIES AND EXPENSES.....	21
OFFICE OF THE INSPECTOR GENERAL.....	21
ANALYSIS OF PROPOSED FY 2011 APPROPRIATIONS LEGISLATION.....	21
<b>NUCLEAR REACTOR SAFETY.....</b>	<b>25</b>
OPERATING REACTORS .....	29
NEW REACTORS .....	45
<b>NUCLEAR MATERIALS &amp; WASTE SAFETY.....</b>	<b>53</b>
OPERATING FUEL FACILITIES .....	58
NEW FUEL FACILITIES.....	63
NUCLEAR MATERIALS USERS.....	68
SPENT FUEL STORAGE AND TRANSPORTATION .....	79
DECOMMISSIONING AND LOW-LEVEL WASTE.....	86
HIGH-LEVEL WASTE REPOSITORY .....	94
INTEGRATED SPENT FUEL MANAGEMENT .....	96
<b>PERFORMANCE MEASURES.....</b>	<b>99</b>
SAFETY MEASURES.....	102
SECURITY MEASURES .....	103

<b>INSPECTOR GENERAL</b> .....	<b>105</b>
AUDITS.....	108
INVESTIGATIONS.....	111
OIG’S STRATEGIC GOALS, STRATEGIES, AND ACTIONS.....	113
OIG PROGRAM PERFORMANCE MEASURES.....	118
FY 2011 BUDGET RESOURCES LINKED TO STRATEGIC GOALS.....	120
<b>APPENDICES</b> .....	<b>123</b>
APPENDIX I: BUDGET AUTHORITY BY FUNCTION .....	123
APPENDIX II: CORPORATE SUPPORT .....	127
ADMINISTRATION AND RENT.....	130
HUMAN RESOURCES, OUTREACH, AND TRAINING AND DEVELOPMENT.....	130
INFORMATION TECHNOLOGY, INFORMATION MANAGEMENT, AND DISASTER RECOVERY .....	131
FINANCIAL MANAGEMENT .....	134
PERFORMANCE MANAGEMENT .....	137
POLICY SUPPORT .....	137
APPENDIX III: VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES.....	139
GOAL 1—SAFETY .....	141
GOAL 2—SECURITY.....	146
APPENDIX IV: REPORT ON DRUG TESTING .....	151
APPENDIX V: REIMBURSABLE WORK AGREEMENTS .....	155
APPENDIX VI: ESTIMATED FEES.....	159
APPENDIX VII: GOALS, PERFORMANCE MEASURES, AND PROGRAM CROSSWALK.....	163
<b>ENDNOTES</b> .....	<b>171</b>
<b>ACRONYM LIST</b> .....	<b>177</b>

# Executive Summary





*Previous Page: (Images from left to right):*

1. *Chairman Gregory B. Jaczko*

2. *Commissioner Dale E. Klein*

3. *Commissioner Kristine L. Svinicki*

# Executive Summary

**T**he U.S. Nuclear Regulatory Commission (NRC) is an independent Federal agency established to license and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. The NRC has formulated its fiscal year (FY) 2011 Congressional Budget Justification to support the agency's safety and security strategic goals and objectives.

The agency's safety goal is to ensure adequate protection of public health and safety and the environment.

The agency's safety program objective is to prevent the occurrence of any nuclear reactor accidents, inadvertent criticality events, acute radiation exposures, or significant releases of radioactive materials. The security goal is to ensure adequate protection in the secure use and management of radioactive materials and mitigate instances where licensed radioactive materials are used in a hostile manner in the United States.

The NRC continues to perform the critical functions to ensure the safe and secure use of byproduct, source, and special nuclear materials in the United States, and to protect both the public and workers from radiation hazards that could result from the use of radioactive materials. The NRC's principal regulatory functions are to establish regulatory requirements; issue licenses to owners, possessors, and users of nuclear materials; inspect these licensees to ensure they are in compliance with NRC rules and regulations and operate in accordance with their license; and take appropriate enforcement action for violations of regulatory requirements.

The NRC regulates every aspect of the civilian use of nuclear materials. This includes all of the steps and the facilities involved in the nuclear fuel cycle from extraction of the uranium from ore, conversion of the uranium into a form suitable for enrichment, enrichment of the uranium to a level and type suitable for nuclear fuel, and use of the enriched uranium in fabricating fuel assemblies for use in civilian reactors. The fuel assemblies are used in nuclear reactors and, when no longer efficient for reactor operations, are removed from the reactors and stored as waste.

Over the past 5 years, the agency's workload and resources have significantly increased to accommodate this renewed national interest to expand nuclear energy as a source of electrical power. Nuclear energy produces approximately 20 percent of the electricity generated each year in the United States. In other words, one-fifth of the Nation's electricity is generated by 104 nuclear power reactors, all of which are licensed by the NRC. The NRC's activities have played a critical role in their continued safe and secure operation, as well as the safe and secure expansion of electrical generating capacity. For example, recent increases in production of electrical power from nuclear energy are the result of modifications and power increases (uprates) at existing nuclear units, which the NRC must review and approve through licensing actions. Recent power uprate approvals have safely added the equivalent of five new reactors worth of electrical generating capacity.

Since October 2007, the NRC has received 18 applications for new nuclear power reactors. These applications reference five different reactor designs; the NRC is currently reviewing the design applications for certification. These design certifications will reduce the time required to approve a power reactor license application when a previously certified reactor design is used. If and when new power reactors are brought online, they will substantially increase U.S. electrical generating capacity.

In addition to nuclear power generation, nuclear materials have many other uses in medicine, industry, research, and academia. About one-third of all patients admitted to hospitals are diagnosed or treated using radioactive materials, or radiopharmaceuticals. In addition, radionuclides are used in a number of industrial and commercial applications, including industrial radiography, measuring instruments, well logging, and manufacturing. For example, radiography uses radiation sources to find structural defects in castings and welds. Scientists and academic institutions also use radioactive materials for laboratory research and education. The NRC regulates all aspects of these civilian uses, from acquiring the radioactive material to disposal.

The NRC ensures safety and security by licensing and overseeing nuclear waste and spent fuel storage facilities,

## *The Mission of the Nuclear Regulatory Commission*

*License and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.*



*The Commission (left to right): Commissioner Dale E. Klein, Chairman Gregory B. Jaczko, Commissioner Kristine L. Svinicki*

certifying storage and transportation containers, responding to events, and through regulating decontamination and decommissioning activities. Additionally, security plans, emergency preparedness, and testing are a major part of the licensing, oversight, and other regulatory activities that provide high assurance of physical security for nuclear facilities and materials. The NRC further enhances its regulatory program through public involvement and coordination and cooperation with other Federal agencies, States and international organizations, and Governments.

## **OVERVIEW OF THE NRC CONGRESSIONAL BUDGET JUSTIFICATION FOR FY 2011**

The NRC's Congressional Budget Justification for Fiscal Year 2011 requests \$1,053.6 million (including the budget for the Office of the Inspector General (OIG)). The requested funding provides the necessary resources for the Nuclear

Reactor Safety and Nuclear Materials and Waste Safety Programs to carry out the agency's mission and achieve the stated goals and desired outcomes for the American public. The \$1,053.6 million includes 4,009.1 full-time equivalents (FTE) and represents a decrease of \$13.3 million below the FY 2010 President's Budget.

The OIG's FY 2011 proposed budget of \$10.1 million includes resources to carry out the Inspector General's mission to conduct independent and objective audits and investigations to ensure the efficiency, integrity, and effectiveness of NRC programs and operations.

Pursuant to the provisions of the Energy Policy Act of 2005, the NRC's FY 2011 budget provides for 90-percent fee recovery, less appropriations from the Nuclear Waste Fund, and appropriations to implement Section 3166 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 and to conduct generic homeland security activities (see Figure 1).

Accordingly, \$915.3 million of the FY 2011 budget will be recovered from fees assessed to NRC licensees. This will result in a net appropriation of \$138.3 million, which is a decrease of \$16.4 million in net appropriations compared to the FY 2010 enacted. In accordance with the requirements defined in Section 22.6(a) of the Office of Management and Budget Circular A-11, the NRC is providing the full cost of its programs. The full cost includes an allocation of the agency's infrastructure and support costs to specific programs (see Appendix II).

Beginning in FY 2011, the NRC is transitioning to a new program structure that will improve the alignment of payments and their products. The NRC is executing its FY 2010 enacted budget as presented in the FY 2010 Congressional Budget Justification (CBJ). However in order to show workload changes to the prior year in the FY 2011 CBJ, the agency has mapped its FY 2010 enacted resources to the new structure being employed in the proposed FY 2011 budget.

The Nuclear Reactor Safety Program decreases by \$2.7 million, but includes an increase of 42.4 FTE; the Nuclear Materials and Waste Safety Program decreases by \$9.8 million, including a decrease of 11.5 FTE, when the FY 2011 request is compared to the FY 2010 enacted. This represents an overall NRC budgetary decrease of \$13.3 million, including an increase of 28.0 FTE when compared to the FY 2010 enacted (including the budget for the OIG and reimbursable FTE).



**Total NRC Budget Authority by Appropriation  
(Dollars in Millions)**

NRC Appropriations	FY 2009 Enacted	FY 2010 Enacted	FY 2011	
			Request	Changes from FY 2010
<b>Salaries and Expenses (S&amp;E)</b>				
Budget Authority	1,034.7	1,056	1,043.5	(12.5)
Offsetting Fees	860.9	902.4	906.2	3.8
Net Appropriated S&E	173.8	153.6	137.3	(16.3)
<b>Office of the Inspector General</b>				
Budget Authority	10.9	10.9	10.1	(0.8)
Offsetting Fees	9.8	9.8	9.1	(0.7)
Net Appropriated OIG	1.1	1.1	1.0	(0.1)
<b>Total NRC (\$M)</b>				
Budget Authority	1,045.5	1,066.9	1,053.6	(13.3)
Offsetting Fees	870.6	912.2	915.3	3.1
<b>Total Net Appropriated</b>	<b>\$174.9</b>	<b>\$154.7</b>	<b>\$138.3</b>	<b>\$(16.4)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

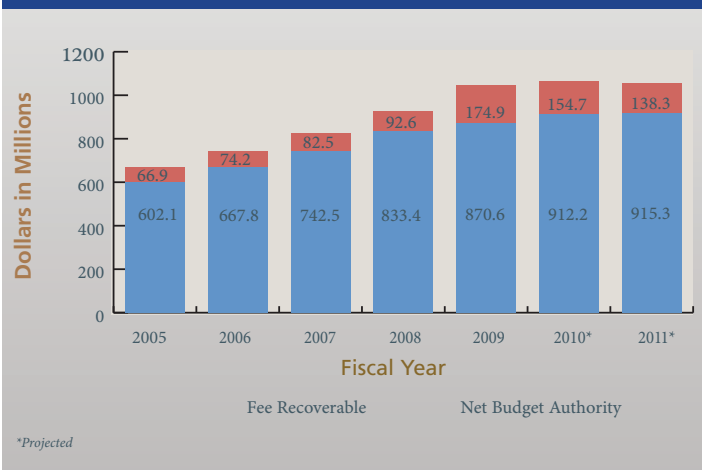
**Budget Authority and Full-Time Equivalents**

Major Programs	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Operating Reactors	531.6	2,059.8	542.1	2,089.8	531.6	2,086.0	(10.5)	(3.8)
New Reactors	255.3	843.0	264.7	893.8	272.5	940.1	7.8	46.3
<b>Reactor Safety Subtotal</b>	<b>\$786.9</b>	<b>2,902.7</b>	<b>\$806.8</b>	<b>2,983.7</b>	<b>\$804.1</b>	<b>3,026.1</b>	<b>\$(2.7)</b>	<b>42.4</b>
Operating Fuel Facilities	30.8	123.4	34.7	133.2	33.6	132.9	(1.1)	(0.3)
New Fuel Facilities	19.4	77.7	20.0	76.0	21.4	89.6	1.4	13.6
Nuclear Materials Users	85.0	330.3	91.6	338.5	90.7	338.4	(0.9)	(0.1)
Spent Fuel Storage and Transportation	25.3	100.2	36.1	124.1	29.6	119.8	(6.5)	(4.3)
Decommissioning and Low-Level Waste	37.9	143.7	37.8	148.2	36.4	144.7	(1.4)	(3.5)
High-Level Waste Repository	49.2	111.6	29.0	99.0	10.0	32.0	(19.0)	(67.0)
Integrated Spent Fuel Management	0.0	0.0	0.0	0.0	17.7	50.2	17.7	50.2
<b>Materials and Waste Subtotal</b>	<b>\$247.6</b>	<b>887.0</b>	<b>\$249.2</b>	<b>919.1</b>	<b>\$239.4</b>	<b>907.6</b>	<b>\$(9.8)</b>	<b>(11.5)</b>
Inspector General	10.9	58.0	10.9	58.0	10.1	58.0	(0.8)	0.0
<b>Subtotal</b>	<b>\$10.9</b>	<b>58.0</b>	<b>\$10.9</b>	<b>58.0</b>	<b>\$10.1</b>	<b>58.0</b>	<b>\$(0.8)</b>	<b>0.0</b>
Reimbursable FTE		20.7		20.3		17.3		(3.0)
<b>Total</b>	<b>\$1,045.4</b>	<b>3,868.4</b>	<b>\$1,066.9</b>	<b>3,981.1</b>	<b>\$1,053.6</b>	<b>4,009.1</b>	<b>\$(13.3)</b>	<b>28.0</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

Figure 1 - Net Budget Authority



Overall resources requested in the FY 2011 budget for the Nuclear Reactor Safety Program are \$804.1 million, including salaries and benefits to support 3,026.1 FTE, travel, and contract support. This funding level represents a decrease of \$2.7 million, including an increase of 42.4 FTE, when compared to the FY 2010 enacted.

## OPERATING REACTORS

The Operating Reactors Business Line supports the licensing, oversight, rulemaking, research, event response, and international activities associated with the safe and secure operation of 104 civilian nuclear power reactors (see Figure 2), and 32 research and test reactors (RTRs). The FY 2011 budget request for Operating Reactors is \$531.6 million, including salaries and benefits to support 2,086.0 FTE, travel, and contract support. This represents a decrease of \$10.5 million, including a decrease of 3.8 FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Technical review of 950 licensing actions, including complex actions such as approximately 23 license amendment requests from power reactor licensees adopting the National Fire Protection Association (NFPA) 805 requirements.
- ▶ Review of 13 extended power uprate requests for increasing electric generating capacity, and one improved standard technical specification conversion.

## NUCLEAR REACTOR SAFETY

The Nuclear Reactor Safety Program encompasses NRC efforts to license, regulate, and oversee civilian nuclear power, research, and test reactors in a manner that adequately protects public health and safety, and the environment. This program also provides high assurance of physical security of facilities and protection against radiological sabotage. The program contributes to NRC's safety and security goals through the activities of the Operating Reactors and New Reactors Business Lines that regulate existing and new nuclear reactors to ensure their safe operation and physical security and protection of the environment.

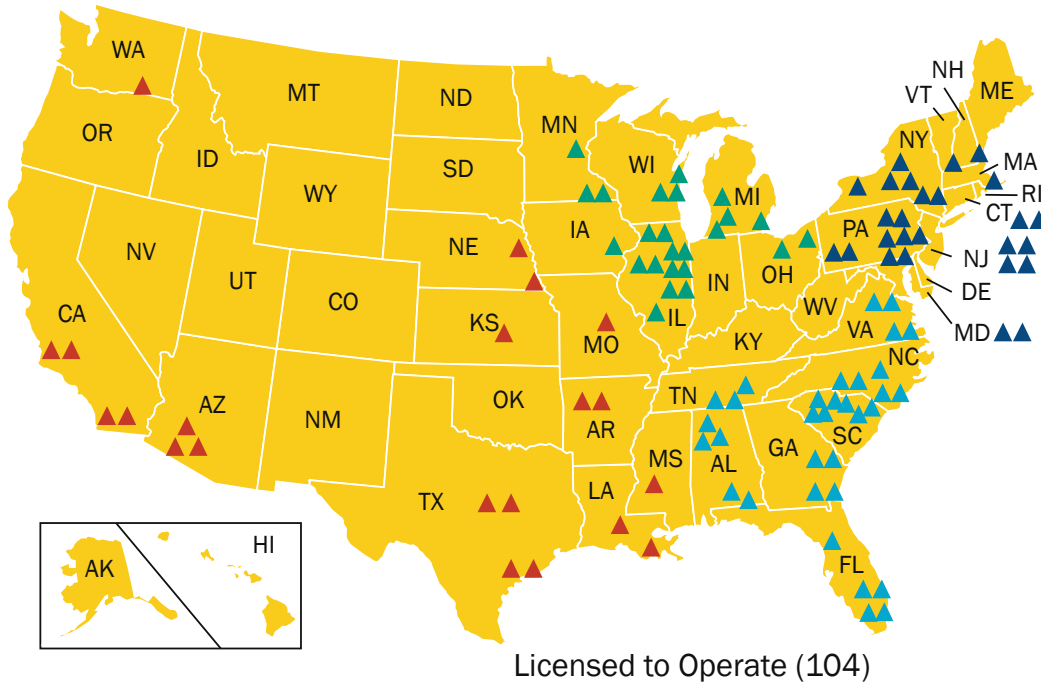
Nuclear Reactor Safety by Business Line  
(Dollars in Millions)

Business Line	FY 2009 Enacted		FY 2010 Enacted		FY 2011 Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
	Operating Reactors	531.6	2,059.8	542.1	2,089.8	531.6	2,086.0	(10.5)
New Reactors	255.3	843.0	264.7	893.8	272.5	940.1	7.8	46.3
<b>Total</b>	<b>\$786.9</b>	<b>2,902.7</b>	<b>\$806.8</b>	<b>2,983.7</b>	<b>\$804.1</b>	<b>3,026.1</b>	<b>\$(2.7)</b>	<b>42.4</b>

Numbers may not add due to rounding.

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**Figure 2 - U.S. Operating Commercial Nuclear Power Reactors**



**REGION I**

**CONNECTICUT**

- ▲ Millstone 2 and 3

**MARYLAND**

- ▲ Calvert Cliffs 1 and 2

**MASSACHUSETTS**

- ▲ Pilgrim 1

**NEW HAMPSHIRE**

- ▲ Seabrook 1

**NEW JERSEY**

- ▲ Hope Creek 1
- ▲ Oyster Creek
- ▲ Salem 1 and 2

**NEW YORK**

- ▲ James A. FitzPatrick
- ▲ Ginna
- ▲ Indian Point 2 and 3
- ▲ Nine Mile Point 1 and 2

**PENNSYLVANIA**

- ▲ Beaver Valley 1 and 2
- ▲ Limerick 1 and 2
- ▲ Peach Bottom 2 and 3
- ▲ Susquehanna 1 and 2
- ▲ Three Mile Island 1

**VERMONT**

- ▲ Vermont Yankee

**REGION II**

**ALABAMA**

- ▲ Browns Ferry 1, 2, and 3
- ▲ Joseph M. Farley 1 and 2

**FLORIDA**

- ▲ Crystal River 3
- ▲ St. Lucie 1 and 2
- ▲ Turkey Point 3 and 4

**GEORGIA**

- ▲ Edwin I. Hatch 1 and 2
- ▲ Vogtle 1 and 2

**NORTH CAROLINA**

- ▲ Brunswick 1 and 2
- ▲ McGuire 1 and 2
- ▲ Shearon Harris 1

**SOUTH CAROLINA**

- ▲ Catawba 1 and 2
- ▲ Oconee 1, 2, and 3
- ▲ H.B. Robinson 2
- ▲ Summer

**TENNESSEE**

- ▲ Sequoyah 1 and 2
- ▲ Watts Bar 1

**VIRGINIA**

- ▲ North Anna 1 and 2
- ▲ Surry 1 and 2

**REGION III**

**ILLINOIS**

- ▲ Braidwood 1 and 2
- ▲ Byron 1 and 2
- ▲ Clinton
- ▲ Dresden 2 and 3
- ▲ La Salle County 1 and 2
- ▲ Quad Cities 1 and 2

**IOWA**

- ▲ Duane Arnold

**MICHIGAN**

- ▲ D.C. Cook 1 and 2
- ▲ Fermi 2
- ▲ Palisades

**MINNESOTA**

- ▲ Monticello
- ▲ Prairie Island 1 and 2

**OHIO**

- ▲ Davis-Besse
- ▲ Perry 1

**WISCONSIN**

- ▲ Kewaunee
- ▲ Point Beach 1 and 2

**REGION IV**

**ARKANSAS**

- ▲ Arkansas Nuclear 1 and 2

**ARIZONA**

- ▲ Palo Verde 1, 2, and 3

**CALIFORNIA**

- ▲ Diablo Canyon 1 and 2
- ▲ San Onofre 2 and 3

**KANSAS**

- ▲ Wolf Creek 1

**LOUISIANA**

- ▲ River Bend 1
- ▲ Waterford 3

**MISSISSIPPI**

- ▲ Grand Gulf

**MISSOURI**

- ▲ Callaway

**NEBRASKA**

- ▲ Cooper
- ▲ Fort Calhoun

**TEXAS**

- ▲ Comanche Peak 1 and 2
- ▲ South Texas Project 1 and 2

**WASHINGTON**

- ▲ Columbia

- ▶ Ongoing review of 13 license renewal applications for nuclear power reactors and license renewal efforts for the RTRs to extend licensees' operating licenses.
- ▶ License review associated with modification of the University of Missouri–Columbia Research Reactor (MURR) for the production of the medical isotope Molybdenum (Mo-99), and the licensing of the Babcock and Wilcox Medical Isotope Production System Reactor.
- ▶ Review of the RTR High Enriched Uranium/Low Enriched Uranium fuel conversion applications.
- ▶ Inspection activities for the existing 104 nuclear power plants, including the component design-basis inspections, fire protection inspections, and generic issue inspections (approximately 100 per year).
- ▶ License renewal inspections, and screening of approximately 3,000 national and international operational events with detailed evaluation of 200 of those events for applicability to the Nation's nuclear power industry.
- ▶ Resident Inspector Pipeline initiative to maintain an experienced and stable onsite inspection presence of qualified resident inspectors at the 104 nuclear power plants.
- ▶ 24 force-on-force (FOF) security inspections to complete the 3-year cycle for inspecting power reactors.
- ▶ Evaluate licensee emergency preparedness during biennial exercises that includes assessment of offsite response activities by the Federal Emergency Management Agency.
- ▶ Fire safety research to support the transition to a risk-informed, performance-based set of requirements per NFPA 805 and the current licensing basis for plants.

## NEW REACTORS

The New Reactors Business Line supports the licensing, oversight, rulemaking, research, and international activities associated with the safe and secure development of new power reactors from design, site approval, and construction to operational status. The FY 2011 budget request for New Reactors is \$272.5 million, including salaries and benefits to support 940.1 FTE, travel, and contract support. This represents an increase of \$7.8 million, including an increase of 46.3 FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Review of five nuclear power reactor design certification applications.

- ▶ Review of 17 combined license applications consistent with 10 CFR Part 52 and industry's projected plans and schedules.
- ▶ Licensing and oversight activities for the construction of Watts Bar Unit 2, under 10 CFR Part 50.
- ▶ Development and implementation of the construction inspection program.
- ▶ Complete 15 domestic and international vendor inspections of component manufacturing quality.
- ▶ Preparation for the review of the next generation nuclear power plant technologies in accordance with the Energy Policy Act of 2005, including small light-water reactor (LWR) and non-LWR reactor designs.
- ▶ Research to support development of new reactor plant models, advanced reactors, and homeland security studies such as aircraft impact analyses.

## NUCLEAR MATERIALS AND WASTE SAFETY

The Nuclear Materials and Waste Safety Program encompasses NRC efforts to license, regulate, and oversee nuclear materials and waste in a manner that adequately protects public health and safety and the environment. This program provides high assurance of physical security of materials and waste and protection against radiological sabotage, theft, or diversion of nuclear materials. Through this program, the NRC regulates uranium processing and fuel facilities, research and testing facilities, nuclear materials users (medical, industrial, research, academic), spent fuel storage, spent fuel storage casks and transportation packaging, decontamination and decommissioning of facilities, and low-level and high-level radioactive waste. The program contributes to the NRC's safety and security goals through the activities of the following business lines: Operating Fuel Facilities, New Fuel Facilities, Nuclear Materials Users, Spent Fuel Storage and Transportation, Decommissioning and Low-Level Waste, High-Level Waste Repository, and Integrated Spent Fuel Management.

Overall resources requested in the FY 2011 budget for the Nuclear Materials and Waste Safety Program is \$239.4 million, including salaries and benefits to support 907.6 FTE, travel, and contract support. This funding level represents a decrease of \$9.8 million, including a decrease of 11.5 FTE, when compared to the FY 2010 enacted.

**Nuclear Materials and Waste Safety by Business Line**  
(Dollars in Millions)

Business Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Operating Fuel Facilities	30.8	123.4	34.7	133.2	33.6	132.9	(1.1)	(0.3)
New Fuel Facilities	19.4	77.7	20.0	76.0	21.4	89.6	1.4	13.6
Nuclear Materials Users	85.0	330.3	91.6	338.5	90.7	338.4	(0.9)	(0.1)
Spent Fuel Storage and Transportation	25.3	100.2	36.1	124.1	29.6	119.8	(6.5)	(4.3)
Decommissioning and Low-Level Waste	37.9	143.7	37.8	148.2	36.4	144.7	(1.4)	(3.5)
High-Level Waste Repository	49.2	111.6	29.0	99.0	10.0	32.0	(19.0)	(67.0)
Integrated Spent Fuel Management	0.0	0.0	0.0	0.0	17.7	50.2	17.7	50.2
<b>Total</b>	<b>\$247.6</b>	<b>887.0</b>	<b>\$249.2</b>	<b>919.1</b>	<b>\$239.4</b>	<b>907.6</b>	<b>\$(9.8)</b>	<b>(11.5)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

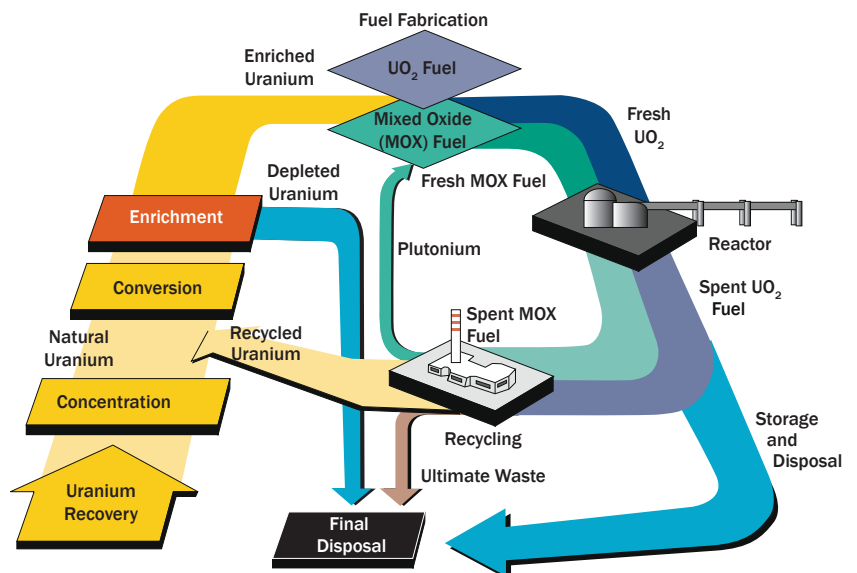
## OPERATING FUEL FACILITIES

The Operating Fuel Facilities Business Line supports the licensing, oversight, rulemaking, and international activities associated with the safe and secure operation of various fuel facilities such as extraction mills; conversion, enrichment, and fuel fabrication facilities; and nuclear fuel research and testing facilities (see Figure 3). The FY 2011 budget request for Operating Fuel Facilities is \$33.6 million, including salaries and benefits to support 132.9 FTE, travel, and contract support. This represents a decrease of \$1.1 million, including a decrease of 0.3 FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Licensing and oversight activities associated with the Louisiana Energy Services Expansion, including review of the supplemental environmental impact statement.
- ▶ Licensing and oversight activities associated with operating fuel facilities and licensees with greater than critical mass quantities of special nuclear material.

- ▶ Operation and maintenance of the Nuclear Material Management and Safeguards System database and the Nuclear Materials Information Program.
- ▶ Work on the interagency agreement with the U.S. Department of Energy (DOE) for certification and accreditation of classified computer systems at enrichment facilities.

Figure 3 - The Nuclear Fuel Cycle



- ▶ Environmental, emergency preparedness, and licensee performance reviews.
- ▶ Inspection oversight, allegations, and enforcement activities.

## NEW FUEL FACILITIES

The New Fuel Facilities Business Line supports the licensing, oversight, rulemaking, research, and international activities associated with the safe and secure operation of various new fuel facilities. The FY 2011 budget request for New Fuel Facilities is \$21.4 million, including salaries and benefits to support 89.6 FTE, travel, and contract support. This represents an increase of \$1.4 million, including an increase of 13.6 FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Licensing, certification, inspection, environmental reviews, research, adjudicatory, enforcement, allegation, and other regulatory activities associated with new fuel facilities, including deconversion, enrichment, and fuel fabrication.
- ▶ Review of the application for the AREVA Centrifuge and General Electric-Hitachi Laser Enrichment facilities.
- ▶ Review of the International Isotopes depleted uranium deconversion facility.
- ▶ Work on the Mixed Oxide (MOX) Fuel Fabrication Facility Safety Evaluation Report and associated hearings.
- ▶ Development of the technical basis document to form a basis for rulemakings to prepare for potential reprocessing of spent nuclear fuel.

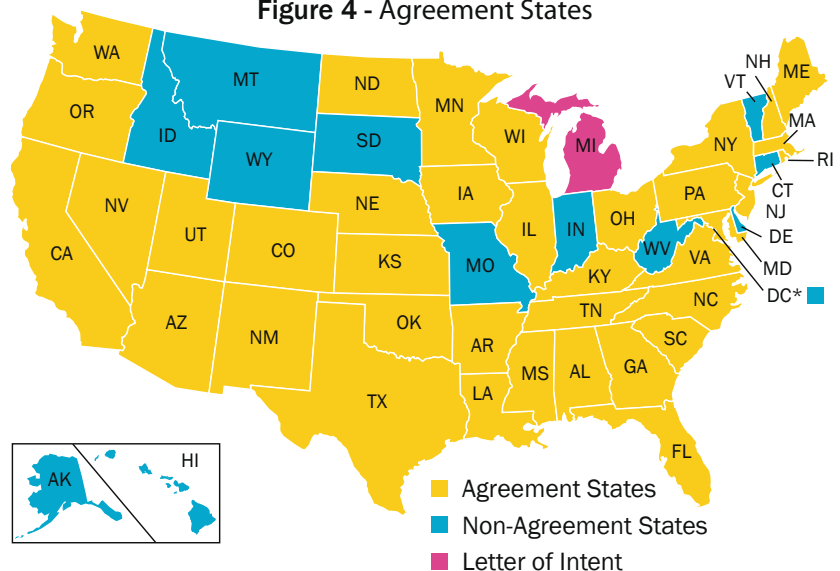
## NUCLEAR MATERIALS USERS

The Nuclear Materials Users Business Line supports the licensing, oversight, rulemaking, research, event response, international, and Agreement State (see

Figure 4) activities associated with the safe and secure possession, processing, handling, and many diverse uses of nuclear materials. The FY 2011 budget request for Nuclear Materials Users is \$90.7 million, including salaries and benefits to support 338.4 FTE, travel, and contract support. This represents a decrease of \$0.9 million, including a decrease of less than one FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Completion of 2,500 materials licensing actions and 1,220 routine health and safety inspections, including naturally occurring and accelerator-produced radioactive material and security inspections of Agreement State licensees in FY 2011.
- ▶ Event evaluation, research, incident response, allegation, enforcement, and rulemaking activities to maintain the regulatory safety and security infrastructure needed to process and handle nuclear materials.
- ▶ Materials activities related to Agreement States, including oversight, technical assistance, regulatory development, and cooperative efforts.
- ▶ Operation of the National Source Tracking System, a secure, Web-based, nationalized central registry designed to enhance the accountability for radioactive sources.

Figure 4 - Agreement States



\* Other Non-Agreement States include major U.S. territories, such as Puerto Rico, Virgin Islands, and Guam. As of September 30, 2009.

- ▶ Development of the Web-Based Licensing System and License Verification System.

## **SPENT FUEL STORAGE AND TRANSPORTATION**

The Spent Fuel Storage and Transportation Business Line supports the licensing, oversight, rulemaking, research, and international activities associated with the safe and secure storage and transportation of spent nuclear fuel. The FY 2011 budget request for Spent Fuel Storage and Transportation is \$29.6 million, including salaries and benefits to support 119.8 FTE, travel, and contract support. This represents a decrease of \$6.5 million, including a decrease of 4.3 FTE, from the FY 2010 enacted. Resources decrease primarily in the area of research to reflect a shift in resources from the Spent Fuel Storage and Transportation Business Line to support high-priority emergent research work under the Nuclear Materials Users Business Line. Major activities the requested resources will support include the following:

- ▶ Licensing of interim storage of spent fuel from commercial nuclear reactors.
- ▶ Certification of domestic and international transportation of radioactive materials.
- ▶ Inspection of storage cask and transportation package vendors, fabricators, and designers to ensure safety.
- ▶ Review of license requests for site-specific independent spent fuel storage installations (ISFSIs), dual purpose (storage and transport) casks, transportation security plans, and route approvals.
- ▶ Technical review of approximately 80 transportation package designs and approximately 25 spent fuel storage casks and spent fuel storage facilities to support safe and secure domestic and international transportation, industry needs for full-core offload capability at operating reactor sites, and transfer of spent fuel to ISFSIs to support reactor decommissioning.
- ▶ Interaction with the International Atomic Energy Agency (IAEA) and other international regulators to inform the regulatory framework for radioactive material transportation and spent fuel storage.

## **DECOMMISSIONING AND LOW-LEVEL WASTE**

The Decommissioning and Low-Level Waste Business Line supports the licensing, oversight, rulemaking, research, and international activities associated with the safe and secure removal of a nuclear facility from service and reduction of residual radioactivity to a level that permits release of the property and termination of the NRC license, and the disposition of low-level radioactive waste from all civilian sources. The FY 2011 budget request for Decommissioning and Low-Level Waste is \$36.4 million, including salaries and benefits to support 144.7 FTE, travel, and contract support. This represents a decrease of \$1.4 million, including a decrease of 3.5 FTE, from the FY 2010 enacted due to decrease in the oversight of DOE waste determination activities. Major activities the requested resources will support include the following:

- ▶ Technical, safety, and environmental review of uranium recovery facilities.
- ▶ Project management and technical reviews for decommissioning activities for 13 power reactors, 10 RTRs, 21 complex materials sites, and 18 inactive uranium recovery facilities, including license termination plans, decommissioning plans, and license amendments.
- ▶ Support of interfaces with licensees, applicants, Federal and State agencies, the public, other stakeholders, and Native American Tribal Governments.
- ▶ Five environmental reviews and eight safety reviews (hearings included) of uranium recovery facility applications.
- ▶ Oversight of certain DOE waste determination activities and plans consistent with the NRC's responsibilities in the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005.

## **HIGH-LEVEL WASTE REPOSITORY**

The High-Level Waste Repository Business Line supports the licensing, oversight, rulemaking, and research activities associated with DOE's Yucca Mountain geologic repository application. The FY 2011 budget request for High-Level Waste Repository is \$10.0 million, including salaries and benefits to support 32.0 FTE, travel, and contract support. This

represents a decrease of \$19.0 million, including a decrease of 67.0 FTE, from the FY 2010 enacted. Major activities the requested resources will support include the following:

- ▶ Work related to an orderly closure of the agency's Yucca Mountain licensing support activities such as archiving material, knowledge capture and management, and maintenance of certain electronic systems. Resources will also support closing the adjudicatory aspects upon actual notice of suspension or withdrawal of the license application from Congress or DOE.

The Administration has indicated that it does not support developing a repository at Yucca Mountain, Nevada. Consistent with that position, the DOE may submit to the NRC a motion to withdraw or suspend its Yucca Mountain license application during 2010. The NRC budget request reflects that possibility. Upon the withdrawal or suspension of the licensing review, the NRC would begin an orderly closure of the technical review and adjudicatory activities, and would document the work and insights gained from the review.

## **INTEGRATED SPENT FUEL MANAGEMENT**

Integrated Spent Fuel Management is a new business line in FY 2011. This business line was created to develop regulatory tools, analysis and data needed to evaluate and support future waste management strategies.

The Integrated Spent Fuel Management Business Line will develop the information necessary to inform the agency's regulatory perspectives on waste management options, undertake research, analysis, and modeling efforts to support regulatory development for potential future high-level waste disposal systems, and serve as the agency's point for coordinating and integrating key interdependent work on disposal, extended long-term storage, and other waste management strategies. Major activities the requested resources will support include the following:

- ▶ Activities for generic long-term future of waste management that will ensure the adequate protection of public health and safety and the environment. The focus is on the review, investigation, and development of an appropriate licensing regulatory framework that will accommodate alternative geologic disposal or other spent fuel disposal options.
- ▶ Development of a flexible performance assessment model for addressing disposal in alternative geological media with different engineered barrier systems and different waste forms.



**Overview of the OIG Budget**  
(Dollars in Millions)

Summary	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from	
	\$M	FTE	\$M	FTE	\$M	FTE	FY 2010	FTE
Budget Authority by Program								
Program Support	1.870		1.406		0.518		(0.888)	
Program Salaries & Benefits	8.990	58	9.454	58	9.584	58	0.130	0
<b>Total</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.102</b>	<b>58</b>	<b>\$ (0.758)</b>	<b>0</b>

*Numbers may not add due to rounding.*

## OFFICE OF THE INSPECTOR GENERAL

In accordance with the Inspector General Act of 1978, as amended, the OIG's mission is to (1) conduct and supervise independent and objective audits and investigations related to NRC programs and operations, (2) prevent and detect fraud, waste, and abuse, and (3) promote economy efficiency, and effectiveness in NRC programs and operations. OIG carries out its mission through its Audits and Investigations Programs. The NRC OIG Strategic Plan for FYs 2008-2013 provides the framework for the work that OIG will undertake over the planning period. The OIG Strategic Plan features three goals that guide the activities of its Audits and Investigations Programs and generally align with the agency's mission:

### OIG STRATEGIC GOALS

- ▶ Strengthen the NRC's efforts to protect public health and safety and the environment.
- ▶ Enhance the NRC's efforts to increase security in response to an evolving threat environment.
- ▶ Increase the economy, efficiency, and effectiveness with which the NRC manages and exercises stewardship over its resources.

OIG's proposed FY 2011 budget is \$10.102 million, including 58 FTE. In accordance with Office of Management and Budget (OMB) requirements, OIG is providing the full cost of its programs in that the budget identifies OIG's management and operational support costs and distributes these costs proportionately to the Audits and Investigations Programs.

## AUDITS PROGRAM

With these resources, the Audits Program will conduct approximately 25 audits and evaluations. OIG will continue its planned audits of the NRC's nuclear reactor safety programs. For FY 2011, the Audits Program will focus on agency programs involving the major management challenges and risk areas facing the NRC, including agency programs in the New Reactors and Spent Fuel Storage and Transportation Business Lines. Areas for OIG audit emphasis in FY 2011 include the following:

- ▶ NRC oversight of the existing licensed commercial nuclear reactors.
- ▶ NRC oversight of vendor material used in the construction of new reactor plants.
- ▶ NRC oversight of the security and safety of nuclear materials.
- ▶ NRC actions to secure sensitive information, technology, and databases.
- ▶ The NRC's regulatory activities involving the interim storage of high-level waste and spent fuel both at and away from the reactor facilities.

OIG will also conduct other performance audits to review the NRC's administrative and program operations and evaluate the effectiveness and efficiency with which managerial responsibilities are carried out and whether the programs achieve intended results. The office will also conduct financial audits to evaluate the agency's financial programs.

## **INVESTIGATIONS PROGRAM**

The Investigations Program will conduct approximately 60 investigations and Event Inquiries. Areas for OIG investigative emphasis in FY 2011 include the following:

- ▶ Monitoring of NRC activities and gathering stakeholder information to identify potential gaps in the NRC Reactor Oversight Process.
- ▶ Reviewing NRC and licensee reports and engaging interested stakeholders to identify issues of concern in NRC oversight of nuclear material held by NRC licensees.
- ▶ Examining efforts made by the NRC to address stakeholder concerns regarding low-level and high-level waste storage issues.

- ▶ Addressing the NRC's efforts to provide oversight of licensee responsibilities in effectively securing licensed facilities and nuclear materials.
- ▶ Conducting investigations into internal and external cyber breaches of the NRC's information technology infrastructure.
- ▶ Examining allegations of misuse of the NRC's corporate management resources, including personnel, procurement, financial, and information technology.

The office also conducts proactive investigations when indications are raised concerning potentially systematic violations such as theft of Government property or contract fraud. In addition, OIG periodically conducts Event Inquiries that identify staff actions that may have contributed to the occurrence of an event.

# Introduction

## Relationship of Programs to Strategic Goals





*Previous Page: (Images from left to right):*

*1. NRC Headquarters, Building One White Flint*

*2. NRC Headquarters Buildings*

*3. NRC Headquarters, Building Two White Flint*

# Introduction

## Relationship of Programs to Strategic Goals

**A**s the Nation's principle regulatory authority that provides authoritative guidance and direction on the safe and secure use of nuclear materials, the NRC has structured its programs in order to accomplish its responsibilities and achieve strategic goals most effectively. The NRC is transitioning to a new program structure that will improve the alignment of programs and their products and increases transparency. This new program structure will result in improved financial information available for program execution management and support of budget formulation. The following section outlines the relationship of the new program structure to the agency's strategic goals and outlines the structure as it will be implemented for fiscal year (FY) 2011.

### RELATIONSHIP OF PROGRAM STRUCTURE TO STRATEGIC GOALS

The program structure and new business and product line approach is designed to more transparently implement strategies for achieving the agency's strategic goals. Enveloping each activity or product are the overriding goals for the safe and secure civilian use of byproduct, source, and special nuclear material that are paramount to the NRC's regulatory purpose. Thus, the outcomes that the NRC strives to achieve are focused on public safety and security, as are the performance measures the NRC uses for each activity to assess its impact in achieving positive outcomes for the public.

The following is a brief outline of the NRC's strategic goals, strategic outcomes, major programs, business and product lines, and their inter-relationship (see Figure 5). The NRC Strategic Plan identifies the agency's strategic goals of safety and security and their related strategic outcomes in pursuit of the NRC's regulatory mission. The product lines and their activities directly relate to the strategies and the means to support those strategies. The output measures associated with each activity gauge how well the NRC is doing in executing the strategies, which in turn enables assessment of the NRC's impact on strategic outcomes. Individual output measures will be reviewed and possibly revised if needed to reflect this new budget structure.

*The NRC's program structure is designed to support the strategies to achieve the agency's strategic goals of safety and security.*

**Strategic Goals:** The NRC's safety and security strategic goals, as well as their associated strategic outcomes, describe the agency's core functions. These goals are in direct support of the NRC's mission to protect public health and safety, protect the environment, and ensure security of nuclear materials. The FY 2011 NRC Congressional Budget Justification provides for the programs and resources necessary for the agency to continue to achieve its stated mission, goals, and desired outcomes. The NRC strategic goals are the following:

*Safety Goal: Ensure adequate protection of public health and safety and the environment*

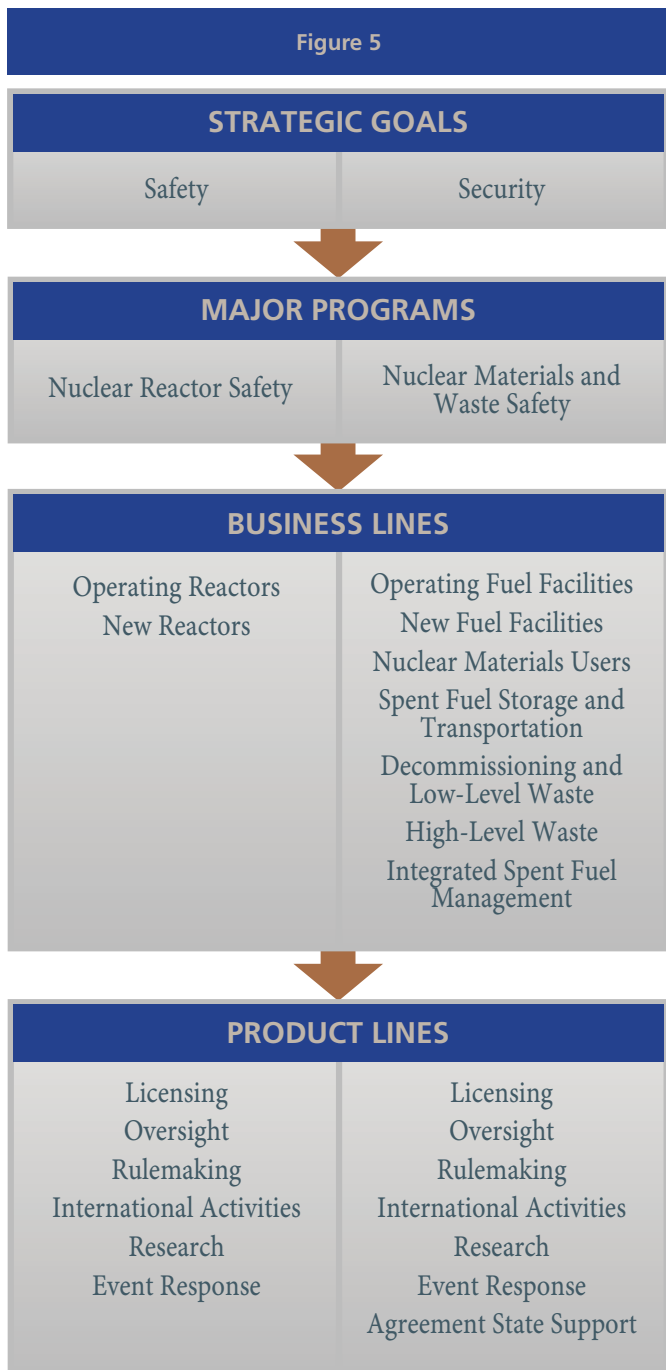
*Security Goal: Ensure adequate protection in the secure use and management of radioactive materials*

Activities are planned and executed to achieve the strategic outcomes associated with the safety and security goals (see Figure 6). The strategic outcomes associated with the safety and security goals are to prevent the occurrence of any of the following:

- ▶ Nuclear reactor accidents
- ▶ Inadvertent criticality events
- ▶ Acute radiation exposures resulting in fatalities
- ▶ Releases of radioactive materials that result in significant radiation exposures
- ▶ Releases of radioactive materials that cause significant adverse environmental impacts
- ▶ Instances where licensed radioactive materials are used domestically in a manner hostile to the United States

The NRC has identified the organizational excellence objectives of openness, effectiveness, and operational excellence. These objectives characterize the manner in which the agency intends to achieve its safety and security goals.

The NRC plans and executes programs and activities as it strives to achieve the strategic outcomes of the safety and security goals.



**Major Programs:** The NRC formulates and executes its budget through two major programs that most efficiently and effectively carry out the NRC mission, group NRC activities for efficient management, achieve the intended outcomes of the safety and security goals, and manage and measure performance. There are safety and security components within each major program. The major programs are:

- ▶ Nuclear Reactor Safety
- ▶ Nuclear Materials and Waste Safety

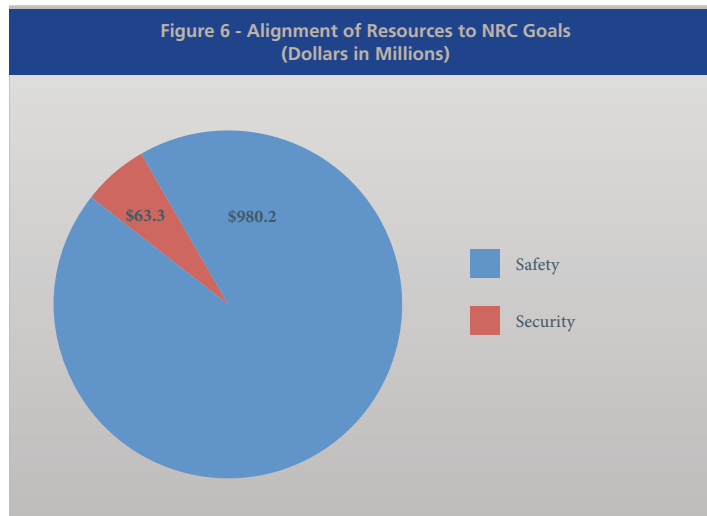
**Business Lines:** The business lines are logical subdivisions of the major programs that identify key regulatory groups of licensees. The Nuclear Reactor Safety Program contains the following business lines:

- ▶ Operating Reactors
- ▶ New Reactors

The Nuclear Materials and Waste Safety Program contains the following business lines:

- ▶ Operating Fuel Facilities
- ▶ New Fuel Facilities
- ▶ Materials Users
- ▶ Spent Fuel Storage and Transportation
- ▶ Decommissioning and Low-Level Waste
- ▶ High-Level Waste Repository
- ▶ Integrated Spent Fuel Management

**Product Lines:** Each business line is divided into product lines that identify major categories of activities or the means



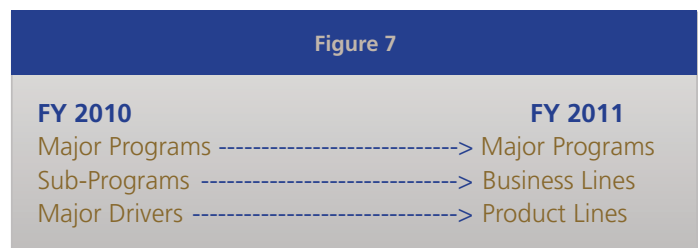
by which the NRC will execute its regulatory responsibilities. NRC output measures are associated with each of the following product lines:

- ▶ **Licensing:** Licensing is the activity by which the NRC authorizes (i.e., licenses) a company, organization, institution, individual, or other civilian entity (i.e., licensee) to construct or operate a nuclear facility; to conduct operations involving the emission of radiation; or to receive, possess, use, transfer, or dispose of source, byproduct, or special nuclear material. Additionally, it is the process by which the NRC decommissions facilities and terminates licenses, and certifies reactor designs, storage and transportation containers. This activity also includes requests to modify previously issued licenses. Licensing applies to all NRC business lines.
- ▶ **Oversight:** Oversight is the activity by which the NRC ensures that licensees operate in accordance with the requirements of their licenses, regulations, and statutes. The NRC ensures this compliance through continual oversight of the safe and secure operations of nuclear facilities and the possession, use, and disposal of source, byproduct, or special nuclear material. Oversight is conducted through inspections, assessment of performance, enforcement actions, allegations review, and investigations. Oversight applies to all NRC business lines.
- ▶ **Rulemaking:** Rulemaking is the activity by which the NRC develops rules, regulations, and guidance that serve as the authoritative regulatory basis for applicants and licensees. The NRC maintains a framework of rules, regulations, guidance, generic communications, and standard review plans that require and promote licensee compliance with underlying safety principles and security requirements. Rulemaking applies to all NRC business lines. Rulemaking associated with licensing actions are described above with the Licensing Business Line.
- ▶ **International Activities:** International Activities are the means by which the NRC engages in coordination and cooperation with multinational organizations and foreign countries. This activity promotes best practices worldwide in realizing safety and security goals to control import and export of nuclear materials and equipment, to comply with treaties and agreements, and to assist decision making, awareness, and responses

to emerging technical issues. International Activities apply to all NRC business lines.

- ▶ **Research:** Research is the activity by which the NRC obtains technical advice, confirmatory research, tools, results of specific research, and information from other research or academic sources. These activities allow the NRC to provide independent expertise to make timely regulatory decisions, anticipate problems of potential safety significance, identify and resolve safety issues, and promulgate regulations and guidance. Research varies with workload priorities but generally applies to all NRC business lines.
- ▶ **Event Response:** Event Response is the activity that enables the NRC to respond effectively to nuclear events at its licensee sites or other locations involving nuclear materials. An effective response ensures that adequate protective measures are being taken to prevent or mitigate damage to facilities and minimize possible radiation exposure of members of the public or facility workers. Event Response applies to the Operating Reactors and Nuclear Materials Users Business Lines.
- ▶ **Agreement State Support:** Agreement State Support is the activity by which the NRC executes Section 274 of the Atomic Energy Act of 1954, as amended, whereby the NRC relinquishes to a State, by written agreement, portions of its regulatory authority to license and regulate byproduct, source, and certain quantities of special nuclear material. The NRC continually provides assistance and support to these Agreement States, including processing Agreement State incidents/events, coordinating State participation in regulation development and training courses, and responding to State technical assistance requests, allegations, etc. Agreement State Support only applies to the Nuclear Materials Users Business Line.

Figure 7 illustrates the changes between the FY 2010 and FY 2011 NRC program structures.







# Appropriations Legislation





*Previous Page: (Images from left to right):*

*1. The U.S. Capitol building in Washington, DC*

*2. The American flag*

*3. The U.S. Capitol building in Washington, DC*

# Appropriations Legislation

**T**he NRC's proposed appropriations legislation for FY 2011 is as follows:

## SALARIES AND EXPENSES

For necessary expenses of the Commission in carrying out the purposes of the Energy Reorganization Act of 1974, as amended, and the Atomic Energy Act of 1954, as amended, including official representation expenses (not to exceed \$25,000), \$1,043,483,000, to remain available until expended: Provided, That of the amount appropriated herein, \$10,000,000 shall be derived from the Nuclear Waste Fund: Provided further, That revenues from licensing fees, inspection services, and other services and collections estimated at \$906,220,000 in FY 2011 shall be retained and used for necessary salaries and expenses in this account, notwithstanding 31 U.S.C. 3302, and shall remain available until expended: Provided further, That the sum herein appropriated shall be reduced by the amount of revenues received during FY 2011 so as to result in a final FY 2011 appropriation estimated at not more than \$137,263,000.

## OFFICE OF THE INSPECTOR GENERAL

For necessary expenses of the Office of the Inspector General in carrying out the provisions of the Inspector General Act of 1978, as amended, \$10,102,000 to remain available until September 30, 2012: Provided, That revenues from licensing fees, inspection services, and other services and collections estimated at \$9,092,000 in FY 2011 shall be retained and be available until expended, for necessary salaries and expenses in this account, notwithstanding 31 U.S.C. 3302: Provided further, That the sum herein appropriated shall be reduced by the amount of revenues received during FY 2011 so as to result in a final FY 2011 appropriation estimated at not more than \$1,010,000.

## ANALYSIS OF PROPOSED FY 2011 APPROPRIATIONS LEGISLATION

The analysis of the NRC's proposed appropriations legislation for FY 2011 is as follows:

## SALARIES AND EXPENSES

### **1. FOR NECESSARY EXPENSES OF THE COMMISSION IN CARRYING OUT THE PURPOSES OF THE ENERGY REORGANIZATION ACT OF 1974, AS AMENDED, AND THE ATOMIC ENERGY ACT OF 1954, AS AMENDED:**

42 U.S.C. 5841 et seq.

The NRC was established by the Energy Reorganization Act of 1974, as amended (42 U.S.C. 5801 et seq.). This act abolished the Atomic Energy Commission (AEC) and transferred to the NRC all of the AEC's licensing and related regulatory functions. These functions included those of the Atomic Safety and Licensing Board Panel and the Advisory Committee on Reactor Safeguards; responsibilities for licensing and regulating nuclear facilities and materials; and conducting research for the purpose of confirmatory assessment related to licensing, regulation, and other activities, including research related to nuclear materials safety and regulation under the provisions of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.).

### **2. INCLUDING OFFICIAL REPRESENTATION EXPENSES:**

47 Comp. Gen. 657, 43 Comp. Gen. 305

This language is required because of the established rule restricting an agency from charging appropriations with the cost of official representation unless the appropriations involved are specifically available for such purpose. Congress has appropriated funds for official representation expenses to the NRC and its predecessor, the AEC, each year since FY 1950.

### **3. TO REMAIN AVAILABLE UNTIL EXPENDED:**

31 U.S.C. 1301 provides that no regular, annual appropriation shall be construed to be permanent or available continuously unless the appropriation expressly provides that it is available after the fiscal year covered by the law in which it appears.

#### **4. SHALL BE DERIVED FROM THE NUCLEAR WASTE FUND:**

42 U.S.C. 10131(b)(4) provides for the establishment of a Nuclear Waste Fund to ensure that the costs of carrying out activities relating to the disposal of high-level radioactive waste and spent nuclear fuel will be borne by the persons responsible for generating such waste and spent fuel.

42 U.S.C. 10222(a)(4) provides that the amount of fees paid into the Nuclear Waste Fund by generators or owners of such waste and spent fuel shall be reviewed annually to determine if any adjustments are needed to ensure full cost recovery.

42 U.S.C. 10134 specifically requires the NRC to consider an application for a repository for the disposal of high-level radioactive waste and spent nuclear fuel and sets forth certain licensing procedures. 42 U.S.C. 10133 also assigns review responsibilities to the NRC in the steps leading to submission of the license application. Thus, the Nuclear Waste Policy Act of 1982, as amended, establishes the NRC's responsibility throughout the repository siting process, culminating in the requirement for NRC licensing as a prerequisite to construction and operation of the repository.

42 U.S.C. 10222(d) specifies that expenditures from the Nuclear Waste Fund can be used for purposes of radioactive waste disposal activities, including identification, development, licensing, construction, operation, decommissioning, and post-decommissioning maintenance and monitoring of any repository constructed under the Nuclear Waste Policy Act of 1982, and for administrative costs of the high-level radioactive waste disposal program.

#### **5. REVENUES FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS SHALL BE RETAINED AND USED FOR NECESSARY SALARIES AND EXPENSES IN THIS ACCOUNT, NOTWITHSTANDING 31 U.S.C. 3302, AND SHALL REMAIN AVAILABLE UNTIL EXPENDED:**

Under Title V of the Independent Offices Appropriation Act of 1952, the NRC is authorized to collect license fees. Pursuant to 31 U.S.C. 9701, any person who receives a service or thing of value from the Commission shall pay fees to cover the NRC's cost in providing such service or thing of value.

Pursuant to 42 U.S.C. 2214, the NRC is required to assess and collect annual charges from NRC licensees and certificate holders, with the exception of the holders of any license for a Federally owned research reactor used primarily for educational training and academic research purposes. In accordance with amendments to 42 U.S.C. 2214, enacted in the Energy Policy Act of 2005, and this appropriations request, the aggregate annual amount of such charges shall approximate 90 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund, funds appropriated to implement Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, and amounts appropriated to the Commission for generic homeland security activities.

Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Public Law (P.L.) 108-375, assigns new responsibilities to NRC for waste determinations and monitoring of waste disposal actions for material stored at the U.S. Department of Energy (DOE) sites in South Carolina and Idaho. Section 3116(b)(4) requires that, beginning with the FY 2006 budget, the Commission include in its budget justification materials submitted to Congress the amounts required, not offset by revenues, for performance of its responsibilities under Section 3116. The \$524,000 requested to implement Section 3116 is excluded from NRC's fee recovery requirements.

Section 637 of the Energy Policy Act of 2005, P.L. 109-190, modifies NRC's user fee legislation in 42 U.S.C. 2214 to exclude from license fee recovery the amounts appropriated to the Commission for homeland security activities, except for reimbursable costs of fingerprinting and background checks and the costs of conducting security inspections. The \$26,048,000 requested for generic homeland security activities is excluded from NRC's fee recovery requirements.

The aggregate amount of license fees and annual charges to be collected for FY 2011 approximates 90 percent of the Commission's budget authority, less the amount requested to be derived from the Nuclear Waste Fund, the amount requested to implement Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, and amounts requested for generic homeland security activities pursuant to Section 637 of P.L. 109-190.

31 U.S.C. 3302 requires the NRC to deposit all revenues collected to miscellaneous receipts of the Treasury unless specifically authorized by law to retain and use such revenues.

**6. THE SUM HEREIN APPROPRIATED SHALL BE REDUCED BY THE AMOUNT OF REVENUES RECEIVED:**

Pursuant to 42 U.S.C. 2214, the NRC is required to assess and collect annual charges from NRC licensees and certificate holders, with the exception of the holders of any license for a Federally owned research reactor used primarily for educational training and academic research purposes. In accordance with amendments to 42 U.S.C. 2214, enacted in the Energy Policy Act of 2005, and this appropriations request, the aggregate annual amount of such charges shall approximate 90 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund, funds appropriated to implement Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, and amounts appropriated to the Commission for generic homeland security activities.

**OFFICE OF THE INSPECTOR GENERAL**

**7. FOR NECESSARY EXPENSES OF THE OFFICE OF THE INSPECTOR GENERAL IN CARRYING OUT THE PROVISIONS OF THE INSPECTOR GENERAL ACT OF 1978, AS AMENDED:**

P. L. 95-452, 5 U.S.C. app., as amended by P. L. 100-504

P. L. 100-504 amended P. L. 95-452 to establish an Office of the Inspector General in the NRC effective April 17, 1989, and to require the establishment of a separate appropriation account to fund the Office of the Inspector General.

**8. TO REMAIN AVAILABLE UNTIL SEPTEMBER 30, 2012:**

31 U.S.C. 1301 provides that no regular, annual appropriation shall be construed to be permanent or available continuously unless the appropriation expressly provides that it is available after the fiscal year covered by the law in which it appears.

**9. REVENUES FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS SHALL BE RETAINED AND BE AVAILABLE UNTIL EXPENDED FOR NECESSARY SALARIES AND EXPENSES IN THIS ACCOUNT, NOTWITHSTANDING 31 U.S.C. 3302:**

Under Title V of the Independent Offices Appropriation Act of 1952, the NRC is authorized to collect license fees. Pursuant

to 31 U.S.C. 9701, any person who receives a service or thing of value from the Commission shall pay fees to cover the NRC's cost in providing such service or thing of value.

Pursuant to 42 U.S.C. 2214, the NRC is required to assess and collect annual charges from NRC licensees and certificate holders, with the exception of the holders of any license for a federally owned research reactor used primarily for educational training and academic research purposes. In accordance with amendments to 42 U.S.C. 2214, enacted in the Energy Policy Act of 2005, and this appropriations request, the aggregate annual amount of such charges approximate 90 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund, funds appropriated to implement Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, and amounts appropriated to the Commission for generic homeland security activities.

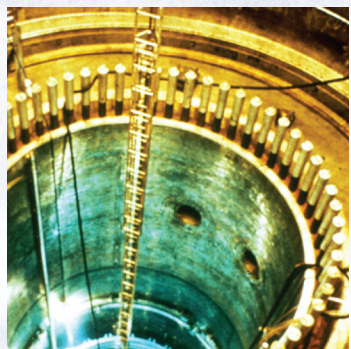
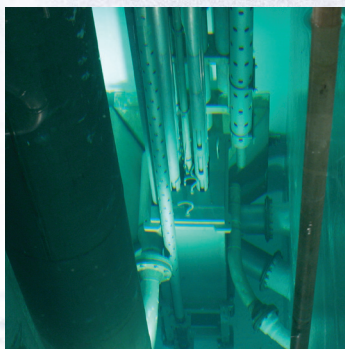
31 U.S.C. 3302 requires the NRC to deposit all revenues collected to miscellaneous receipts of the Treasury unless specifically authorized by law to retain and use such revenue.

**10. THE SUM HEREIN APPROPRIATED SHALL BE REDUCED BY THE AMOUNT OF REVENUES RECEIVED:**

Pursuant to 42 U.S.C. 2214, the NRC is required to assess and collect annual charges from NRC licensees and certificate holders, with the exception of the holders of any license for a federally owned research reactor used primarily for educational training and academic research purposes. In accordance with amendments to 42 U.S.C. 2214, enacted in the Energy Policy Act of 2005, and this appropriations request, the aggregate annual amount of such charges approximate 90 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund, funds appropriated to implement Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, and amounts appropriated to the Commission for generic homeland security activities.



# Nuclear Reactor Safety





*Previous Page: (Images from left to right):*

*1. Research and Test Facility*

*2. Reactor Core*

*3. Steam Generator*



# Nuclear Reactor Safety

*Safety Goal: Ensure adequate protection of public health and safety and the environment.*

*Security Goal: Ensure adequate protection in the secure use and management of radioactive materials.*

**T**he Nuclear Reactor Safety Program encompasses NRC efforts to ensure that civilian nuclear power reactors and Research and Test Reactors (RTR) are licensed and operated in a manner that adequately protects public health and safety, protects the environment, and provides high assurance of the physical security of reactor facilities. This program contributes to the NRC's safety and security goals through activities of the Operating Reactors and New Reactors Business Lines that license and regulate existing and new nuclear reactors to ensure their safe operation and physical security. The public benefits because this program substantially impacts public safety and security outcomes in the operation of civilian reactors. The Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and the Energy Policy Act of 2005 are the foundations for the NRC regulation of the Nation's civilian nuclear power industry.

These efforts include new and advanced reactor activities, reactor licensing (including power uprates, license transfers, licensing of reactor operators, regulation development, and financial assurance), rulemaking, reactor license renewal, reactor oversight (including operating experience evaluation, security, emergency preparedness and incident response, force-on-force (FOF) inspections, safeguards and security reviews and regulatory infrastructure improvement, and coordination with other Federal, State and local officials), reactor technical and regulatory training, imposition of enforcement sanctions for violations of NRC requirements, investigation of alleged wrongdoing (licensees, applicants, contractors, or vendors), reactor regulatory research, homeland security activities (including threat assessment), and international efforts to enhance domestic and global nuclear safety.

In order to operate, all civilian nuclear power reactors and RTRs must be licensed by the NRC and adhere to NRC regulations. Operating reactors are regulated in 10 CFR

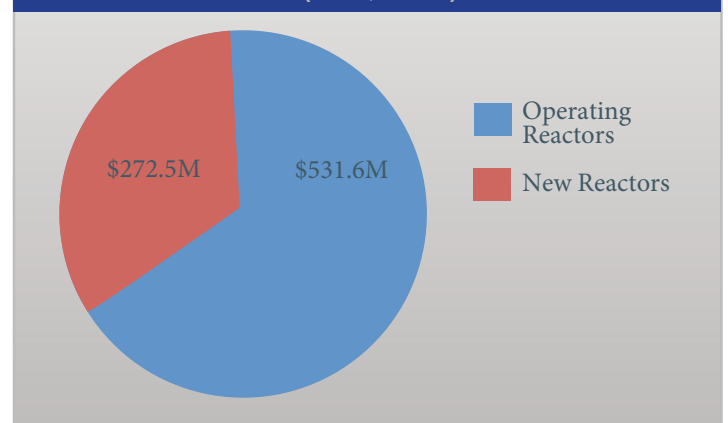
Part 50, "Domestic Licensing of Production and Utilization Facilities." Operating Reactors Business Line activities focus on licensing, monitoring, and regulating existing reactors, which primarily includes license renewals and changes, inspections, and monitoring. New reactors are regulated under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," which provides for the issuance of a combined license (i.e., issuance of a construction permit and operating license simultaneously) and permits early resolution of safety and environmental issues. New Reactors Business Line activities focus on the approval of new reactor designs, building sites, construction, and construction inspections and ultimately result in licensing new reactors to operate.

Nuclear security is also a priority for the NRC. For the last several decades, effective NRC regulation and strong partnerships with a variety of Federal, State, and local authorities have ensured security at civilian nuclear reactors across the country, especially power reactors. In fact, nuclear power plants likely represent the best protected private sector facilities in the United States, but the NRC recognizes the need for continuous improvement to ensure the safety and security of nuclear power plants. In recent years, the NRC

has undertaken comprehensive enhancements to bolster the security of our Nation's nuclear facilities and radioactive materials.

*All civilian nuclear power, research and test reactors must be licensed by the NRC and adhere to NRC regulations.*

Figure 8 - Nuclear Reactor Safety  
(Total \$804.1M)





**Operating Reactors**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	108.9	545.3	111.0	565.2	104.4	548.1	(6.6)	(17.1)
Oversight	140.0	814.1	140.4	807.2	144.9	829.2	4.5	22.0
Rulemaking	18.3	68.3	16.2	63.3	13.9	59.0	(2.3)	(4.3)
International Activities	8.7	30.4	8.8	30.2	8.5	31.3	(0.3)	1.1
Research	65.1	158.4	67.3	160.4	63.6	158.7	(3.7)	(1.7)
Event Response	15.7	54.9	13.2	54.2	14.4	58.5	1.2	4.3
<b>Subtotal</b>	<b>\$356.7</b>	<b>1,671.4</b>	<b>\$356.9</b>	<b>1,680.5</b>	<b>\$349.7</b>	<b>1,684.8</b>	<b>(\$7.2)</b>	<b>4.3</b>
Corporate Support	175.0	388.4	185.2	409.2	181.9	401.2	(3.3)	(8.1)
<b>Total</b>	<b>\$531.6</b>	<b>2,059.8</b>	<b>\$542.1</b>	<b>2,089.8</b>	<b>\$531.6</b>	<b>2,086.0</b>	<b>(\$10.5)</b>	<b>(3.8)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## OPERATING REACTORS

The Operating Reactors Business Line encompasses the regulation of 104 power reactors and 32 civilian RTRs in a manner that adequately protects the health and safety of the public, protects the environment, and provides high assurance of physical security. Under the NRC's regulatory oversight process primarily implemented by the four NRC Regions (see Figure 9) the amount of electrical power generated from the 104 domestic nuclear power plants is approximately 20 percent of the Nation's electrical production. For more than 40 years, the NRC's continued regulation of these reactors has led to an outstanding national safety record with no injuries, adverse health effects, or loss of life from any of the NRC-licensed plants. Operating Reactors Business Line directly supports safety and security goals and all associated performance measures and outcomes. The NRC establishes regulatory requirements for the design, construction, operation, and security of nuclear power plants and RTRs in accordance with the provisions of the Atomic Energy Act of 1954, as amended.

Through Operating Reactors Business Line activities, the NRC ensures the fundamental tenets of its Safety and Security goals in protecting both the public and workers from the

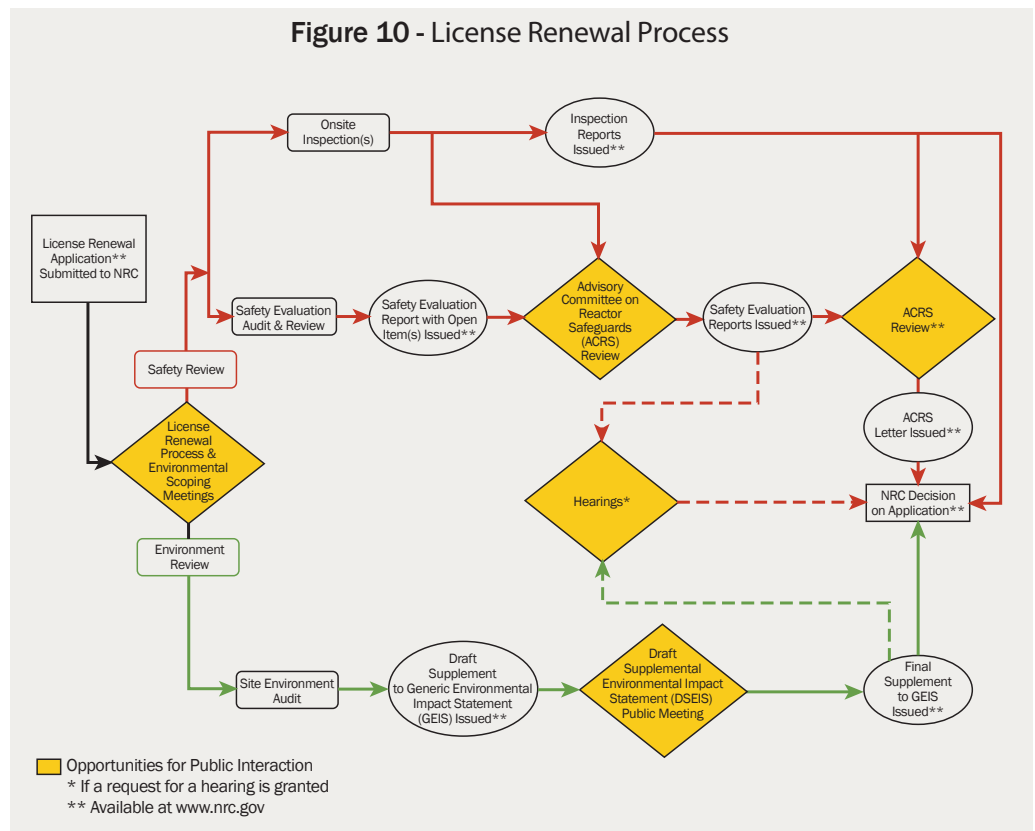
radiation hazards of nuclear reactors. To ensure plants are operating safely within these requirements, the NRC licenses the plants to operate, licenses the personnel who operate the plants, and establishes technical specifications for the operation of each plant. Operating Reactors Business Line establishes nuclear safety policy through rulemaking and research efforts, enforcement, and international activities. The NRC provides continuing oversight of civilian nuclear reactors and verification of operator adherence to NRC rules and regulations.

The NRC has undertaken comprehensive enhancements to bolster the security of our Nation's nuclear facilities. Nuclear power plants must be able to defend successfully against a set of hypothetical threats that the agency refers to as the design-basis threat. These hypothetical threats challenge a plant's physical, personnel, and cyber security. The agency continuously evaluates this set of hypothetical threats against real-world intelligence to ensure the agency remains current and prepared.

*The Operating Reactors Business Line encompasses the regulation of 104 power and 32 research and test nuclear reactors.*

The budgetary resources will enable the NRC to continue licensing and regulatory activities to ensure the safe and secure operation of these civilian nuclear reactors. The NRC has organized Operating Reactors Business Line activities into product lines that best support safety and security strategies that impact strategic outcomes as they relate to existing civilian reactors. The resources requested support all aspects of Operating Reactors Business Line within the following six product lines: Licensing, Oversight, Rulemaking, International Activities, Research, and Event Response. The outputs of these product line activities contribute to progress on the NRC Safety and Security performance measures and their contribution to achievement of the strategic outcomes.

Figure 10 - License Renewal Process



The Licensing Product Line supports licensing activities, which are the methods the NRC employs to confirm that nuclear reactor licensee requests for license renewals and changes provide an adequate margin of safety and security consistent with the NRC's rules and regulations. The NRC licenses civilian nuclear power reactors and RTRs to ensure they are operated in a manner that adequately protects the health and safety of the public, protects the environment, and provides high assurance of physical security. After the NRC grants the initial license to a power plant owner, the license may be amended, renewed, transferred, or otherwise modified as a result of commercial or research life cycle needs. Since the NRC controls any change to a nuclear plant license or the technical specifications of the power plant, the license may only be changed after the licensee demonstrates that the proposed new configuration (e.g., changes made to safety systems, components, security requirements) remains safe and secure and that measures continue to be in place to protect the health and safety of the public. The NRC's review of the licensee's request confirms that the proposed changes provide an adequate margin of safety consistent with the agency's rules and regulations.

Operating power reactor licensing actions are defined as orders, license amendments, exemptions from regulations,

## LICENSING

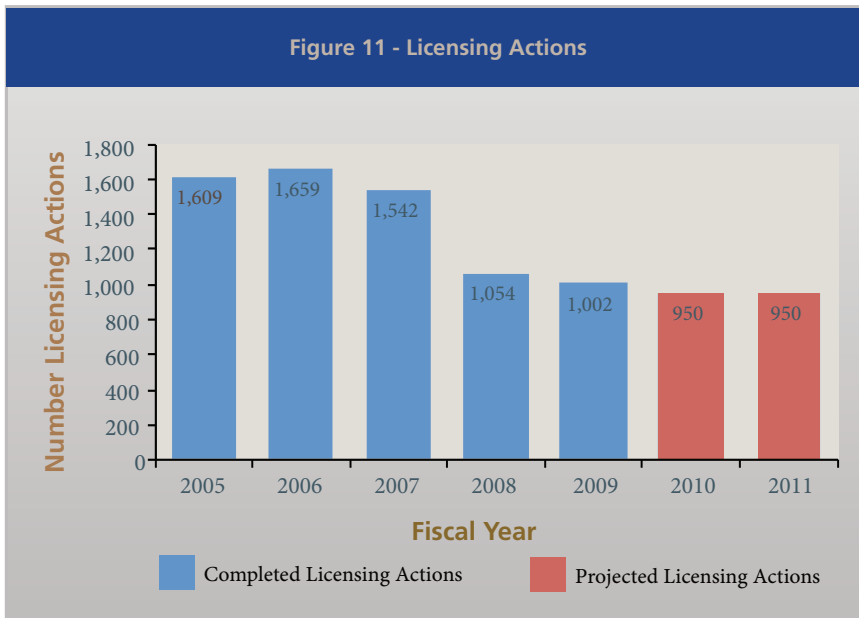
### Strategic Goal Strategies Supported

*Safety - Develop, maintain, and implement licensing and regulatory programs for reactors.*

*Security - Review security plans and changes for consistency with security requirements.*

### Workload

For FY 2011, the NRC requests \$104.4 million, including 548.1 FTE, to provide for licensing activities. This represents a funding decrease of \$6.6 million, including 17.1 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.



relief from inspection or surveillance requirements, topical reports submitted on a plant-specific basis, notices of enforcement discretion, or other actions requiring NRC review and approval before they can be implemented by licensees. Two major subsets of licensing actions are license renewals and power uprates. In the licensing task of license renewals, the NRC evaluates the safety and security of extending an operating reactor license for an additional 20 years beyond the initial 40-year license. The NRC designed the licensing renewal application process to assess whether a reactor can continue to be operated safely during an extended period and to verify that the potential impacts of an extended operation on the environment will not preclude a license renewal (see Figure 10). Power uprate requests involve the staff's evaluation of allowing licensees to increase the power output of their plants. Power uprate reviews focus on the potential impacts of the proposed power uprate on overall plant safety and evaluate whether plant operation at the increased power level is safe and secure. In this way, licensing workload directly supports the safety goals and related strategic measures and outcomes.

In FY 2011, the NRC continues licensing activities for 104 power reactors and 32 RTRs currently licensed to operate. NRC anticipates that licensing workload will include 950 licensing actions (see Figure 11); including the review of 13 complex power uprate licensing actions and the review of approximately 23 license amendment requests from licensees adopting the NFPA 805 requirements. Reviews will continue

for 13 license renewal applications for operating reactors

The NRC anticipates three new applications and will begin reviews after receiving and docketing these applications. The NRC will also update and implement the associated license renewal framework. This includes generic aging lessons learned and generic environment impact statement implementation and updates. The staff will update frequently asked questions (FAQs) for license renewal and infrastructure development to support the review of applications for license renewal beyond 60 years.

The NRC will continue licensing activities for the existing 32 licensed operating RTRs and ensure 100 RTR operators are qualified and licensed to perform their duties. The resources support critical RTR program manager functions associated with the University of

Missouri Research Reactor Center Mo-99 10 CFR Part 50 license review and the Babcock & Wilcox Medical Isotope Production System (MIPS) license application review, activities associated with RTR license renewal, and fingerprint rulemaking and associated guidance.

The NRC will complete 600 other licensing tasks and related activities, including assistance to the regions, interactions with vendor and owner's groups, and completion of 20 topical technical report reviews that resolve generic issues. In addition, the NRC anticipates approximately 50 operator licensing examination sessions and 4 generic tests will be completed for reactor operators.

Resources also support licensing activities, such as technical reviews of security plan changes, licensing amendments associated with physical cyber security, and cumulative reviews of 16 power reactor license renewal applications, and associated adjudicatory reviews, legal advice, and representation. The NRC will continue Federal interactions with the American Society of Mechanical Engineers (ASME) in Boiler and Pressure Vessel Code meetings.

Included in the licensing workload are methodologies to monitor, track, and manage the following: projects and business operations, management action plans, and the annual Regulatory Information Conference.

## Changes from FY 2010 Enacted

Within the Licensing Product Line, resources are increased to support major licensing actions such as adoption of the new fire protection standard (NFPA 805). Resources will decrease in FY 2011 due to completing the backlog of RTR relicensing applications. Contract support decreases for RTRs to implement the interim changes to the new license review process and MIPS license application review. Resources decrease in license renewal applications for operating power reactors due to the timing of applications expected in FY 2011. The information technology (IT) mission support activity decreases because of a shift of resources from Licensing to the Oversight Product Line.

## OVERSIGHT

### Strategic Goal Strategies Supported

*Safety – Continue to oversee the safe operation of existing plants; oversee licensee safety performance through inspections, investigations, enforcement, and performance assessment activities.*

*Security – Evaluate licensee security and emergency preparedness programs; use force-on-force inspections to test security.*

### Workload

For FY 2011, the NRC requests \$144.9 million, including 829.2 FTE, to provide for Oversight Product Line activities. This represents a funding increase of \$4.5 million, including 22.0 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line supports oversight activities, which are methods the NRC employs to continually oversee the safe and secure operation of existing nuclear reactors, better identify significant performance issues, and ensure that licensees take appropriate actions to maintain acceptable operating performance to ensure the adequate protection of public health and safety and the environment. The NRC has full authority to take action to protect public health and

safety and can demand immediate licensee action, up to and including a plant shutdown.

The NRC performs continuous oversight activities through its Reactor Oversight Process (ROP) to verify that the currently licensed 104 nuclear power reactors are operated safely and securely in accordance with the NRC's regulations. In general terms, the ROP uses both inspection findings and performance indicators to assess the performance of each plant within a regulatory framework of seven cornerstones of safety (i.e., frequency of potential accident-initiating events; availability, reliability, and capability of mitigating systems; integrity of radiation barriers, such as fuel cladding, reactor coolant system, and containment boundaries; emergency preparedness; protection of the public from radiation releases; occupational radiation safety; and physical protection against the design-basis-threat of radiological sabotage, theft, or diversion of special nuclear materials). The ROP recognizes that not all issues are of equal safety significance. For more serious safety significant events the ROP has a structure to cause more NRC engagement and oversight. The ROP also recognizes that events of very low safety significance inevitably occur, and plants are expected to address these issues effectively. In this way, the oversight workload directly supports the safety and security goals and related strategic measures and outcomes.

As a condition of their license, operators of nuclear power plants develop and maintain effective emergency preparedness plans to protect the public. The NRC inspects plants to ensure they are meeting security requirements for emergencies and evaluates the implementation of those requirements. In addition, the agency monitors certain performance indicators related to emergency preparedness.

Generally, the NRC performs two types of inspections: baseline and plant-specific supplemental. Annually, the NRC performs an intensive baseline level of inspection at each plant. The NRC may perform supplemental inspections, based on performance indicators, and take additional actions to ensure that significant performance issues are addressed. Resources support baseline inspections performed routinely at all power reactors, focusing on plant activities that are not adequately measured by performance indicators. Plant-specific supplemental inspections will be conducted in addition to the baseline inspection program. These additional inspections are conducted as a result of performance issues, or inspections to verify compliance with plant specific requirements. Supplemental inspections planned for FY 2011 include approximately 22 fire protection inspections, 22 component design basis inspections, 75 inspections

related to performance or specific changes (e.g., inspections done at independent spent fuel storage installations, digital control room inspections), and approximately 100 generic issue inspections that address areas of emerging concern (e.g., cyber security or areas where recurring problems have occurred.)

Resources support assessment of licensee performance and evaluation of input data (i.e., performance indicators, the Significance Determination Process (SDP), and the determination of any necessary followup actions for the licensees). This effort includes the Industry Trends Program through which the NRC collects, analyzes, displays, and trends industrywide reactor performance data in order to determine whether the data show statistically significant adverse industry trends in reactor safety performance. The NRC conducts performance-based evaluations of licensee security and emergency preparedness programs and assessment of the effectiveness of such programs. In FY 2011, the NRC will conduct approximately 24 FOF inspections to ensure that FOF inspections are completed at all power reactors within a 3-year cycle. The NRC will also evaluate licensee emergency preparedness during biennial exercises that include assessment of offsite response activities by the Federal Emergency Management Agency.

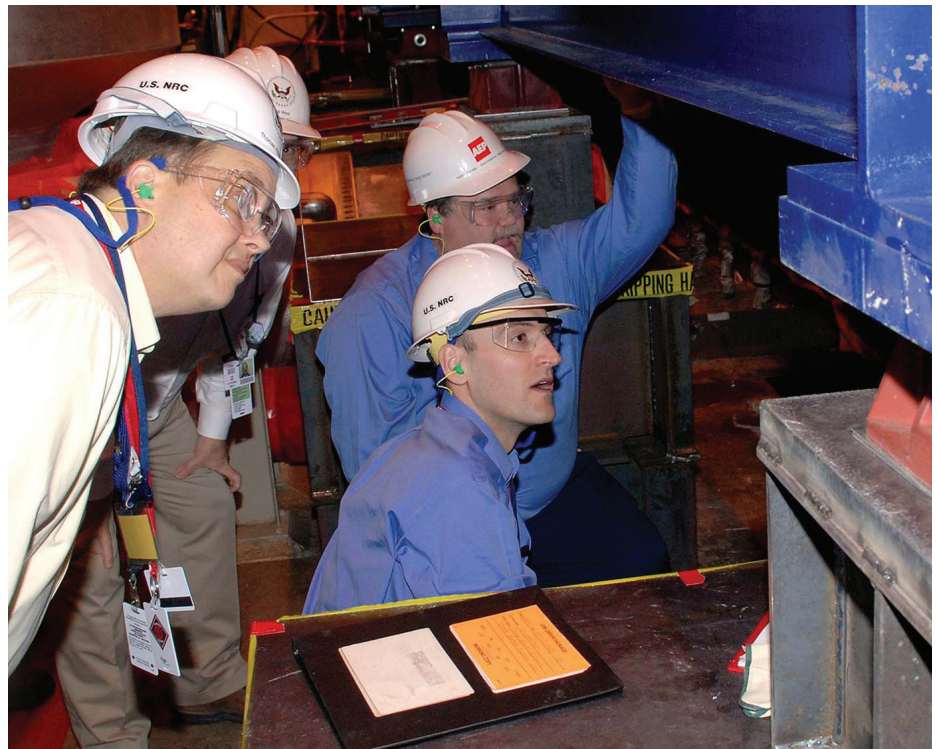
The Reactor Programs System (RPS) primarily supports the Operating Reactors Oversight Product Line and is used for planning and scheduling inspection activities and capturing and reporting inspection findings. RPS is critical to supporting the oversight and inspection of the 104 nuclear power reactors and 32 nonpower RTRs. It also supports 47 uranium recovery sites and 9 major fuel cycle facilities. In FY 2011, RPS resources support maintenance and operation, software licenses, system development, system design, hardware, system testing, security, and acceptance and analysis efforts.

Resources support inspections to verify that an applicant's license renewal program is implemented consistent with the requirements of 10 CFR Part 54 "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." In FY 2011, license renewal inspections are scheduled for Seabrook, Davis- Besse,

South Texas Project, and Waterford nuclear power plants. In addition to the license renewal inspections, the NRC will perform post approval site inspections for approved license renewals to verify that license conditions and commitments that were added as part of the renewed license are implemented in accordance with 10 CFR Part 54. In FY 2011, post approval site inspection as a part of license renewal are budgeted for Oyster Creek, Nine Mile Point, Pilgrim, Vermont Yankee, Surry, Dresden, Monticello, Palisades, and Point Beach nuclear power plants.

Work on event evaluation, development of generic communications, and the review of industry operating experience will support the screening of approximately 3,000 national and international operational events each year and the performance of detailed evaluations on approximately 200 of those events. Workload in the area of generic communications including information notices, regulatory information summaries, generic letters and bulletins, as well as long-term followup activities resulting from operational experience evaluations.

The resident inspector pipeline initiative requires evaluation of recruitment, training, and development to confirm that human resources are adequate to meet changing needs.



*Chairman Jaczko (center) visits DC Cook Nuclear Power Plant*

Each NRC regional office needs a ready reserve of qualified resident inspectors because of the importance of maintaining an experienced and stable onsite inspection presence.

Resources also support enforcement and allegation activities and investigations of alleged wrongdoing. Enforcement is used to deter noncompliance with NRC requirements and to encourage prompt identification and correction of violations. The assessment process integrates inspection findings with other objective measures of performance that are submitted quarterly by licensees for each power reactor site.

### **Changes from FY 2010 Enacted**

In FY 2011, the Oversight Product Line resources increase with the startup of the resident inspector pipeline initiative designed to ensure the availability of well-qualified resident inspectors in the regional offices, contractor support for industry trends, additional support for FOF activities, implementation of the NRC's policy on cooperation with host and adjacent States to observe and participate in NRC inspections at reactors, the State Liaison Officer Program, and the baseline inspection program to support fact-of-life historical changes in resource requirements. In addition, an increase is reflected with a realignment of resources from Licensing to the Oversight Product Line for the RPS.

## **RULEMAKING**

### **Strategic Goal Strategies Supported**

*Safety – Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a framework of rules and regulations to guide the security activities of the agency.*

### **Workload**

For FY 2011, the NRC requests \$13.9 million, including 59.0 FTE, to provide for Rulemaking Product Line activities. This represents a funding decrease of \$2.3 million, including 4.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as

outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line includes the development and update of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles and security requirements. The regulatory framework guides the safety activities of the agency and its licensees. The NRC's rules and regulations contribute to the safety and security goals and related strategic measures and outcomes because they guide the safety and security activities of the agency. NRC regulations are contained in Title 10 of the Code of Federal Regulations (CFR).

The FY 2011 workload includes 12 high- and medium-priority rulemaking activities, including: high-priority rules; Emergency Response Data System (ERDS) enhancement; 10 CFR Part 26, "Fitness for Duty Program"; 10 CFR 50.46 related to Fuel Cladding; 10 CFR 50.46 (b), "redefinition of emergency core cooling systems"; incorporation of the 2005 addenda and 2008 editions of the ASME codes into 10 CFR 50.55a, "Codes and Standards," and 10 CFR Part 51, "Generic Environmental Impact Statement" for license renewal; emergency preparedness (EP) rulemaking activities; criminal sanctions for trespass and sabotage (the U.S. Environmental Protection Agency's (EPA's) 654/655 rulemaking); and, guidance development for security and access authorization under 10 CFR Part 73, "Physical Protection of Plants and Materials." Specific rulemaking activities include technical review; assessment and technical basis development efforts; development of regulatory guides; screening, reviewing, and resolution of an estimated eight active petitions for rulemaking and issuance of four closure packages; and updating and implementing guidance documents (e.g., NUREGs).

The development of technical basis supports the preparation and promulgation of new or amended regulations. Specifically, resources are used in support of structural integrity assessment procedures for reactor coolant pressure boundary components; evaluation of nondestructive examination techniques used for vessels and piping; experimental programs to generate fuel LOCA test data, which form the technical basis behind the implementation of 10 CFR 50.46; 10 CFR 50.55 and the incorporation of regulatory guides related to code cases; and implementation of international radiation protection recommendations to 10 CFR Part 50, Appendix I.



## Changes from FY 2010 Enacted

In FY 2011, resources for the Rulemaking Product Line decrease as a result of higher priority needs in support of casework in the Licensing Product Line (such as power reactor uprates and fire protection amendment requests) and the Oversight Product Line. Resources decrease for research support of the Studsvik Zirlo LOCA fuel-testing program and for support on cladding behavior under LOCA conditions as activities scale down for the completion of this effort. Both of these activities support the implementation of 10 CFR 50.46(b) "Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Reactors."

## INTERNATIONAL ACTIVITIES

### Strategic Goal Strategies Supported

*Safety – Use domestic and international operating experience to inform decision making.*

*Security – Work with international counterparts to exchange information.*

### Workload

For FY 2011, the NRC requests \$8.5 million, including 31.3 FTE, to provide for International Activities Product Line. This represents a funding decrease of \$0.3 million, while including an increase of 1.1 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports the NRC's international work, which assists decision making, awareness of and responses to emerging technical issues, and promoting best practices in realizing the safety and security goals and related strategic measures and outcomes. Additionally, the NRC participates in the development and evaluation of international standards to ensure they are soundly based and should be implemented domestically. The NRC also must perform certain legislatively mandated international duties. These include licensing the import and export of nuclear materials and equipment and participating

in activities supporting U.S. compliance with international treaties and agreement obligations. The NRC has bilateral programs of assistance or cooperation with 36 countries and Taiwan. The NRC has also supported U.S. nuclear safety initiatives with countries such as India, Pakistan, Georgia, and Azerbaijan. In addition, the NRC actively cooperates with multinational organizations, such as the IAEA and the Nuclear Energy Agency (NEA), a part of the Organization for Economic Cooperation and Development (OECD).

The International Activities product line workload includes exchanges of information critical to the safe operation of nuclear power plants, visits to operating domestic nuclear power plants, assistance to foreign regulatory bodies through the NRC Foreign Assignee Program, and review of applications for the export and/or import of nuclear equipment (15-20 import/export authorizations per year). The NRC assists the IAEA and individual countries, participates in bilateral and multilateral activities with other nations and IAEA's Integrated Regulatory Review Service mission, and will participate in the IAEA's 5th Convention on Nuclear Safety.

The NRC participates in international cooperative research programs that provide access to operating experience from foreign reactors to augment NRC programs in areas such as plant aging and materials degradation, fire risk, and pressurized thermal shock. Analysis of this experience contributes to the NRC's knowledge base, improves assessments of plant risk, and improves the development of risk-informed approaches to regulation. International research programs include the OECD/NEA multilateral projects; multilateral/bilateral research sponsored by others (e.g., fire research); and bilateral cooperative research programs sponsored by the NRC (e.g., Thermal Hydraulic Code Application and Maintenance Program).

The NRC supports IAEA programs related to seismic issues, testing at the OECD-Primarkreislauf program test facility to obtain data to validate computer codes and substantiate regulatory positions, the Phebus-International Source Term Program to study fuel degradation and fission product release for high-burnup fuel and mixed oxide (MOX), and the independent assessment of MELCOR 3.0 to improve the code for its predictive capability, modeling adequacy, and run-time efficiency. MELCOR is a fully integrated, engineering level computer code whose primary purpose is to model the progression of postulated severe accidents in light-water reactors as well as nonreactor systems (e.g., spent fuel pool and dry cask).

The NRC works with international counterparts to exchange information, expertise, and operating experiences; to participate in ongoing research to recognize and respond to emerging technical issues; and to promote best safety and security practices. The NRC also participates in the development of international standards to ensure they are soundly based and determine whether substantial safety improvements can be identified and incorporated domestically. This international cooperation contributes to the NRC's safety and security goals and promotes nuclear safety and security worldwide.

### *Changes from FY 2010 Enacted*

Resources remain level.

## **RESEARCH**

### *Strategic Goal Strategies Supported*

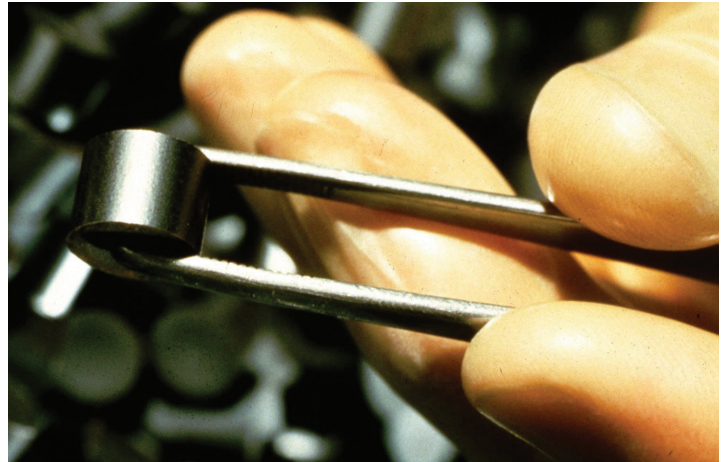
*Safety – Improve the NRC's regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### *Workload*

For FY 2011, the NRC requests \$63.6 million, including 158.7 FTE, to provide for research activities. This represents a funding decrease of \$3.7 million, including 1.7 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line supports the NRC's regulatory mission by providing technical advice, tools, and information to identify and resolve safety issues and make regulatory decisions. This includes conducting confirmatory experiments and analyses and preparing the agency for the future by evaluating the safety aspects of new technologies and designs for nuclear reactors, materials, waste, and



*Nuclear reactor fuel pellets*

security. The NRC faces challenges as the industry matures, including potential new safety issues, the availability of new technologies, technical issues associated with the deployment of new reactor designs, and knowledge management.

The NRC focuses its research primarily on near-term needs related to oversight of operating light-water reactors, the technology currently used in the United States. However, recent applications for advanced light-water reactors and preapplication activity regarding non light-water reactor vendors have prompted the agency to consider long-term research needs.

In FY 2011, research work includes fire safety research to support the transition to a risk-informed, performance-based set of requirements per NFPA 805 and the current licensing basis for plants. This includes cable fire testing, spurious circuit actuation testing, fire risk assessment training, and fire modeling protection.

The NRC Digital System Research Plan includes review of current and future applications of digital instrumentation and control, failure mode and reliability assessment, aging assessment of components and equipment, and security aspects of digital systems. Additional support includes electrical research in the areas of equipment qualification for life beyond 60 years, aging assessment of electrical insulation materials, and battery performance.

Materials performance research includes degradation of reactor pressure boundary components and vessel internals, in-service inspection effectiveness and reliability related to degradation of primary system components, steam generator tube integrity, primary water stress-corrosion cracking of dissimilar metal butt welds, and embrittlement of reactor vessel pressure boundary materials.

Research activities also include fuels, human factors and reliability, radiation protection, reactor safety codes and analysis, probabilistic codes, models, analysis, and seismic and structural research. Research supports the NRC Operations Center, the Generic Safety Issues Program, the SDP, the ROP, and the long-term research plan.

Research includes the development of plant-specific standardized plant analysis risk models and maintenance of System Analysis Programs for Hands on Integrated Reliability Evaluation (SAPHIRE) 8; additional plant analyses for the State-of-the-Art Reactor Consequence Analysis; and the development of improved methods, tools, and data for calculating risk to support risk-informed regulatory decision making.

The Research Product Line identifies, leads, and/or sponsors reviews to resolve ongoing and future safety issues and provides tools and expertise to support the NRC's independent decision making process.

### **Changes from FY 2010 Enacted**

In FY 2011, resources decrease primarily because of the completion of the dependency matrix for the Response Technical Manual update, the project to update the National Cancer Institute study on cancer in populations near nuclear power plants, and contract support-related activities for the mitigating system performance index.

The decreases are partially offset by increases in civil/structural engineering and earth sciences to complete the leak-before-break regulatory guide and codes, standards, and regulatory guidance.

## **EVENT RESPONSE**

### **Strategic Goal Strategies Supported**

*Safety – Effectively respond to events at NRC-licensed facilities and other events of national interest, including maintaining and enhancing the NRC's critical incident response and communication capabilities.*

*Security – Support Federal response plans that employ an approach to the security of nuclear facilities and radioactive material that integrates the efforts of licensees and Federal, State, local, and tribal authorities.*

### **Workload**

For FY 2011, the NRC requests \$14.4 million, including 58.5 FTE, to provide for Event Response Product Line activities. This represents a funding increase of \$1.2 million, including 4.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Event Response Product Line supports the NRC incident response and emergency preparedness activities to ensure the agency can respond effectively to events at its licensee's sites and that adequate protective measures can be taken to mitigate plant damage and minimize possible radiation exposure of members of the public.

The NRC participates in emergency preparedness exercises, some of which include security and terrorism scenarios. As part of these exercises, the NRC works with licensees, Federal agencies, State and local officials, and first responders to form a coordinated system of emergency preparedness and response. This system includes public information, preparations for evacuation, instruction for sheltering, and other actions to protect the residents.

Sharing information quickly among the NRC, other Federal agencies, and the nuclear industry is critical to preventing a terrorist attack. The NRC supports several important Federal anti-terrorism centers for integrated assessments of security-related information. The NRC Operations Center is staffed around the clock to disseminate information and coordinate responses. To ensure the timely distribution of threat information, the NRC continuously reviews intelligence and assesses suspicious activity. As described in the National Response Framework, the NRC is the coordinating agency for events occurring at NRC-licensed facilities and those involving radioactive materials either licensed by the NRC or by an Agreement State.

In FY 2011, the Event Response product Line workload includes drill and exercise preparations, event readiness activities, incident response communications, security coordination and strategies for integrated response coordination, emergency preparedness-related interfaces, secure communications and information management, and materials evaluation and event response. Event response activities include plans to improve Emergency Response Data System (ERDS) functionality, expand data point libraries, and continue monitoring via a 24/7 telecommunications capability.

Reactor event readiness activities are planned for agency operating reactor incident response readiness functions, including agency emergency response organization drill and exercise preparations, licensee and stakeholder coordination and response training activities, and agency continuity preparation and coordination with other Federal agencies. Reactor event response activities to support agency operating reactor incident response functions include 24/7 telecommunications capability. The Event Response Product Line supports materials evaluation and event response activities related to the agency materials licensee incident response programs and other stakeholders, as well as headquarters and regional operations officer response availability functions.

Resources support ERDS and the Operations Center Information Management System, which is the primary infrastructure to support the NRC's response to radiological, nuclear materials, and national security events. It is an integrated information management system comprising data, display, and voice subsystems. Funding also provides for an emergency telecommunications systems, Incident Response System modernization, responder satellite phones, and e-Library.

High-level security coordination and mitigating strategy activities are supported for integrated response coordination

functions, including security and emergency preparedness-related interface and coordination with licensees, Federal agencies, and State and local law enforcement officials to address critical infrastructure protective response activities. Event response resources include secure communications and information activities for activities related to the continuity of operations/ continuity of Government and the Defense Red Switch Network.

Event response strategies include the ability to respond to events at NRC-licensed facilities and other events of national interest, including maintaining and enhancing the NRC's critical incident response and communication capabilities, to protect public health and safety, protect the environment, and provide high assurance of protection against radiological sabotage, theft, or diversion of special nuclear materials.

### *Changes from FY 2010 Enacted*

The overall increase in the Event Response Product Line results from activities in the Operations Center Information Management System, Incident Response System modernization, ERDS, e-Library, Emergency Telecommunications System, security coordination, and responder satellite telephones.



*Chairman Jaczko (seated center) and senior officials during an emergency preparedness exercise.*

## **SIGNIFICANT ACCOMPLISHMENTS**

In FY 2009, the Nation's nuclear power plants were operated within NRC safety and security requirements. The performance measures for the safety goal document that no operating plants were at an unacceptable level. In addition, the safety indicators for nuclear plants as a whole showed no adverse trends. More than 99 percent of plant safety indicators were rated green in FY 2009. The NRC's reactor oversight program helped industry obtain improved safety and security margins at reactor facilities.

The NRC continued its efforts to ensure a high-performing emergency preparedness and incident response program. As it does every year, the NRC engaged in multiple emergency exercises with licensees and Federal partners at sites across the country. These exercises focused on implementation of onsite and offsite radiological emergency plans by licensees, as well as State and local responders. The NRC also published a proposed rulemaking that will significantly update the regulations associated with emergency planning and preparedness when it is finalized.

The NRC continued its vigilant oversight of security in the nuclear industry through a comprehensive inspection and assessment program. During the year, there were no substantial breakdowns of physical security at any

commercial nuclear facilities, as determined by the NRC's implementation of its baseline security inspection program.

During FY 2009, the NRC completed the rulemaking for 10 CFR Part 73 on security requirements, which became effective on May 26, 2009, and has a compliance date of March 31, 2010. The final rule made generally applicable those physical protection requirements contained in a number of orders issued by the NRC following the events of September 11, 2001. The rulemaking also provided other significant additions to the security regulations, including requirements for cyber security, mitigative strategies, response procedures for potential or actual aircraft attacks, and assessment and management of the interface between safety and security.

The NRC's research program has addressed key areas that support the agency's safety mission, including the verification and validation of fire safety models for nuclear power plant applications, a proactive material degradation assessment of reactor system and pressure boundary components and their susceptibility to known and potential degradation mechanisms, support for the licensing of new digital instrumentation and control systems, research on seismic hazard issues to support the evaluation of new reactor sites and the seismic safety of existing nuclear facilities, and an update of severe reactor accident consequence analyses.

## OUTPUT MEASURES

### Licensing

Licensing actions completed per year						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete 1,500 licensing actions.	Complete 1,500 licensing actions.	Complete 1,465 licensing actions.	Complete 1,150 licensing actions.	Complete 950 licensing actions.	Complete 950 licensing actions.
Actual:	1,659 completed.	1,542 completed.	1,054 completed	1,002 completed		

Age of the Other Licensing Task Inventory.*						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New measure in FY 2008		90% ≤ 1 yr. 100% ≤ 2 yrs.	90% ≤ 1 yr. 100% ≤ 2 yrs.	90% ≤ 1 yr. 100% ≤ 2 yrs.	90% ≤ 1 yr. 100% ≤ 2 yrs.
Actual:			96.6% ≤ 1 yr. 100% ≤ 2 yrs.	90% ≤ 1 yr. 100% ≤ 2 yrs.		

\*Excludes multiplant actions.

Age of licensing action inventory.*						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	96% ≤ 1 yr. 100% ≤ 2 yrs.	96% ≤ 1 yr. 100% ≤ 2 yrs.	96% ≤ 1 yr. 100% ≤ 2 yrs.	93% ≤ 1 yr. 100% ≤ 2 yrs.	93% ≤ 1 yr. 100% ≤ 2 yrs.	90% ≤ 1 yr. 100% ≤ 2 yrs.
Actual:	97.6% ≤ 1 yr. 99.9% ≤ 2 yrs.	96.9% ≤ 1 yr. 100% ≤ 2 yrs.	94.6% ≤ 1 yr. 100% ≤ 2 yrs.	94% ≤ 1 yr. 100% ≤ 2 yrs.		

\* Excludes license renewal and improved standard technical specifications (ISTS) conversions. Also excludes license amendment requests that are unusually complex (e.g., power uprate applications), voluminous (e.g., conversions to improved technical specifications), or novel (e.g., when a license amendment request depends upon a topical report that has not yet been approved), as well as risk-informed license amendments that are developed to an acceptable level.

Other licensing tasks completed per year.						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete 500 other licensing tasks.	Complete 500 other licensing tasks.	Complete 600 other licensing tasks.	Complete 600 other licensing tasks.	Complete 600 other licensing tasks.	Complete 600 other licensing tasks.
Actual:	676 other licensing tasks completed.	1,045 other licensing tasks completed.	678 other licensing tasks completed.	541 other licensing tasks completed.		

**Number of operator licensing examinations administered.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	Meet licensee demand estimated at 50 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Meet licensee demand estimated at 50 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Meet licensee demand estimated at 50 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Meet licensee demand estimated at 55 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Meet licensee demand estimated at 55 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Meet licensee demand estimated at 55 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.
Actual:	Met licensee demand at 37 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Met licensee demand at 51 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Met licensee demand at 50 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.	Completed 59 initial operator licensing examination sessions and 4 generic fundamentals examination sessions.		

**Efficiency measure: Transitioning from hard-copy distribution of outgoing licensee correspondence to electronic distribution**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:						\$80,000 reduction
Actual:						

**Completion of license renewal application reviews.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	Complete major milestones for 4 applications.	Complete major milestones for 3 applications.	Complete major milestones for 3 applications.	Complete major milestones for 4 applications.	Complete major milestones for 3 applications.	Complete major milestones for 3 applications.
Actual:	Milestones completed for 4 applications.	Milestones completed for 3 applications.	Issued 2 renewed licenses, completed SER and SEIS for 2 plants.	Issued 4 renewed licenses.		

## Oversight

### Number of plants for which the baseline inspection program was completed during the most recently ended inspection cycle.\*

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	All required baseline inspection procedures are completed at 103 operating reactors.*	All required baseline inspection procedures are completed at 103 operating reactors.*	All required baseline inspection procedures are completed at 104 operating reactors.	All required baseline inspection procedures are completed at 104 operating reactors.	All required baseline inspection procedures are completed at 104 operating reactors.	All required baseline inspection procedures are completed at 104 operating reactors.
Actual:	Completed at all reactors.	Completed all reactors.	Completed all reactors.	Completed all reactors.		

\*Does not include Browns Ferry Unit 1, which restarted in 2007. The Reactor Oversight Program (ROP) inspection program is implemented on a calendar-year (CY) basis; therefore, the baseline inspection program was not fully implemented in CY 2007 for Browns Ferry 1. The baseline inspection program will be completed at 104 operating reactors, including Browns Ferry 1, in CY 2008. With the addition of Browns Ferry 1, the metric changes to 104 operating reactors.

### Percentage of final significance determination process determinations made within 90 days for all potentially greater than green findings.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	90%	90%	90%	90%	90%	100%
Actual:	92%	100%	100%	100%		

### Time to complete reviews of technical allegations.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	70% of technical allegations closed within 150 days, 90% within 180 days, and 100% within 360 days.	70% of technical allegations closed within 150 days, 90% within 180 days, and 100% within 360 days.	80% of technical allegations closed within 150 days, 90% within 180 days, and 100% within 360 days.	90% of technical allegations closed within 150 days, 95% within 180 days, and 100% within 360 days.	90% of technical allegations closed within 150 days, 95% within 180 days, and 100% within 360 days.	90% of technical allegations closed within 150 days, 95% within 180 days, and 100% within 360 days.
Actual:	93% closed within 150 days. 98% within 180 days. 100% within 360 days.	93% closed within 150 days. 97% within 180 days. 99% within 360 days.	93% closed within 150 days. 98% within 180 days. 99% within 360 days.	93% closed within 150 days. 98% within 180 days. 99% within 360 days.		

\*A few allegations exceeded the target because of complicated technical review or extended review at another Federal agency.



**Timeliness in completing enforcement actions.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<b>Target:</b>	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.
<b>Actual:</b>	Investigation: None ≥ 360 days Non-Investigation: none ≥ 180 days	Investigation: None ≥ 360 days Non-Investigation: none ≥ 180 days	Investigation: One ≥ 360 days Non-Investigation: none ≥ 180 days	Investigation: None ≥ 360 days Non-Investigation: none ≥ 180 days	Investigation: None ≥ 360 days Non-Investigation: none ≥ 180 days	Investigation: None ≥ 360 days Non-Investigation: none ≥ 180 days

*A. Cases requiring investigations normally involve wrongdoing including discrimination and by their nature are more resource intensive and less timely. Accordingly, the performance measure for cases involving investigations provides for more staff time. B. OE processing time is defined as that time from the date the case is opened or the licensee is briefed on the concern (exit) to the issuance of an enforcement action or other appropriate disposition less: (1) any time the NRC could not act due to the case residing with DOL, DOJ, other government entity or where the licensee or anyone outside the enforcement process causes a lengthy deferment, and (2) any time the NRC could not act due to processing FOIA requests.*

**Timeliness in completing investigations - Target 1.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<b>Target:</b>	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.
<b>Actual:</b>	Completed 110 investigations of which 80% (88) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.	Completed 70 investigations of which 95.7% (67) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.	Completed 77 investigations of which 92.2% (67) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.	Completed 106 investigations of which 98.1% (104) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.	Completed 106 investigations of which 98.1% (104) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.	Completed 106 investigations of which 98.1% (104) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.

**Timeliness in completing investigations - Target 2.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	New Measure in FY 2007	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.
Actual:		Closed 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Closed 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Closed 100% of OI investigations in time to initiate civil and/or criminal enforcement action.		

**Event Response**

**Emergency Response Performance Index.\***

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	99%	99%	100%	100%	100%	100%
Actual:	100%	100%	100%	100		

*\*This performance index provides a single overall performance measure of the agency's readiness to respond to a nuclear or terrorist emergency situation, or other events of national interest. The index measures several activities within the Incident Response Program that are critical to support the agency's preparedness and response ability.*

**Research**

**Timeliness of completing actions on critical research programs.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	85% of major milestones met on or before their due date.	85% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.
Actual:	96% across programs.	100% across programs.	100% across programs.	100% across programs.		

*Definition: Critical research programs typically respond to high priority needs from the Commission and NRC's licensing organizations. Critical research programs will be the highest priority needs identified at the beginning of each fiscal year.*

**Acceptable technical quality of agency research technical products**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	New Measure in FY 2007	Combined score ≥ 3.0	Combined score ≥ 3.0	Combined score ≥ 3.5	Combined score ≥ 3.5	Combined score ≥ 3.5
Actual:		4	4	4		

*NRC has developed a process to measure the quality of research products that includes surveying end users to determine the usability of and value-added by the product and feedback from the Advisory Committee on Reactor Safeguards on research programs and products. As appropriate, other mechanisms will be developed and added to this process to measure the quality of research products.*

**New Reactors**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	133.2	520.1	125.0	509.5	121.1	498.2	(3.9)	(11.3)
Oversight	23.7	106.0	28.0	135.6	34.3	171.2	6.3	35.6
Rulemaking	1.4	7.4	1.6	8.0	2.6	13.2	1.0	5.2
International Activities	4.0	5.5	6.1	9.6	8.5	15.1	2.4	5.5
Research	17.0	35.2	24.1	54.6	23.0	59.3	(1.1)	4.7
<b>Subtotal</b>	<b>\$179.3</b>	<b>674.2</b>	<b>\$184.8</b>	<b>717.3</b>	<b>\$189.5</b>	<b>757.0</b>	<b>\$4.7</b>	<b>39.7</b>
Corporate Support	76.0	168.7	79.9	176.4	83.0	183.2	3.1	6.8
<b>Total</b>	<b>\$255.3</b>	<b>843.0</b>	<b>\$264.7</b>	<b>893.8</b>	<b>\$272.5</b>	<b>940.1</b>	<b>\$7.8</b>	<b>46.3</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## NEW REACTORS

The NRC established the New Reactors Business Line to respond to industry's renewed interest in building new commercial nuclear power plants to meet the Nation's future electric power generation needs (see Figure 12). As indicated previously, all civilian nuclear power reactors must be licensed by the NRC and adhere to NRC regulations in order to operate in the United States. Renewed demand and national policy initiatives, such as the DOE's Nuclear Power 2010 program and the Energy Policy Act of 2005, have stimulated a nuclear resurgence. The New Reactors Business Line is responsible for the regulatory activities associated with locating, licensing, and oversight for construction of new nuclear power reactors. The NRC will review new nuclear power reactor design certifications (DCs) and combined license (COL) applications consistent with 10 CFR Part 52 which is the NRC's streamlined application process for new reactors. By issuing a COL, the NRC authorizes the licensee to construct and (with specified conditions) operate a nuclear power plant at a specific site. Previously, the application process prescribed under 10 CFR Part 50 involved separate applications for the issuance of a construction permit and an operating license.

Under the New Reactors Business Line, the NRC will continue to develop and implement the construction inspection program, provide oversight for the construction of Watts Bar Unit 2, and continue conducting vendor inspections. Oversight activities will increase to support inspection efforts consistent with industry construction schedules and additional vendor inspections. These include supporting key international nuclear equipment and component suppliers and starting license examiner training. Advanced reactor activities will increase to prepare for the review of new technologies.

The NRC has organized new reactors activities into product lines that best support safety and security strategies and impact strategic outcomes as they relate to new civilian reactors. The resources requested support all direct aspects of new reactors within the following five product lines: Licensing, Oversight, Rulemaking, International Activities, and Research. The New

*The New Reactors Business Line was established to respond to industry's renewed interest in building new commercial nuclear power plants to meet the Nation's future electric power generation needs.*

Reactors Business Line includes resources for construction of the new Three White Flint Headquarters (3WFN) building. The budget includes \$11.2 million for 3WFN. In FY 2011, funding will support the construction of building interior and the procurement and installation of fixtures, furniture, workstations and equipment in 3WFN. The outputs of these product lines contribute to progress on the NRC safety and security performance measures and their contribution to achievement of the strategic outcomes.

## LICENSING

### Strategic Goal Strategies Supported

*Safety - Develop, maintain, and implement licensing and regulatory programs for reactors.*

*Security - Review security plans for consistency with security requirements.*

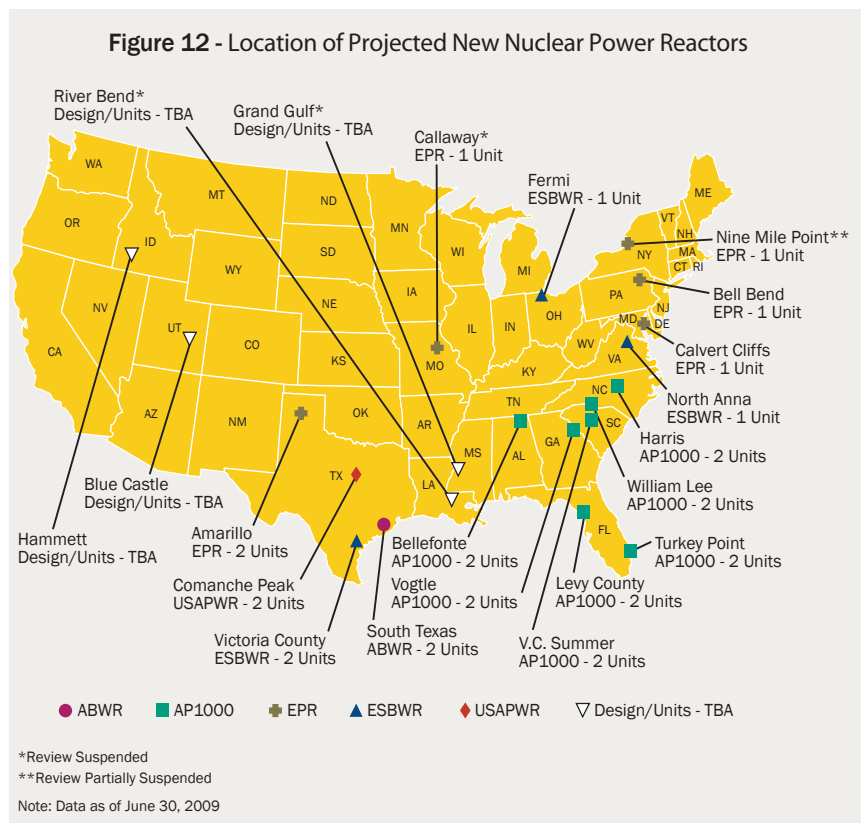
### Workload

For FY 2011, the NRC requests \$121.1 million, including 498.2 FTE, to provide for Licensing Product Line activities. This represents a funding decrease of \$3.9 million, including 11.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports the licensing process, which confirms that plans for the development, construction, and subsequent operation of new nuclear power plants provide for an adequate margin of safety and security consistent with the NRC's rules and regulations to ensure protection of public health and safety and the environment. Licensing also includes the review and certification of new reactor designs and development of a regulatory framework and supporting technical bases to license advanced reactor designs.

Licensing workload includes the review of COL applications. The COL, issued by the NRC, authorizes the licensee to construct and (with specified conditions) operate a nuclear power plant at a specific site. The NRC will continue the review of 17 COL applications consistent with 10 CFR Part 52 and industry's projected plans and schedules. Additionally, the NRC received an application to build a new reactor at a site previously approved, under 10 CFR Part 50, at Watts Bar 2. Resources support the review of all applications, including emergency preparedness technical reviews, security plan technical reviews, security-related assessments, and financial analysis of applicants.

A design certification (DC) approves and certifies a standard nuclear plant design independent of a specific site and is valid for 15 years. Resources for licensing support General Electric's Economic Simplified Boiling-Water Reactor (ESBWR) DC, Westinghouse's AP1000 DC amendment, and General Electric's (GE's) Advanced Boiling-Water Reactor (ABWR) DC amendment, scheduled to be completed in early FY 2011. AREVA's Evolutionary Power Reactor (EPR) and Mitsubishi's Advanced Pressurized-Water Reactor (US APWR) DC applications are projected to be completed by the end of FY 2011.



Licensing resources primarily support the development of the regulatory framework and supporting technical bases to license advanced reactor designs and partially fund a DC review for a small reactor. The NRC plans to perform a limited number of pre-application reviews to identify and resolve policy, regulatory, and key technical issues for the advanced designs. Because of DOE's schedule and program adjustment in the advanced reactor area, resources have been downsized commensurate with the projected workload.

Licensing also provides the resources to support licensing-related legal advice and representation, independent advice, and adjudicatory reviews; IT mission area support for licensing activities; and the regulatory infrastructure for licensing activities.

### *Changes from FY 2010 Enacted*

Overall, the Licensing Product Line funding decreases, which reflects decreased activity on COL applications as a result of revisions in the review schedules due to resubmission of information and industry suspension of applications.

## **OVERSIGHT**

### *Strategic Goal Strategies Supported*

*Safety – Oversee the development and construction of new nuclear power reactors.*

*Security – Evaluate license applicants' security plans.*

### *Workload*

For FY 2011, the NRC requests \$34.3 million, including 171.2 FTE, to provide for Oversight Product Line activities. This represents a funding increase of \$6.3 million, including 35.6 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line includes resources to support construction inspection activities. During FY 2011, the NRC

will develop and implement reactor, emergency preparedness, and security inspection activities to support inspection of two new reactors expected to be under construction. The NRC will develop the workforce to support inspection of an additional four reactors in FY 2012 and another two in FY 2013. Resources support projected increased enforcement-related case work and investigations of wrongdoing resulting from increased construction and vendor allegations. The NRC will continue oversight construction activities for Watts Bar 2 and begin oversight activities to support construction at Bellefonte.

Resources support an increase in domestic and international vendor inspections from 10 to 15 as a component of manufacturing oversight. A significant percentage of major components for new plants that may eventually be built in the United States will be manufactured in other countries. Oversight seeks to verify that the new reactor development process will result in operating power reactors that ensure the adequate protection of public health and safety, protection of the environment, and high assurance of the physical security of facilities.

In FY 2011, resources are included to begin the first year of the 2-year process to certify 10 licensing examiners needed by 2013 to support operator licensing for 10 units.

### *Changes from FY 2010 Enacted*

The FTE level increases to support two new reactors under construction and to develop the workforce to support inspection of up to an additional six reactors in the out years.

## **RULEMAKING**

### *Strategic Goal Strategies Supported*

*Safety – Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a framework of rules and regulations to guide the security activities of the agency.*

### **Workload**

For FY 2011, the NRC requests \$2.6 million, including 13.2 FTE, to provide for Rulemaking Product Line activities. This represents a funding increase of \$1.0 million, including 5.2 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line supports rulemaking activities, which maintain the safety and security framework of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles and security requirements. In FY 2011, workload will focus on 11 rulemakings, of which 6 are high-priority rulemakings directly related to the DC activities for access authorization and 5 are medium-priority rulemakings on developing the technical basis for new or amended regulations.

### **Changes from FY 2010 Enacted**

The estimated level of effort for DC high-priority rulemakings increases in FY 2011.

## **INTERNATIONAL ACTIVITIES**

### **Strategic Goal Strategies Supported**

*Safety – Use domestic and international operating experience to inform decision making.*

*Security – Work with international counterparts to exchange information.*

### **Workload**

For FY 2011, the NRC requests \$8.5 million, including 15.1 FTE, to provide for International Activities Product Line. This represents a funding increase of \$2.4 million, including 5.5 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports international activities for the NRC, which works with international counterparts to exchange information, expertise, operating experiences, and ongoing research to recognize and respond to emerging technical issues and promote best safety and security practices. For example, the NRC participates in the Multinational Design Evaluation Program (MDEP), in which several nations jointly cooperate in sharing information regarding the review of new reactor designs. These next-generation designs require detailed evaluation of their vulnerability to accidents and attacks, as well as development of inspections, tests, analyses, and acceptance criteria for their construction.

The NRC will continue participation in the MDEP and increase international exchanges of licensing activities that will increase safety at U.S. sites. Export licensing activities will increase for U.S. companies exporting technology to other countries seeking to build nuclear power plants or components for plants under construction. International interactions, beyond MDEP, will increase as more countries seek to develop nuclear power programs. Bilateral and multilateral interactions will increase to emphasize safety and security considerations to countries seeking to develop nuclear power capabilities.

### **Changes to FY 2010 Enacted**

Resources increase to further assist other countries in leveraging experience and to help develop regulatory systems for countries that currently do not have a nuclear program.

## **RESEARCH**

### **Strategic Goal Strategies Supported**

*Safety – Improve the NRC's regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### *Workload*

For FY 2011, the NRC requests \$23.0 million, including 59.3 FTE, to provide for Research Product Line activities. This represents an overall funding decrease of \$1.1 million, while including an additional 4.7 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line supports the means to identify, lead, and/or sponsor reviews that aid the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC's independent decision-making process. In FY 2011, research will provide resources to support technical development activities for certification reviews, update regulatory guides assist in new reactor licensing, support advances in earthquake engineering, and address age-related degradation of structures and passive components.

Research will also support advanced reactors and the development of new reactor plant models, fund homeland security projects such as aircraft impact analyses studies. Resources for advanced reactors support the development of expertise, tools, and data in areas such as thermal hydraulics, severe accidents, nuclear analysis, probabilistic risk assessment, human factors, materials, and seismic/structural analysis.

### *Changes from FY 2010 Enacted*

The total includes a resource shift between Operating Reactors and New Reactors Business Line. The funding is more appropriately aligned within the New Reactors Business Line since it supports the seismic source characterization projects being scoped and scheduled to support the review of incoming applications.

## **SIGNIFICANT ACCOMPLISHMENTS**

In FY 2009, the NRC received two additional applications to construct nuclear power plants, bringing the total to 18, and completed the acceptance reviews and docketing for eight COLs. The technical and safety reviews continued for 18 COLs, and 4 DC applications. The NRC issued the final safety evaluation report (SER) for an early site permit application and limited work authorization request. The NRC also continued construction inspection readiness activities, including holding a 2-day vendor oversight and new reactor construction workshop with over 600 participants, issuing guidance for inspections, tests, analyses, and acceptance criteria (ITAAC) closure under 10 CFR Part 52, and developing construction program procedures and manuals.

## OUTPUT MEASURES

### Licensing

#### Review early site permit applications on the schedules negotiated with the applicants.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Issue final SER for 2 applications and final EIS for 3 applications. Begin review of the Vogtle ESP application.	Complete milestones for Vogtle ESP application. Begin review of 1 ESP application.	Complete 1 ESP review. (North Anna) Continue review of 1 existing ESP applications (Vogtle).	Complete 1 ESP review (Vogtle).	No ESPs planned for FY 2010.	No ESPs planned for FY 2011.
Actual:	Issued 2 FSER and issued 2 final EIS (Note: North Anna delayed as result of applicant design change). Started review of Vogtle ESP.	Issued draft SER and draft EIS for Vogtle ESP application. (Note: Amarillo ESP application was not submitted).	Issued ESP on North Anna, Vogtle ESP review on schedule	Issued Vogtle ESP review on schedule.		

#### Review design certification (DC) applications on the schedules negotiated with the applicants.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete milestones necessary to complete ESBWR DC.	Complete milestones necessary to complete ESBWR DC. Issue the draft SER for ESBWR.	Complete milestones to support ESBWR and AP 1000 DC. Begin review of EPR and US APWR DC application review.	Complete milestones necessary to support ESBWR, EPR and US APWR DC reviews. Complete review of AP 1000 DC application.	Complete review of ESBWR DC application and AP 1000 amended application and continue review of EPR and APWR DC applications.	Complete review of ESBWR rulemaking and the AP 1000 amendment. Continue EPR and APWR reviews and begin the ABWR DC renewal.
Actual:	Completed milestones necessary to complete ESBWR DC.	Completed milestones necessary to support the ESBWR, EPR, USAPWR DCs and the AP 1000 DC amendment.	Completed milestones to support ESBWR, EPR, and AP 1000 DC. And the EPR and US APWR DC application review.	Completed milestones necessary to support the ESBWR, EPR, and US APWR DC. Completed milestones associated with ABWR DCA DC application.		



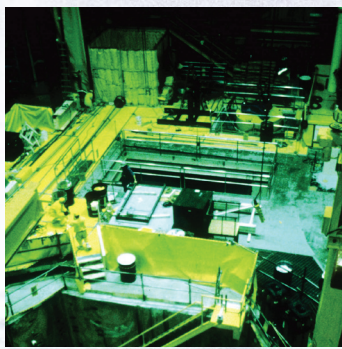
Review COL applications on the schedules negotiated with the applicants.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Begin pre-COL application interactions with prospective COL applicants.	Continue pre-COL application interactions with prospective COL applicants.	Complete milestones associated with conducting 14 COL application reviews.	Complete milestones associated with conducting 20 COL application reviews.	Complete milestones associated with conducting 20 COL application reviews.	Complete milestones associated with conducting 17 COL application reviews.*
Actual:	Staff has engaged in pre-application activities with potential COL applicants.	Staff engaged in preapplication activities with prospective COL applicants.	Completed milestones associated with conducting 14 COL application reviews.	Completed milestones associated with conducting 18 COL application reviews.		

\*Excludes Watts Bar 2



# Nuclear Materials & Waste Safety





*Previous Page: (Images from left to right):*

*1. Fort St. Vrain Platteville Co. decommissioning*

*2. Diver working on decommissioning*

*3. Dry Casks at the Diablo Canyon site*

# Nuclear Materials & Waste Safety

*Safety Goal: Ensure adequate protection of public health and safety and the environment.*

*Security Goal: Ensure adequate protection in the secure use and management of radioactive materials.*

**T**he Nuclear Materials and Waste Safety Program encompasses NRC efforts to ensure that nuclear materials are used and waste is managed in a manner that adequately protects the health and safety of the public, protects the environment, and provides high assurance of physical security. Through this program, the NRC regulates uranium processing and fuel facilities, nuclear materials users (e.g., medical, industrial, research, academic), spent fuel storage, spent fuel storage cask and transportation packaging designs, decontamination and decommissioning of facilities, and low-level waste (LLW) and high-level radioactive waste (HLW). This program contributes to the NRC's safety and security goals through activities of the Operating Fuel Facilities, New Fuel Facilities, Nuclear Materials Users, Spent Fuel Storage and Transportation, Decommissioning and Low-Level Waste, High-Level Waste Repository, and Integrated Spent Fuel Management Business Lines that license and regulate nuclear materials and waste to ensure their safe and secure handling. The public benefits because this program improves the safety and security in the extraction, processing, use, storage, and management of nuclear materials and waste and the decommissioning of licensed nuclear sites. The Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and the Energy Policy Act of 2005 and the Nuclear Waste Policy Act of 1982, as amended, are the foundations of the NRC's regulatory authority.

The nuclear fuel cycle process includes extraction of uranium from the ore, conversion of the uranium into a form suitable for enrichment, enrichment of the uranium to a level and type suitable for nuclear fuel, and then using the enriched uranium in fabricating fuel assemblies for use in nuclear reactors. The NRC licenses, oversees, and regulates the facilities involved in the process.

Nuclear materials have many industrial, medical, and academic uses. The NRC licenses, oversees, and regulates large and small users of nuclear materials such as radiographers, hospitals, private physicians, nuclear gauge users,

irradiators, and universities. The NRC also licenses facilities to possess plutonium and enriched uranium. These special nuclear material (SNM) licensees verify and document their inventories in the Nuclear Materials Management and Safeguards System (NMMSS) database. The database tracks material transfers and inventories.

In addition, both the NRC and the Agreement States carry out their respective radiation safety regulatory programs under the framework of the National Materials Program (NMP). This covers activities solely carried out by the NRC and 37 Agreement State programs, such as licensing, inspection, response to incidents, staffing, training, investigation, and enforcement. The focus of the NMP is the shared program activities between the NRC and the Agreement States and the ability of Agreement States to assume a greater proportional responsibility for the shared program activities. The scope of the NMP covers Atomic Energy Act materials, which are currently regulated by the NRC and the Agreement States. It has been expanded to cover accelerator-produced material and discrete sources of Radium-226 due to the implementation of the Energy Policy Act of 2005.

About 3 million packages of radioactive materials are shipped each year in the United States by road, rail, air, or water. Regulating the safety of commercial radioactive material shipments is the joint responsibility of the NRC and the U.S. Department of Transportation. The NRC ensures transportation safety by reviewing and certifying shipping packages for the commercial transport of large quantities of radioactive materials. In addition, the NRC certifies shipping package designs for DOE's non-commercial transuranic waste shipments.

The NRC ensures safety and security in the management and disposition of radioactive waste. Nuclear waste is categorized as either LLW or HLW. LLW includes items that have become contaminated with radioactive material or that have become radioactive through exposure to neutron radiation. The NRC and the Agreement States regulate the management and disposition of LLW. The NRC or Agreement States license, oversee, and regulate commercial LLW disposal facilities.

HLW includes the highly radioactive materials from the reprocessing of spent nuclear fuel and irradiated reactor fuel. The NRC licenses, oversees, and regulates the management

*These activities support the safety and security outcomes for the extraction, transportation, processing, use, storage, management of nuclear waste and the decommissioning of licensed nuclear sites.*

and disposition of HLW. Spent Nuclear Fuel is initially stored in pools at reactor sites, then after an appropriate time period it is moved to dry storage. Dry storage is done in dry casks, or canisters, certified by the NRC for such use. These casks are stored at independent spent fuel storage installations (ISFSIs) licensed and regulated by the NRC. The NRC is responsible for regulating long-term HLW disposal.

The Administration has indicated that it does not support developing a repository at Yucca Mountain, Nevada. Consistent with that position, DOE may submit to the NRC a motion to withdraw or suspend its Yucca Mountain license application during FY 2010. The NRC Budget reflects that possibility. Upon the withdrawal or suspension of the licensing review, the NRC would begin an orderly closure of the technical review and adjudicatory activities and would document the work and insights gained from the review.

Decommissioning is the safe removal of a nuclear facility from service and the reduction of residual radioactivity to a level that permits the release of the property and termination of the NRC license. The NRC rules for decommissioning establish site release criteria and provide for unrestricted

and, under certain conditions, restricted release of a site. The NRC and Agreement States regulate the decontamination and decommissioning of uranium recovery facilities, materials and fuel cycle facilities, nuclear power plants, and RTRs.

The Integrated Spent Fuel Management Business Line will develop the information necessary to inform the agency's regulatory perspectives on waste management options, undertake research, analysis, and modeling efforts to support regulatory development for potential future high-level waste disposal systems, and serve as the agency's point for coordinating and integrating key interdependent work on disposal, extended long-term storage, and other waste management strategies.

Security efforts in this program include safeguards and security reviews and inspections, force-on-force exercises, regulatory improvements, and implementation of a national registry (i.e., the National Source Tracking System (NSTS)) of radioactive sources of concern. The NRC will continue to maintain a high state of incident response readiness and coordination with other Federal, State, and local agencies.

**Nuclear Materials and Waste Safety by Business Line**  
(Dollars in Millions)

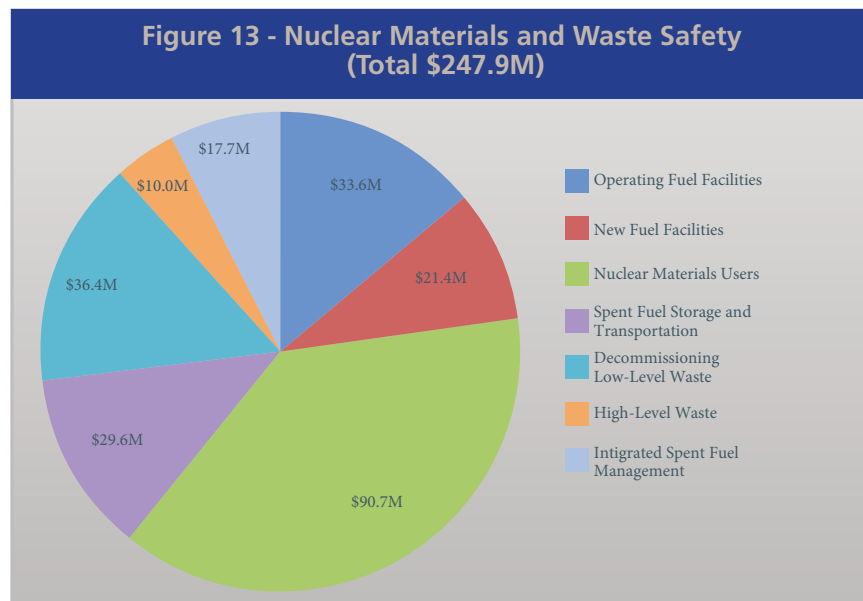
Business Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Operating Fuel Facilities	30.8	123.4	34.7	133.2	33.6	132.9	(1.1)	(0.3)
New Fuel Facilities	19.4	77.7	20.0	76.0	21.4	89.6	1.4	13.6
Nuclear Materials Users	85.0	330.3	91.6	338.5	90.7	338.4	(0.9)	(0.1)
Spent Fuel Storage and Transportation	25.3	100.2	36.1	124.1	29.6	119.8	(6.5)	(4.3)
Decommissioning and Low-Level Waste	37.9	143.7	37.8	148.2	36.4	144.7	(1.4)	(3.5)
High-Level Waste Repository	49.2	111.6	29.0	99.0	10.0	32.0	(19.0)	( 67.0)
Integrated Spent Fuel Management	0.0	0.0	0.0	0.0	17.7	50.2	17.7	50.2
<b>Total</b>	<b>\$247.6</b>	<b>887.0</b>	<b>\$249.2</b>	<b>919.1</b>	<b>\$239.4</b>	<b>907.6</b>	<b>(\$9.8)</b>	<b>(11.5)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

**Program Resource Summary:** The FY 2011 proposed budget request for Nuclear Materials and Waste Safety is \$239.4 million (see Figure 13), which includes \$102.5 million in contract support and travel, and \$136.9 million in salaries and benefits to support 907.6 FTE. This would fund activities in the Operating Fuel Facilities, New Fuel Facilities, Nuclear Materials Users, Spent Fuel Storage and Transportation, Decommissioning and Low-Level Waste, High-Level Waste Repository, and Integrated Spent Fuel Management Business Lines. FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison. This funding level represents a decrease of \$9.8 million, including 11.5 FTE, compared to FY 2010, which is primarily due to

the reductions to the HLW Repository Business Line. The Administration has indicated that it does not support developing a repository at Yucca Mountain, Nevada. Consistent with that position the DOE may submit to the NRC a motion to withdraw or suspend its Yucca Mountain license application during FY 2010. The NRC Budget request reflects that possibility. Upon the withdrawal or suspension of the licensing review, the NRC would begin an orderly closure of the technical review and adjudicatory activities, and would document the work and insights gained from the review. Resources include slight increases in uranium recovery licensing, licensing reviews for operating fuel facilities, and materials users licensing actions. The increase is offset by decreases because of the delay in the International Isotopes review and decrease in research for Spent Fuel Storage and Transportation.



**Operating Fuel Facilities**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	9.8	40.3	10.8	38.9	11.1	42.7	0.3	3.8
Oversight	8.1	48.1	9.5	54.4	8.4	50.9	(1.1)	(3.5)
Rulemaking	1.1	5.8	1.3	6.8	1.1	6.3	(0.2)	(0.5)
International Activities	1.3	6.1	1.3	7.1	1.2	6.6	(0.1)	(0.5)
<b>Subtotal</b>	<b>\$20.3</b>	<b>100.3</b>	<b>\$22.9</b>	<b>107.2</b>	<b>\$21.8</b>	<b>106.5</b>	<b>(\$1.1)</b>	<b>(0.7)</b>
Corporate Support	10.5	23.2	11.8	26.0	11.9	26.3	0.1	0.3
<b>Total</b>	<b>\$30.8</b>	<b>123.4</b>	<b>\$34.7</b>	<b>133.2</b>	<b>\$33.6</b>	<b>132.9</b>	<b>(\$1.1)</b>	<b>(0.3)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## OPERATING FUEL FACILITIES

NRC activities under Operating Fuel Facilities ensure that fuel facilities are licensed and operated in a manner that adequately protects the health and safety of the public, protects the environment, and provides high assurance of protection against radiological sabotage, theft or diversion of SNM. Once uranium ore has been mined and milled (extraction of uranium from the ore), it moves on to conversion, enrichment and fuel fabrication facilities. Conversion of the uranium changes it into a form suitable for enrichment, enrichment processes the uranium to a level and type suitable for nuclear fuel, and fabrication uses the enriched uranium to make fuel assemblies to fuel nuclear reactors. The NRC licenses, oversees, and regulates the facilities involved in the process such as extraction mills; conversion, enrichment, and fuel fabrication facilities; and research and testing facilities. There are six uranium enrichment facilities and seven licensed major fuel fabrication and production facilities in the United States (see Figure 14). Four uranium enrichment facilities are expected to be licensed to operate in FY 2011.

The NRC also licenses facilities to possess SNM, such as plutonium and enriched uranium. These SNM licensees verify and document their inventories in the Nuclear Materials Management and Safeguards System (NMMSS) database. In addition to tracking inventories, the database tracks material transfers. The NRC has licensed approximately 180 facilities

to possess SNM in quantities ranging from a single kilogram to multiple tons.

Operating Fuel Facilities activities include the Nuclear Materials Information Program and the interagency agreement with DOE for certification and accreditation of classified computer systems at enrichment facilities. Activities include environmental, emergency preparedness, and licensee performance reviews; legal advice and representation; security support for licensing activities; inspection oversight; allegations and enforcement activities; rulemaking; international cooperation and assistance; IAEA missions; export and import licensing; and treaties, agreements, and conventions.

The NRC has organized Operating Fuel Facilities activities into product lines that best support safety and security strategies and significantly impact strategic outcomes as they relate to operating fuel facilities. The resources requested support all direct aspects of Operating Fuel Facilities within the following four product lines – Licensing, Oversight,

*The NRC licenses, oversees, and regulates the facilities involved in the nuclear fuel cycle process such as extraction mills; conversion, enrichment, and fuel fabrication facilities; and fuel research and pilot facilities.*



Rulemaking, and International Activities. The outputs of these product lines contribute to the management of the NRC safety and security performance measures and their contribution to achievement of the strategic outcomes.

## LICENSING

### Strategic Goal Strategies Supported

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities material, spent fuel management, waste management, uranium recovery, and decommissioning.*

*Security – Review security plans and changes for consistency with security requirements.*

### Workload

For FY 2011, the NRC requests \$11.1 million, including 42.7 FTE, to provide for Licensing activities. This represents a funding increase of \$0.3 million, including 3.8 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports licensing, overseeing, and regulating the facilities involved in the process, such as conversion, enrichment, and fuel fabrication facilities, and research and pilot facilities. The nuclear fuel regulatory cycle process begins with extraction of uranium from the ore, conversion of the uranium into a form suitable for enrichment, enrichment of the uranium to a level and type suitable for nuclear fuel, and then using the enriched uranium in fabricating fuel assemblies for use in nuclear reactors.

Resources support performing licensing reviews for operating fuel facilities and licensees with greater than critical mass quantities of SNM. Additionally, resources

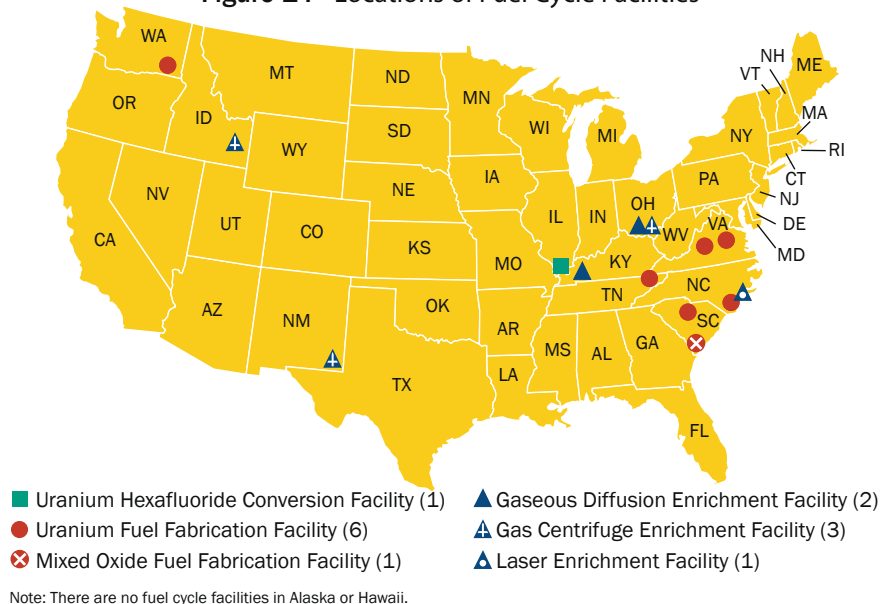
are included for operation and maintenance of the NMMSS database; the Nuclear Materials Information Program; environmental reviews for license renewals, the Westinghouse Dry Conversion Facility Environmental Impact Statement (EIS), and the Louisiana Energy Services (LES) Expansion Supplemental EIS; security support for licensing activities; support for Defense Tracking Tech Systems; and emergency preparedness licensing reviews.

Licensing activities are the methods the NRC employs to confirm that existing licensee requests for license renewals and changes are consistent with the NRC’s rules and regulations to ensure the adequate protection of public health and safety, protect the environment, and provide high assurance of the physical security of fuel facilities.

### Changes from FY 2010 Enacted

Workload and resources primarily increased in the Licensing Product Line because of classified computer system needs, and an increase in the Operating Fuel Facilities and decrease in New Fuel Facilities Business Lines in the area of environmental reviews to reflect that LES expansion is included in Operating Fuel Facilities, and security support.

Figure 14 - Locations of Fuel Cycle Facilities



## OVERSIGHT

### *Strategic Goal Strategies Supported*

*Safety – Oversee licensee safety performance through inspections, investigations, enforcement, and performance assessment activities.*

*Security – Oversee licensee security performance through inspections and FOF exercises.*

### *Workload*

For FY 2011, the NRC requests \$8.4 million, including 50.9 FTE, to provide for Oversight activities. This represents a funding decrease of \$1.1 million, including 3.5 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line supports baseline and reactive inspections at fuel facilities and other oversight activities with technical and licensing expertise, allegations and enforcement activities, licensee performance reviews, revising the fuel cycle oversight process, and supporting FOF activities. In FY 2011, Oversight continues to ensure that the currently licensed seven fuel fabrication and production facilities and four uranium enrichment facilities are operating safely and securely in accordance with NRC rules and regulations.

The Oversight Product Line continuously monitors the safe and secure operation of currently licensed fuel facilities to better identify significant performance issues. The Oversight process ensures that licensees take appropriate actions to maintain acceptable safety and security operating performance to ensure the adequate protection of public health and safety, protect the environment, and provide high assurance of the physical security of fuel facilities.

### *Changes from FY 2010 Enacted*

As the workload remains level in the area, the decrease in contract support reflects reprogramming to the New Fuel Facilities Business Line to better align priorities. The FTE decrease reflects the reprogramming and efficiencies gained in the Operating Fuel Facilities Business Line.

## RULEMAKING

### *Strategic Goal Strategies Supported*

*Safety – Maintain a framework of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export and trans-shipment of radioactive materials.*

### *Workload*

For FY 2011, the NRC requests \$1.1 million, including 6.3 FTE, to provide for rulemaking activities. This represents a funding decrease of \$0.2 million, including 0.5 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line provides resources to support four high-priority rulemakings and five medium-priority rulemakings in FY 2011. Resources provide for technical basis development, rulemaking, and guidance development activities in accordance with the agencywide rulemaking priorities for: 10 CFR Part 26, “Fitness for Duty Programs”; 10 CFR Part 40, “Domestic Licensing of Source Material”; 10 CFR Part 73, “Physical Protection of Plants and Materials”; and 10 CFR Part 74, “Material Control and Accounting of Special Nuclear Material.”

Rulemaking maintains the NRC’s safety and security framework of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles and security requirements.

### *Changes from FY 2010 Enacted*

Workload and resources remain essentially level for this Product Line. Any slight changes are because of shifting activities to the New Fuel Facilities Business Line to better align priorities.

## INTERNATIONAL ACTIVITIES

### Strategic Goal Strategies Supported

*Safety – Use international collaboration and coordination to inform decision-making.*

*Security – Promote U.S. national security interests and nuclear proliferation policy objectives for NRC-licensed imports and exports of source and special nuclear materials and nuclear equipment.*

### Workload

For FY 2011, the NRC requests \$1.2 million, including 6.6 FTE, to provide for International Activities. This represents a funding decrease of less than \$0.1 million, including 0.5 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports NRC work with international counterparts to exchange information, expertise, operating experiences, and ongoing research

to recognize and respond to emerging technical issues and promote best safety and security practices. The NRC also participates in the development of international standards to ensure they are soundly based and determine whether substantial safety improvements can be identified and incorporated domestically. In FY 2011, the International Activities work includes multilateral cooperation and assistance; support for IAEA missions; export and import licensing; and international treaties, agreements, and conventions.

### Changes from FY 2010 Enacted

Workload and resources remain level.

## SIGNIFICANT ACCOMPLISHMENTS

In 2009, the program initiated the review of the AREVA uranium enrichment facility license application and of the GE-Hitachi environmental report. The program completed a 40-year license renewal for the AREVA Richland fuel fabrication facility, a regulatory gap analysis for spent fuel reprocessing, license transfers from BWX Technologies to Babcock & Wilcox Nuclear Operations Group (B&W NOG), and from Nuclear Fuel Services to B&W NOG, and completed recertification of the two gaseous diffusion plants.

## OUTPUT MEASURES

### LICENSING

Number of fuel cycle licensing actions (amendments, renewals, new applications, and reviews) from the date of acceptance completed per year.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete 53 licensing actions.	Complete 52 licensing actions.	Complete 53 licensing actions.	Complete 53 licensing actions.	Measure discontinued after FY 2009	Measure discontinued after FY 2009
Actual:	64 completed	92 completed	85 completed	115 completed		

## OVERSIGHT

### Safety and safeguards inspection modules. Complete all core and reactive inspection modules as scheduled in Fuel Cycle Master Inspection Plan.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete 165 inspection modules.	Complete 218 inspection modules.	Complete 266 inspection modules.	Complete 286 inspection modules.	Complete 286 inspection modules.	Complete 328 inspection modules.*
Actual:	Completed 202 inspection modules.	Completed 306 inspection modules.	Completed 269 inspection modules.	Completed 286 inspection modules.		

\*LES and USEC/IACP are expected to commence enrichment operations during FY 2010.

### Timeliness of safety and safeguards inspection modules. Complete core inspection modules as scheduled in Fuel Cycle Master Inspection Plan.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	> 90% completed on time.	> 93% completed on time.	> 97% completed on time.	> 97% completed on time.	> 97% completed on time.	> 99% completed on time.
Actual:	99% completed on time. (Completed 100 inspections/202 modules).	100% completed on time.	100% completed on time.	100% completed on time.		

In the above table, both the number of inspections and the number of modules are shown for FY 2006. Beginning in FY 2007, only modules are recorded in the table.

### Timeliness in completing reviews for technical allegations.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	70% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	70% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	80% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days
Actual:	93% ≤ 150 days. 100% ≤ 180 days. 100% ≤ 360 days	100% ≤ 150 days. 100% ≤ 180 days. 100% ≤ 360 days	100% ≤ 150 days. 100% ≤ 180 days. 100% ≤ 360 days	100% ≤ 150 days 100% ≤ 180 days 100% ≤ 360 days		

New Fuel Facilities  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	9.9	47.5	9.2	42.5	6.2	34.2	(3.0)	(8.3)
Oversight	2.0	12.9	2.6	15.6	2.6	15.9	0.0	0.3
Rulemaking	0.0	0.0	0.9	1.1	3.5	19.1	2.6	18.0
International Activities	.0	0.0	0.0	0.0	0.3	0.6	0.3	0.6
Research	0.4	1.6	0.3	1.3	0.3	1.3	0.0	0.0
<b>Subtotal</b>	<b>\$2.3</b>	<b>62.0</b>	<b>\$13.0</b>	<b>60.5</b>	<b>\$12.9</b>	<b>71.1</b>	<b>(\$0.1)</b>	<b>10.6</b>
Corporate Support	7.0	15.6	7.0	15.5	8.4	18.6	1.4	3.1
<b>Total</b>	<b>\$19.4</b>	<b>77.7</b>	<b>\$20.0</b>	<b>76.0</b>	<b>\$21.4</b>	<b>89.6</b>	<b>\$1.4</b>	<b>13.6</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## NEW FUEL FACILITIES

New Fuel Facilities encompasses the licensing and other regulatory activities associated with authorizing new fuel cycle facilities to operate in the United States. The nuclear fuel cycle process (see Figure 15) begins with conversion of the uranium into a form suitable for enrichment, enrichment of the uranium to a level and type suitable for nuclear fuel, and then using the enriched uranium in fabricating fuel assemblies for use in nuclear reactors. As presented in the highlights for Operating Fuel Facilities, the NRC licenses, oversees, and regulates the facilities involved in the process such as conversion, enrichment, and fuel fabrication facilities and nuclear fuel research and testing facilities. The New Fuel Facilities business line also incorporates activities related to reprocessing facilities.

The New Fuel Facilities workload includes the reviews for the AREVA Centrifuge and GE-Hitachi laser enrichment facility applications and the International Isotopes depleted uranium de-conversion facility, and issuance of the Mixed Oxide Fuel Fabrication Facility (MOX) Safety Evaluation Report (SER) and associated hearings.

The NRC has organized New Fuel Facilities activities into product lines that best support safety and security strategies and impact strategic outcomes as they relate to new fuel facilities. Resources support all direct aspects of New Fuel Facilities within the following five Product Lines: Licensing, Oversight, Rulemaking, International Activities, and Research. The outputs of these product lines contribute to the scoring of the NRC safety and security performance measures and their contribution to achievement of strategic outcomes. These activities are designed to ensure that the development of new fuel facilities is done in a manner that adequately protects the public health and safety, protects the environment, and provides high assurance of protection against radiological sabotage, theft, or diversion of special nuclear material.

*The New Fuel Facilities activities include licensing, certification, inspection, environmental reviews, research, adjudication, enforcement, allegation, and other regulatory actions.*

## LICENSING

### Strategic Goal Strategies Supported

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities, materials, spent fuel management, waste management, uranium recovery, and decommissioning activities.*

*Security – Review security plans for consistency with security requirements.*

### Workload

For FY 2011, the NRC requests \$6.2 million, including 34.2 FTE, to provide for Licensing activities. This represents a funding decrease of \$3.0 million, including 8.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports plans for the development, construction, and subsequent operation of new fuel facilities so they provide for an adequate margin of safety and security consistent with the NRC's rules and regulations to ensure the adequate protection of public health and safety and the environment. Resources provide for the completion of MOX Fuel Fabrication Facility operating license review and hearing support, licensing and environmental reviews, adjudicatory hearing-related activities, legal advice and representation for AREVA and GE-Hitachi Laser Enrichment reviews, and support for emergency preparedness reviews for new license applications for fuel cycle facilities. Resources

also support the review of the International Isotopes depleted uranium de-conversion facility. The International Isotopes review will continue into FY 2012.

### Changes from FY 2010 Enacted

The workload and resources for this product line decreased due to completion of the technical and environmental reviews for several facilities earlier than planned.

## OVERSIGHT

### Workload

### Strategic Goal Strategies Supported

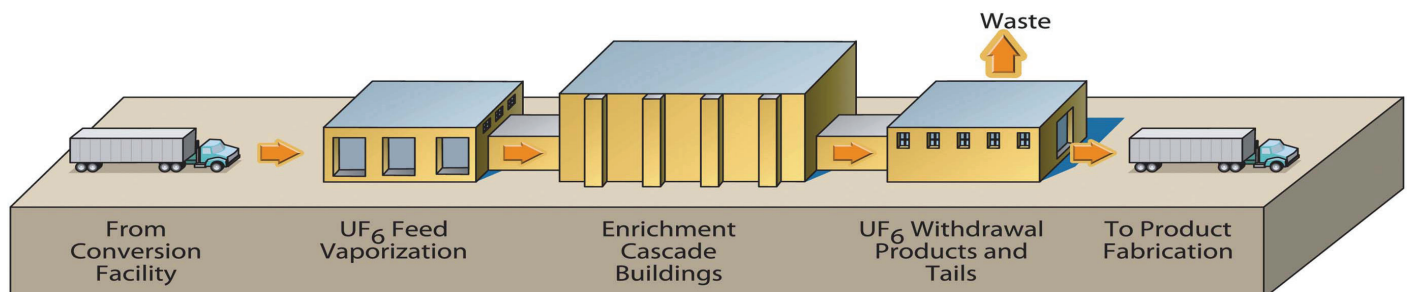
*Safety – Oversee the construction and development of new fuel facilities.*

*Security – Review security plans for new fuel facilities for consistency with security requirements.*

For FY 2011, the NRC requests \$2.6 million, including 15.9 FTE, to provide for Oversight activities. This represents essentially flat funding when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line focuses on overseeing and monitoring the construction of new fuel facilities. Oversight

Figure 15 - Typical Uranium Enrichment Facility



resources will provide support for construction oversight, which continues at the MOX Fuel Fabrication Facility, LES, and USEC/ACP, as well as preconstruction activities at GE-Hitachi. Resources support safeguards inspections, allegations, and enforcement activities; the physical and infrastructure security at GE-Hitachi; and the expansion in new fuel facilities. Oversight seeks to verify that the new fuel facilities development process will result in facilities that ensure the adequate protection of public health and safety, protection of the environment, and high assurance of physical security.

### ***Changes from FY 2010 Enacted***

Workload and contract support resources remain level. The FTE increase is because of the physical and infrastructure security at GE-Hitachi, the expansion in new fuel facilities, and support for construction oversight.

## **RULEMAKING**

### ***Strategic Goal Strategies Supported***

*Safety – Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a framework of rules and regulations to guide the security activities of the agency.*

### ***Workload***

For FY 2011, the NRC requests \$3.5 million, including 19.1 FTE, to provide for Rulemaking activities. This represents an increase of \$2.6 million, including 18.0 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The NRC has received two letters from private firms expressing their intent to submit license applications within five years for commercial reprocessing facilities. In response, the NRC must prepare itself for such applications by

developing an applicable regulatory framework.

The Rulemaking Product Line supports the development of the reprocessing proposed rule. Resources provide for the development of a draft Environmental Impact Statement for reprocessing facilities. Rulemaking maintains the NRC's safety and security framework of rules, regulatory guidance, and standard review plans that promote license compliance with underlying safety principles and security requirements. These activities are being closely coordinated with efforts in the Integrated Spent Fuel Management Business Line.

### ***Changes from FY 2010 Enacted***

Workload and resources are increasing in this product line to support preliminary reprocessing rule development activities.

## **INTERNATIONAL ACTIVITIES**

### ***Strategic Goal Strategies Supported***

*Safety – Use domestic and international operating experience to inform decision-making.*

*Security – Work with international counterparts to exchange information.*

### ***Workload***

For FY 2011, the NRC requests \$0.3 million, including 0.6 FTE, to provide for International Activities. This represents a funding increase of \$0.3 million, including 0.6 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports the IAEA safeguards programs for new enrichment facilities and the MOX Fuel Fabrication Facility. Through International Activities, the NRC works with international counterparts to exchange information, expertise, operating experiences, and ongoing research to recognize and respond to emerging technical issues and promote best safety and security practices.

### ***Changes from FY 2010 Enacted***

An increase in contract support resources reflects the shift in FY 2011 of funds from the Operating Fuel Facilities Business Line to the New Fuel Facilities Business Line to better align workload priorities.

## **RESEARCH**

### ***Strategic Goal Strategies Supported***

*Safety – Improve the NRC’s regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### ***Workload***

For FY 2011, the NRC requests \$0.3 million, including 1.3 FTE, to provide for Research activities. This represents a flat budget when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as

outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line supports the review of gas centrifuge, laser enrichment, and MOX fuel fabrication facility license applications, including the GE-Hitachi laser enrichment application and the AREVA gas centrifuge application in FY 2011. Research will review the geologic, seismic, structural, external events, instrumentation and control, and human factors aspects of the applications requests.

Through Research, the NRC identifies, leads, and/or sponsors reviews that support the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC’s independent decision-making process.

### ***Changes in FY 2010 Enacted***

Workload and resources remain level.

## **SIGNIFICANT ACCOMPLISHMENTS**

The NRC began the review process for the GE-Hitachi license application.



## OUTPUT MEASURES

### LICENSING

New Fuel Facilities hearing support*						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New efficiency measure in FY 2011					Actual hours expended on major tasks in support of licensing board hearings as documented in the Fuel Cycle Safety and Safeguards Division Operating Plan will not exceed the projected hours by more than 10 percent.

Actual:

\* Targets, baselines, and calculation methods are under development and measure may be revised.

### OVERSIGHT

Timeliness in completing reviews for technical allegations.						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Reviews for New Fuel Facilities will not be executed separately from Operating Fuel Facilities until FY 2010.				90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days

Actual:

**Nuclear Materials Users**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	16.5	81.2	15.9	71.8	14.1	73.9	(1.8)	2.1
Oversight	22.7	91.0	27.6	104.4	28.9	104.4	1.3	0.0
Rulemaking	6.8	38.5	6.6	37.8	6.3	35.8	(0.3)	(2.0)
International Activities	1.9	11.5	2.1	12.7	2.2	13.0	0.1	0.3
Research	0.2	1.5	1.1	3.0	1.4	4.4	0.3	1.4
Event Response	0.4	2.7	0.4	2.7	0.5	2.8	0.1	0.1
Agreement State Support	8.6	42.1	9.3	43.2	9.0	41.6	(0.3)	(1.6)
<b>Subtotal</b>	<b>\$57.1</b>	<b>268.5</b>	<b>\$63.0</b>	<b>275.6</b>	<b>\$62.4</b>	<b>275.9</b>	<b>(\$0.6)</b>	<b>0.3</b>
Corporate Support	27.9	61.9	28.5	63.0	28.3	62.5	(0.2)	(0.5)
<b>Total</b>	<b>\$85.0</b>	<b>330.3</b>	<b>\$91.6</b>	<b>338.5</b>	<b>\$90.7</b>	<b>338.4</b>	<b>(\$0.9)</b>	<b>(0.1)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## NUCLEAR MATERIALS USERS

Nuclear materials have many industrial, medical, and academic uses. The NRC licenses, oversees, and regulates large and small users of nuclear materials, such as radiographers, hospitals, private physicians, nuclear gauge users, irradiators, and universities.

Nuclear Materials Users activities support the licensing, inspection, event evaluation, research, incident response, allegation, enforcement, and rulemaking to maintain the regulatory safety and security infrastructure needed to process and handle nuclear materials. The agency's safety activities include completion of approximately 2,500 materials licensing actions and 1,200 routine health and safety inspections, including naturally occurring and accelerator-produced radioactive material (NARM) inspections. The NRC will also work on approximately 20–25 active materials and waste rulemakings.

The Agreement State program has been in existence since 1959 with the adoption of Section 274 of the Atomic Energy Act. The Agreement State program is a discontinuance of NRC regulatory authority over certain radioactive materials and assumption of that authority by the State government.

Currently there are 37 Agreement States, and 3 more States have indicated interest in becoming an Agreement State. Under Section 274, the NRC has programmatic oversight responsibility to periodically review the actions of the Agreement States to comply with the requirements of the Atomic Energy Act of 1954, as amended, to continue to maintain adequate and compatible programs. While this authority is reserved to the NRC, the current review process under the Integrated Materials Performance Evaluation Program (IMPEP) is conducted with State staff participation under the National Materials Program. The IMPEP process employs a team of NRC and Agreement State staff to assess Agreement State and NRC regional and certain NRC Headquarters radioactive materials programs. The NRC will conduct materials activities related to Agreement States, including oversight, technical assistance, regulatory development, and cooperative efforts. This includes security

*Together, the NRC and Agreement States Regulate more than 22,000 specific and 150,000 general licenses for nuclear materials users.*

inspections of Agreement State licensees in FY 2011. The NRC will continue to fund the cost of Agreement State staff training, including associated travel costs.

Materials activities include reviews and issuance of NRC import/export authorizations, materials-related wrongdoing investigations, adjudicatory hearings for materials licensing and enforcement proceedings, technical training, and continuous improvements and centralized oversight of information technology and information management.

Nuclear Materials Users security activities, (see Figure 16), include the implementation and operation of a national registry (i.e., the National Source Tracking System (NSTS)) of radioactive sources of concern, the implementation of the Web-Based Licensing (WBL) System, and the development of the License Verification System to improve controls on risk-significant radioactive materials to prevent their malevolent use. In addition, resources continue to support infrastructure revisions to integrate and address potential security vulnerabilities identified by the U.S. Government Accountability Office (GAO) and the National Academy of Sciences. Activities also include conducting inspections of increased controls at materials facilities; security inspections of irradiators, manufacturers and distributors, and radioactive materials in quantities of concern; and pre-licensing inspections of new materials applicants. All of these activities will strengthen controls for the possession, handling, import, and export of nuclear materials. In addition, resources will be used to conduct the NRC's Agreement State liaison activities regarding enhanced control and security actions for materials licensees, as well as cooperative efforts and liaison with all State and local governments and Native American Tribal organizations in matters related to homeland security for nuclear waste and materials.

## LICENSING

### Strategic Goal Strategies Supported

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities, materials, spent fuel management, waste management, uranium recovery, and decommissioning activities.*

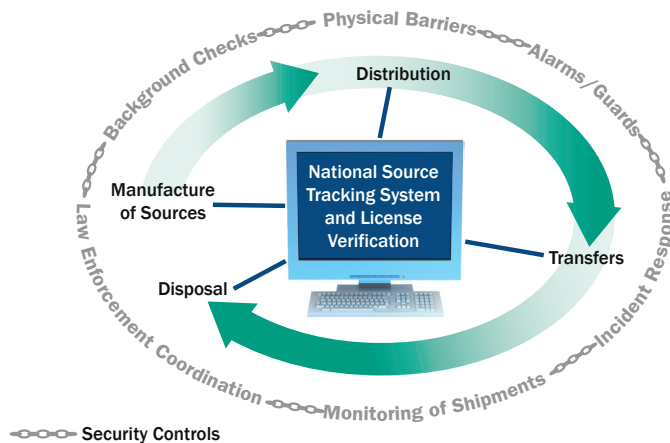
*Security – Support Federal response plans that employ an approach to the security of nuclear facilities and radioactive material that integrates the efforts of licensees, Federal, State, local, and tribal authorities.*

### Workload

For FY 2011, the NRC requests \$14.1 million, including 73.9 FTE, to provide for Licensing activities. This represents a funding decrease of \$1.8 million, although the FTE increase by 2.1 FTE when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports completing approximately 2,200 materials licensing actions (new applications,

Figure 16 - Life Cycle Approach to Source Security



amendments, renewals, and terminations) in FY 2010 and 2,500 in FY 2011. It is anticipated that materials licensing receipts will be slightly higher because of an increase in the number of renewal applications. Licensing confirms that requests to use nuclear materials or modify existing uses provide an adequate margin of safety and security consistent with the NRC's rules and regulations to ensure the adequate protection of public health and safety, protect the environment, and provide high assurance of physical security. The agency will complete program revisions to address the recommendations for enhanced security in the materials licensing process.

Resources increase over the planning period for legal assistance supporting materials licensing. In FY 2011, the agency expects at least one as-yet-undetermined materials licensing action that would be in the contention and pre-hearing stages. Resources will also support additional guidance for Agreement State implementation of the conversion of general licensees to specific licensees, and NSTS implementation.

### *Changes from FY 2010 Enacted*

Workload and FTE resources are increasing for this product line. FTE increase slightly due to the increase in renewal applications and increases in legal advice for licensing hearings. In FY 2011 comparability adjustment between product lines occurred to realign the WBL System resources from Licensing to Oversight as they are now integrated with the Oversight information technology initiatives.

## **OVERSIGHT**

### *Strategic Goal Strategies Supported*

*Safety – Oversee licensee safety performance through inspections, investigations, enforcement, and performance assessment activities.*

*Security – Enhance the programs to control the security of radioactive sources and strategic special nuclear materials commensurate with their risk, including enhancement required by the Energy Policy Act of 2005.*

### *Workload*

For FY 2011, the NRC requests \$28.9 million, including 104.4 FTE, to provide for Oversight activities. This represents a funding increase of \$1.3 million, with FTE remaining flat, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line provides for the continued safe and secure use of nuclear materials. These activities provide the means to identify significant issues and ensure that licensees take appropriate actions to maintain acceptable levels of safety and security in their operating procedures, performance, and use of nuclear materials. Oversight includes resources for inspections, event evaluations, investigations, allegation and enforcement, and related activities associated with the management and oversight of nuclear materials. Resources provide for coordination and liaison with State and local governments, Federal agencies, and Native American Tribal organizations on policy, notifications of interest, and homeland security initiatives for nuclear waste and materials.

The workload includes completion of approximately 1,200 routine health and safety inspections in FY 2010 and 1,200 in FY 2011, as well as reciprocity inspections and a registration and followup inspection program for certain general licensees. Inspections for NARM licenses are planned. The NRC will also inspect Agreement State licensees operating under reciprocity in NRC jurisdictions, and perform security inspections of NRC licensees to ensure the proper control of material above Category 2 quantities.

Oversight supports investigations of wrongdoing, materials-related enforcement actions, oversight of the Alternative Dispute Resolution (ADR) and Allegation Programs, funding for ADR, one staff detail to the U.S. Department of Homeland Security's Domestic Nuclear Detection Office, and advance notice tracking of shipments of radioactive materials in quantities of concern.

FY 2011 resources also support the Nuclear Materials Events Database and implementation of the recommendations from the materials working group and external independent review working group to revise the licensing and inspection infrastructure.

This product line provides for the State, Federal and Tribal Liaison Program that informs, notifies, and coordinates with

Governor-appointed representatives, other Federal agencies, and Native American tribal organizations on matters in the Nuclear Materials and Waste Safety Program, including new or revised regulations, policy and guidance, and homeland security initiatives. This outreach enhances public confidence in the NMP and collects input from NRC stakeholders.

In FY 2011, the NRC plans to coordinate with certain States on Section 274i agreements and with all States on homeland security. These activities include support for the development and distribution of advisories, development and implementation of additional security measures (e.g., implementing guidance), and ensuring other homeland security information is provided to appropriate individuals in State and local governments who are authorized to receive such material. The NRC will need to continue to develop, coordinate, and assist in the maintenance of Section 274i agreements with States to conduct security inspections for NRC-issued security orders.

Resources support continued operation of the NSTS, which includes ongoing enhancements to the system. In FY 2011, resources are level for agency support of information technology requirements for funding tokens and credential costs for the NSTS, as well as the costs associated with continued development of the LVS for both the NSTS and WBL System.

Resources remain level in FY 2011 for continued implementation, improvements, and centralized oversight of the WBL System, including (1) enhanced independent verification

and validation, (2) expanding coverage to include Agreement States for license validations, and (3) systems maintenance.

### *Changes from FY 2010 Enacted*

As the workload remains level for this area, the contract support resources increase because a comparability adjustment between product lines occurred to realign the WBL System resources from Licensing to Oversight, as they are now integrated with the Oversight information technology initiatives.

## **RULEMAKING**

### *Strategic Goal Strategies Supported*

*Safety – Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, transshipment of radioactive materials.*

### *Workload*

For FY 2011, the NRC requests \$6.3 million, including 35.8 FTE, to provide for Rulemaking activities. This represents a funding decrease of \$0.3 million, including 2.0 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line will maintain the regulatory infrastructure needed to process and handle nuclear materials and support to the homeland security regulatory



*Nuclear Gauge*

improvement initiatives. Rules, guidance, and regulations promote licensee compliance with underlying safety principles and security requirements.

Rulemaking activities include homeland security regulatory improvements, work on approximately 20–25 active materials and waste safety and security rulemakings in FY 2010 and FY 2011, as well as continued interactive liaison with industry and professional societies to develop new codes and consensus standards and to address petitions for rulemaking submitted to the agency. Resources are provided to conduct the necessary rulemaking activities to develop or revise appropriate regulatory controls for the possession, handling, import, and export of nuclear materials. Several major high-priority rulemakings will put in place generally applicable security requirements on NRC-licensed activities. Rulemaking resources systematically improve the NRC's regulatory program to ensure the safe use and management of nuclear materials and to resolve safety issues. They also improve the agency's regulations by adding needed requirements, eliminating unnecessary requirements, and minimizing jurisdictional overlaps. The agency will continue work on all high- and medium-priority rulemakings.

### ***Changes from FY 2010 Enacted***

Workload and resources remain essentially level.

## **INTERNATIONAL ACTIVITIES**

### ***Strategic Goal Strategies Supported***

*Safety – Use domestic and international collaboration and cooperation to inform decision-making.*

*Security – Promote U.S. national security interests and nuclear proliferation policy objectives for NRC-licensed imports and exports of source and special nuclear materials and nuclear equipment.*

### ***Workload***

For FY 2011, the NRC requests \$2.2 million, including 13.0 FTE to provide for International Activities. This represents a funding increase of \$0.1 million, including 0.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports NRC expectations to complete reviews and make decisions on 135–180 import/export authorizations of nuclear components and radiological materials, continue the control and tracking of imports and exports of sources, and support bilateral and multilateral activities initiated for the exchange of technical information for the safe handling, storage, transport, and disposal of nuclear waste. Resources also provide for assistance activities related to the safety and security of medical and industrial sources, support to the IAEA missions related to training and regulation of nuclear materials, and assistance to foreign regulatory bodies through the assignee program. Resources in FY 2011 will remain essentially level for the workload associated with International Activities.

Resources also support international committees and groups, the development of memoranda of understanding, and specifically intergovernmental coordination and communication with the Government Coordinating Council, National Nuclear Security Administration, and various trilateral activities. Resources support multilateral and bilateral international activities related to the NRC's mission as well as broader U.S. domestic and international interests for nuclear safety and security.

The International Activities Product Line provides the means to work with international counterparts to exchange information, expertise, operating experience, and ongoing research to recognize and respond to emerging technical issues and promote best safety and security practices. The NRC also participates in the development of international standards to ensure they are soundly based and determine whether substantial safety improvements can be identified and incorporated domestically.

### *Changes from FY 2010 Enacted*

Workload and resources remain level.

## **RESEARCH**

### *Strategic Goal Strategies Supported*

*Safety – Improve the NRC’s regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### *Workload*

For FY 2011, the NRC requests \$1.4 million, including 4.4 FTE, to provide for Research activities. This represents a funding increase of \$0.3 million, including 1.4 FTE, when

compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line supports developing tools informed by human reliability analysis for byproduct materials license applications. For the medical and industrial sectors, Research supports radiation protection regulations and guidance related to the 2007 recommendations of the International Commission on Radiation Protection (ICRP). Funding increases in FY 2010 and FY 2011 to develop modern hand/body phantom models and for research in support of the development of radiation protection regulations and guidance.

Research provides the means to identify, lead, and/or sponsor reviews that support the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC’s independent decision-making process.

### *Changes from FY 2010 Enacted*

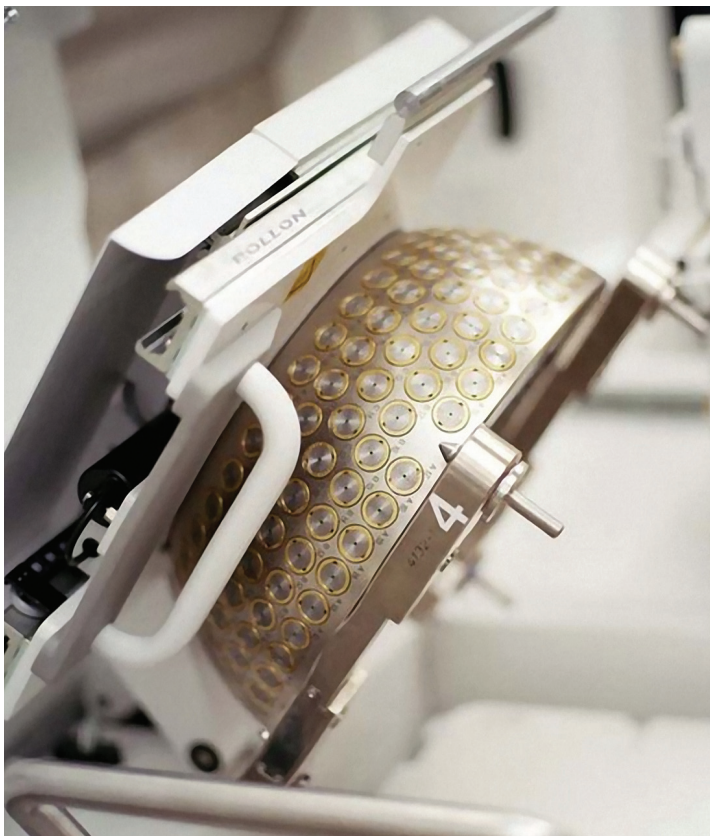
Workload and resources are increasing mainly because of development of radiation protection regulations and guidance related to the 2007 recommendations of the International Commission on Radiation Protection.

## **EVENT RESPONSE**

### *Strategic Goal Strategies Supported*

*Safety – Effectively respond to events at NRC-licensed facilities and other events of national interest, including maintaining and enhancing the NRC’s critical incident response and communication capabilities.*

*Security – Support Federal response plans that employ an approach to the security of nuclear facilities and radioactive material that integrates the efforts of licensees and Federal, State, local, and tribal authorities.*



Leksell Gamma Knife® Collimator Helmet (Courtesy of Elekta)

### Workload

For FY 2011, the NRC requests \$0.5 million, including 2.8 FTE to provide for Event Response activities. This represents a funding increase of \$0.1 million, including 0.1 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Event Response Product Line provides the means to effectively respond to events involving nuclear materials, including maintaining and enhancing the NRC's critical incident response and communication capabilities. In FY 2011, the budget for the Event Response Product Line supports incident response actions for materials licensees, including the maintenance of a 24/7 response capability for materials-related incidents.

### Changes from FY 2010 Current Enacted

Workload and resources remain level.

## AGREEMENT STATE SUPPORT

### Strategic Goal Strategies Supported

*Safety – Continue to support Agreement States to develop, maintain, and implement licensing and regulatory programs for materials users.*

*Security – Share security information with appropriate stakeholders and international partners.*

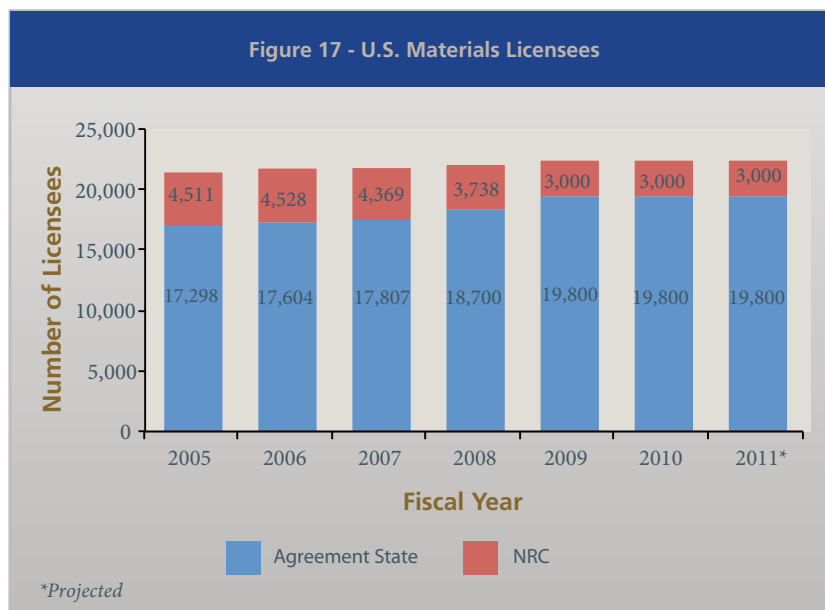
### Workload

For FY 2011, the NRC requests \$9.0 million, including 41.6 FTE, to provide for Agreement State Support activities. This represents a slight funding decrease of \$0.3 million, including 1.6 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Atomic Energy Act of 1954, as amended, provides authority for the NRC to relinquish to a State, by written agreement, portions of its regulatory authority to license and regulate byproduct materials, source materials, and certain quantities of SNM. Currently, the NRC has partnered with 37 States for this purpose and continually provides assistance and support to these Agreement States. Together the NRC and Agreement States regulate nearly 23,000 specific and 150,000 general licenses (see Figure 17).

The Agreement State Support Product Line supports the activities of Agreement States and periodic reviews of Agreement State programs to ensure they are adequate to protect public health and safety and protect the environment, and are compatible with NRC programs. The NRC will work closely with the Agreement States to develop consistent, risk-informed processes to review event information and identify safety issues for materials licensees. Resources provide for conducting materials activities related to Agreement States and liaison, including oversight, technical assistance, cooperative efforts, and enhanced control and security actions for materials licensees. Resources

Figure 17 - U.S. Materials Licensees





also fund NRC-sponsored Agreement State training and travel activities.

Resources remain relatively constant for continued implementation of the Agreement State program. The resources provide support to conduct 10-12 Integrated Materials Performance Evaluation Program (IMPEP) reviews, process one new agreement, process 50 Agreement State incidents/events, participate in and coordinate State participation in regulatory development, coordinate State participation in NRC training courses, respond to State technical assistance requests, respond to or coordinate responses to allegations about Agreement State licensees or regulatory programs, interact with the Conference of Radiation Control Program Directors, Inc., and the Organization of Agreement States, Inc., and develop/maintain policies and procedures for the program. This activity includes the statutory requirement for the agency to make a determination that all applicable standards and requirements have been met before the Agreement State terminates a uranium milling license, and that alternate 11e.(2) standards are adequate before Agreement State implements them (1-2 cases/year). Coordination with the Agreement States in the LLW and decommissioning area is critical. All currently operating LLW sites are located in Agreement States. NRC activities evaluate the safety effectiveness of the Agreement State programs and provide public confidence and assurance that the Agreement States are conducting adequate and compatible programs. The NRC will continue to coordinate the effort for the implementation of the increased control requirements in the Agreement States.

With respect to new Agreement States, Michigan has submitted a letter of intent to become an Agreement State in

FY 2013. Connecticut, Hawaii, and West Virginia have also expressed interest in becoming Agreement States, although their respective Governors have not yet submitted a letter of intent. Given this interest, resource needs for new agreements continue to be reflected in FY 2011 and beyond.

### *Changes from FY 2010 Enacted*

Workload and resources remain essentially flat for this area. The slight decrease in funding is due to reduction in FTE from the transfer of resources to the Oversight Product Line for the State, Federal and Tribal Liaison program which is partially offset by a slight increase in funding to support costs associated with NRC-sponsored Agreement State training.

## **SIGNIFICANT ACCOMPLISHMENTS**

In FY 2009, the NRC deployed the NSTS, a centralized national registry that provides lifetime accounting of certain high-risk radioactive materials used in industry, medicine, and research. Licensees were required to begin using the system by January 31, 2009. Virginia became an Agreement State on March 31, 2009. New Jersey became an Agreement State on September 30, 2009. These two new Agreement States will take over regulatory responsibility for approximately 800 materials licensees. The program also has completed approximately 2,900 materials licensing actions and 1,200 routine health and safety inspections. The NRC completed eight IMPEP reviews of Agreement States and one IMPEP review of an NRC regional office.

## **OUTPUT MEASURES**

### *LICENSING*

Timeliness of licensing actions-review of application for new materials licenses and license amendments.						
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	90% ≤ 90 days 100% ≤ 1 yr.	92% ≤ 90 days 100% ≤ 1 yr.	80% ≤ 90 days 100% ≤ 2 yrs.	85% ≤ 90 days 100% ≤ 2 yrs.	90% ≤ 90 days 100% ≤ 2 yrs.	92% ≤ 90 days 100% ≤ 2 yrs.
Actual:	98% ≤ 90 days 100% ≤ 1 yr.	98% ≤ 90 days 99.8% ≤ 1 yr.	98% ≤ 90 days 100% ≤ 1 yr.	97% ≤ 90 days 100% ≤ 2 yrs.		

**Timeliness of licensing actions - review of applications for materials license renewals and sealed source and device designs.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	90% ≤ 180 days 100% ≤ 2 yrs.	92% ≤ 180 days 100% ≤ 2 yrs.	80% ≤ 180 days 100% ≤ 2 yrs.	80% ≤ 180 days 100% ≤ 2 yrs.	90% ≤ 180 days 100% ≤ 2 yrs.	92% ≤ 90 days 100% ≤ 2 yrs.
Actual:	94% ≤ 180 days 100% ≤ 2 yrs.	98% ≤ 180 days 100% ≤ 2 yrs.	94% ≤ 180 days 100% ≤ 2 yrs.	91% ≤ 180 days 100% ≤ 2 yrs.		

**OVERSIGHT**

**Timeliness of safety inspections of materials licensees.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	> 90% completed on time.	> 90% completed on time.	> 95% completed on time.	> 98% completed on time.	> 98% completed on time.	> 98% completed on time.
Actual:	99% completed on time.	99% completed on time.	99% completed on time.	99% completed on time.		

**Timeliness in completing reviews for technical allegations.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	70% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	70% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	80% ≤ 150 days 90% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 95% ≤ 180 days 100% ≤ 360 days
Actual:	96% ≤ 150 days 100% ≤ 180 days 100% ≤ 360 days	90% ≤ 150 days 99% ≤ 180 days 100% ≤ 360 days	92% ≤ 150 days 95% ≤ 180 days 98% ≤ 360 days	98% ≤ 150 days 100% ≤ 180 days 100% ≤ 360 days		

**Timeliness in completing enforcement actions.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.	Investigation cases: 100% completed within 360 days of OE processing time. Non Investigation cases: 100% completed within 180 days of OE processing time.
Actual:	Investigation: None ≥ 360 days Non-Investigations: None ≥ 180 days	Investigation: None ≥ 360 days Non-Investigations: None ≥ 180 days	Investigation: None ≥ 360 days Non-Investigations: None ≥ 180 days	Investigation: None ≥ 360 days Non-Investigations: None ≥ 180 days		

**Timeliness in completing investigations - Target 1.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	80% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	85% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	85% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	85% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 10 months or less.	85% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 9 months or less.	85% of investigations that developed sufficient information to reach a conclusion regarding wrongdoing will be completed in 9 months or less.
Actual:	83.7%	96.2%	Completed 37 investigations that developed sufficient information to reach a conclusion regarding wrongdoing in 10 months or less.	Completed 33 investigation in which 100% (33) developed sufficient information to reach a conclusion regarding wrongdoing were completed in 10 months or less.		

**Timeliness in completing investigations - Target 2.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	New measure in FY 2007	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.	Close 100% of OI investigations in time to initiate civil and/or criminal enforcement action.
Actual:		100%	100%	100%		

**RULEMAKING**

**Percentage of Materials and Waste rulemaking activities completed on schedule.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Target:	New measure in FY 2009			90%	90%	90%
Actual:				100%		

## INTERNATIONAL ACTIVITIES

### Issuance of NRC import/export authorizations.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete reviews for, and issue as appropriate, 160-225 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for 100% of the cases within 60 days.	Complete reviews for, and issue as appropriate, 160-225 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for 100% of the cases within 60 days.	Complete reviews for, and issue as appropriate, 150-200 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for 100% of the cases within 60 days.	Complete reviews for, and issue as appropriate, 150-200 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for 100% of the cases within 60 days.	Complete reviews for, and issue as appropriate, 150-200 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for >95% of the cases within 60 days.	Complete reviews for, and issue as appropriate, 150-200 NRC import/export authorizations (NRC licenses or amendments). Staff reviews will be completed for >95% of the cases within 60 days.
Actual:	Completed 152 staff reviews. 100% were completed within 60 days.	Completed 153 staff reviews. 97% were completed within 60 days.	Completed 136 staff reviews. 95% were completed within 60 days.	Completed 139 staff reviews. 97.8% were completed within 60 days.		

**Spent Fuel Storage and Transportation**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	10.2	48.8	14.9	54.8	10.4	52.5	(4.5)	(2.3)
Oversight	3.1	18.8	2.9	18.2	2.8	17.4	(0.1)	(0.8)
Rulemaking	1.4	7.6	5.1	5.5	3.2	19.4	(1.9)	13.9
International Activities	0.4	1.7	0.4	1.7	0.9	4.1	0.5	2.4
Research	1.4	3.7	1.3	2.6	0.9	1.3	(0.4)	(1.3)
<b>Subtotal</b>	<b>\$16.5</b>	<b>80.6</b>	<b>\$24.6</b>	<b>82.8</b>	<b>\$18.2</b>	<b>94.7</b>	<b>(\$0.4)</b>	<b>11.9</b>
Corporate Support	8.8	19.6	11.5	25.3	11.4	25.1	(0.1)	(0.2)
<b>Total</b>	<b>\$25.3</b>	<b>100.2</b>	<b>\$36.1</b>	<b>124.1</b>	<b>\$29.6</b>	<b>119.8</b>	<b>(\$6.5)</b>	<b>(4.3)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## SPENT FUEL STORAGE AND TRANSPORTATION

Spent Fuel Storage and Transportation encompasses licensing the interim storage of spent fuel from commercial nuclear reactors, certifying radioactive material transportation packages, and inspecting storage cask and transportation package vendors, fabricators, and designers to ensure safety. The NRC licenses, oversees, and regulates the management and disposition of spent fuel. Spent fuel is initially stored in pools at reactor sites; then, after an appropriate time period, licensees may move the spent fuel to dry storage in casks certified by the NRC for such use.

About three million packages of radioactive materials are shipped each year in the United States by road, rail, air, or water. Regulating the safety of commercial radioactive material shipments is the joint responsibility of the NRC and the U.S. Department of Transportation. The NRC ensures transportation safety by reviewing and certifying shipping package designs for the transport of large quantities of radioactive materials and fissile materials. In addition, the NRC reviews and certifies shipping package designs for DOE, for example, packages used to transport transuranic waste to the Waste Isolation Pilot Plant in New Mexico.

The NRC expects to review license requests for ISFSIs, spent fuel storage casks, transportation packages, dual-purpose (storage and transport) casks, transportation security plans, and route approvals. Spent Fuel Storage and Transportation supports the review of approximately 80 transportation package designs and approximately 25 spent fuel storage casks and spent fuel storage facilities to support safe and secure domestic and international transportation, industry needs for full-core offload capability at operating reactor sites, and transfer of spent fuel to ISFSIs to facilitate reactor decommissioning.

Resources also support licensing and inspection activities associated with transportation security for radioactive material in quantities of concern, for SNM and spent nuclear fuel, and support activities associated with the transport and protection of classified materials, security plan reviews for new licensees, route approvals, and maintenance of shipment information. Additionally, resources support approximately

*About three million packages of radioactive materials are shipped each year in the U.S. by road, rail, air or water.*

15 safety inspections each year of spent fuel dry cask vendors, fabricators, and designers, and at ISFSIs.

Resources are provided for five high-priority rulemakings and five medium-priority rulemakings. Resources also support research to develop a technical basis for the allowance of full (fission product and actinides) burn-up credit for spent fuel transportation and storage casks, and research to develop human reliability analysis capability for investigating human performance issues related to spent fuel handling.

Resources decrease primarily in Research to reflect a shift in resources from the Spent Fuel Storage and Transportation Business Line to support high-priority emergent research work under the Nuclear Materials Users Business Line.

Resources will support Interaction with the International Atomic Energy Agency (IAEA) and other international regulators to inform the development of the regulatory framework for long-term spent fuel and high-level waste storage, deferred transportation, and ultimate geologic disposal.

The NRC has organized Spent Fuel Storage and Transportation into product lines that best support safety and security strategies and impact strategic outcomes as they relate to spent fuel storage and the transportation of radioactive materials. The resources requested support all direct aspects of Spent Fuel Storage and Transportation within the following five Product Lines: Licensing, Oversight, Rulemaking, International Activities, and Research. The outputs of these product lines contribute to the scoring of the NRC safety and security performance measures and their contribution to achievement of strategic outcomes.

## LICENSING

### *Strategic Goal Strategies Supported*

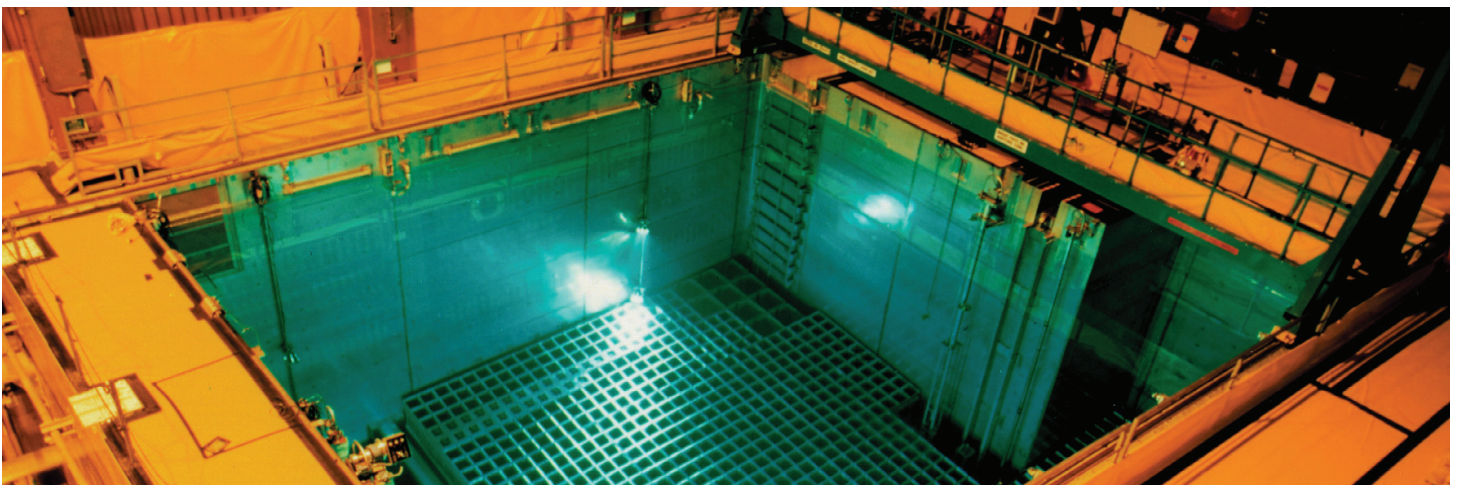
*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities, materials, spent fuel management, waste management, uranium recovery, and decommissioning activities.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, and transshipment of radioactive materials.*

### *Workload*

For FY 2011, the NRC requests \$10.4 million, including 52.5 FTE, to provide for Licensing activities. This represents a decrease of \$4.5 million, including 2.3 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports the confirmation of requests to approve, renew, change, or modify license requests for ISFSIs; certification of dry spent fuel storage



*Spent fuel pool*

casks and transportation packages for radioactive materials; and the provision of adequate levels of protection for public health and safety and security. Licensing resources support the review of approximately 80 transportation package design applications and approximately 25 spent fuel storage cask designs and spent fuel storage facilities to meet industry needs, and the continuation of public outreach activities to demonstrate the effectiveness of the NRC's radioactive material transportation and spent fuel storage regulatory oversight. Resources also support the continuation of efforts to risk-inform storage and transportation standard review plans and to incorporate interim staff guidance into those plans in order to make licensing reviews more efficient and to provide awareness to licensees and applicants of regulatory requirements for license applications.

Licensing resources will also provide support for security activities associated with radioactive materials in quantities of concern, spent nuclear fuel route and immobilization device approvals, SNM transportation security plan approvals, and ISFSI security plan reviews, specifically ISFSI security orders; licensing reviews for ISFSIs at power reactors; spent fuel storage licensing reviews and hearings support; and decommissioning security reviews and exemption requests.

### ***Changes from FY 2010 Enacted***

Resources decrease to reflect the transfer of resources to the Integrated Spent Fuel Management Business Line to better align workload priorities.

## **OVERSIGHT**

### ***Strategic Goal Strategies Supported***

*Safety – Oversee licensee safety performance through inspections, investigations, enforcement, and performance assessment activities.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, and transshipment of radioactive materials.*

### ***Workload***

For FY 2011, the NRC requests \$2.8 million, including 17.4 FTE, to provide for Oversight activities. This represents a decrease of \$0.1 million, including 0.8 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line supports the NRC activities to continuously oversee safe and secure spent fuel storage, storage cask design, and transportation packaging to better identify significant issues and to ensure that licensees continue to maintain acceptable safety and security. In FY 2011, resources provide for headquarters and regional staff efforts for pre-operational inspections and regional oversight of ISFSI operations; inspections of cask vendors, designers, and fabricators; inspections of ISFSIs; and enforcement allegations and transportation activities.

### ***Changes from FY 2010 Enacted***

Workload and resources remain level.

## **RULEMAKING**

### ***Strategic Goal Strategies Supported***

*Safety - Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, transshipment of radioactive materials.*

### ***Workload***

For FY 2011, the NRC requests \$3.2 million, including 19.4 FTE, to provide for Rulemaking activities. This represents a decrease of \$1.9 million, although 13.9 FTE increase, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements

in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line supports the NRC's goal to maintain a safety and security framework of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles and security requirements. In FY 2011, the budget request for Rulemaking provides resources to support five high-priority and five medium-priority rulemaking efforts related to radioactive material transportation and spent fuel storage during FY 2009–2011, including enhanced security at ISFSIs; standards for waste storage (concurrent with rulemaking); enhanced security during transport of special nuclear material and spent nuclear fuel, including regulatory guide development; and development of adversary characteristics for use in regulatory guides. In addition, resources support the biennial update of NUREG-0725, "Public Information Circular for Shipments of Irradiated Reactor Fuel," and its issuance in FY 2011. Resources also provide technical support for the development of the technical basis of other high- and medium-priority rulemakings and support for the resolution of petitions under 10 CFR 2.206, "Request for Action under this Subpart."

The resources support development of the technical basis to support rulemaking efforts for extended, long term dry spent fuel and high-level waste storage for periods of 100 years or longer. Rulemaking maintains the NRC's safety and security framework of rules, regulatory guidance, and standard review plans that promote license compliance with underlying safety principles and security requirements.



*Sandia Cask Transport Test*

### **Changes from FY 2010 Enacted**

Resources decrease slightly, but the FTEs increase to accommodate rulemaking activities in coordination with efforts in the Integrated Spent Fuel Management Business Line.

## **INTERNATIONAL ACTIVITIES**

### **Strategic Goal Strategies Supported**

*Safety – Use domestic and international collaboration and cooperation to inform decision-making.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, and transshipment of radioactive materials.*

### **Workload**

For FY 2011, the NRC requests \$0.9 million, including 4.1 FTE, to provide for International Activities. This represents a slight funding increase, including 2.4 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports the NRC's work with international counterparts to exchange information, expertise, operating experiences, and ongoing research to recognize and respond to emerging technical issues and promote best safety and security practices. The NRC participates in the development of international standards to ensure they are soundly based and to determine whether substantial safety improvements can be identified and incorporated domestically. Resources in FY 2011 will support international coordination with IAEA on the storage and transportation of nuclear materials and waste, and oversight of international transportation security for spent fuel.

Additionally, the International Activities Product Line supports interactions with the IAEA and other international regulators to inform the development of long-term spent fuel and high-level waste storage and deferred transportation, and ultimate disposal. Through International Activities, the



NRC works with international counterparts to exchange information, expertise, operating experiences, and ongoing research to recognize and respond to emerging technical issues to promote best safety and security practices.

### **Changes from FY 2010 Enacted**

The workload and resources for this product line are increasing due to an increasing need to participate with international partners in the development of the technical basis for rulemaking and licensing for the various new options other countries have implemented or are in the process of implementing to handle HLW storage and ultimate disposal.

## **RESEARCH**

### **Strategic Goal Strategies Supported**

*Safety – Improve the NRC’s regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### **Workload**

For FY 2011, the NRC requests \$0.9 million, including 1.3 FTE, to provide for Research activities. This represents a funding decrease of \$0.4 million, including 1.3 FTE, when compared to estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The NRC supports research to identify, lead, or sponsor reviews that support the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC’s independent decision-making process. In FY 2011, resources provide for research to obtain and analyze data related to the approval of credit for spent fuel burn-up for spent fuel transportation casks in support of a revision to interim staff licensing guidance. Research will also evaluate storage and transportation of high burn-up fuels

and evaluate risk of criticality associated with the transportation of spent nuclear fuel. As a result, resources will support the development of a technical basis to support the allowance of full (fission product and actinides) burn-up credit for spent fuel transportation and storage casks. Resources will also support research to develop human reliability analysis capability for investigating human performance issues related to spent fuel handling.

In addition, resources support the development of the regulatory framework for extended long-term storage and deferred transportation of spent nuclear fuel and high-level waste, and ultimate geologic disposal of waste. The technical basis for addressing the long-term storage and deferred transportation regulatory gaps, identified in FY 2010, will be developed. These activities could include addressing issues such as aging management, higher burn-up fuels, and long-term cask demonstration. These activities are being closely coordinated with efforts in the Integrated Spent Fuel Management Business Line.

### **Changes from FY 2010 Enacted**

Resources are decreasing slightly in this product line to support high-priority emergent research work in the Nuclear Materials Users Business Line.

## **SIGNIFICANT ACCOMPLISHMENTS**

The NRC completed 16 inspections and reviews of 60 transportation package design approval requests in FY 2009. The NRC also reviewed 16 spent fuel storage cask and three spent fuel storage facility license requests from applicants and licensees to support safe and secure domestic and international transportation, industry needs for full-core offload capability at operating reactor sites, and transfer of spent fuel to ISFSIs to facilitate reactor decommissioning.

The NRC issued a regulatory issue summary and associated Federal Register notice in late FY 2008 to address requests for the limited continued use of casks whose Certificate of Compliance was to expire on October 1, 2008, the implementation date of the 1996 IAEA transport regulations. This helped to ensure public health and safety by creating a mechanism for the continued shipment of radiopharmaceuticals using the existing radioactive material transportation packages for a limited number of shipments, each with a fixed expiration date. The NRC received 15 applications from vendors and shippers and approved them by March 2009.

A tri-party working group of staff from the U.S. Department of Transportation, the NRC and the Canadian Nuclear Safety Commission prepared the “Joint Canada-United States Guide for Approval of Type B (U) and Fissile Material Transportation Packages” (Joint Guide). The Joint Guide provided the framework to enhance U.S. and Canadian validation of Competent Authority Type B (U) and fissile

materials transportation package approvals for export and import. In June 2008, the Joint Guide was published for public comment in both the United States, as NUREG-1886, and in Canada, as RD-364. The final document was published in March 2009, in both the United States and Canada.

## OUTPUT MEASURES

### LICENSING

#### Complete storage container and installation design reviews within timeliness goals.

	FY 2006	FY 2007	FY 2008*	FY 2009	FY 2010	FY 2011
Target:	80% ≤ 13.3 mos. 100% ≤ 2 yrs.	80% ≤ 12.6 mos. 100% ≤ 2 yrs.	80% ≤ 12.6 mos. 100% ≤ 2 yrs.	80% ≤ 12.6 mos. 100% ≤ 2 yrs.	80% ≤ 12.6 mos. 100% ≤ 2 yrs.	80% ≤ 12.6 mos. 100% ≤ 2 yrs.
Actual:	85% ≤ 13.3 mos. 100% ≤ 2 yrs.	100% ≤ 12.6 mos. 100% ≤ 2 yrs.	90% ≤ 12.6 mos. 100% ≤ 2 yrs.	82% ≤ 12.6 mos. 100% ≤ 2 yrs.		

\*Output targets for FY 2008 and beyond are being held at the FY 2007 metric to reflect the changing profile of the casework, based on the increased technical complexity and applicants “bundling” of multiple requests in a single application, and updated labor rates for the current mix of casework. The labor rates were updated based on historical expenditures during FY 2006 and FY 2007.

#### Complete transportation container design reviews within timeliness goals.

	FY 2006	FY 2007	FY 2008*	FY 2009	FY 2010	FY 2011
Target:	80% ≤ 7.7 mos. 100% ≤ 2 yrs.	80% ≤ 7.4 mos. 100% ≤ 2 yrs.	80% ≤ 7.4 mos. 100% ≤ 2 yrs.	80% ≤ 7.4 mos. 100% ≤ 2 yrs.	80% ≤ 7.4 mos. 100% ≤ 2 yrs.	80% ≤ 7.4 mos. 100% ≤ 2 yrs.
Actual:	96% ≤ 7.7 mos. 100% ≤ 2 yrs.	92% ≤ 7.4 mos. 100% ≤ 2 yrs.	86% ≤ 7.4 mos. 100% ≤ 2 yrs.	86% ≤ 7.4 mos. 100% ≤ 2 yrs.		

\*Output targets for FY 2008 and beyond are being held at the FY 2007 metric to reflect the changing profile of the casework, based on the increased technical complexity and applicants “bundling” of multiple requests in a single application, and updated labor rates for the current mix of casework. The labor rates were updated based on historical expenditures during FY 2006 and FY 2007.

### OVERSIGHT

#### Number of spent fuel storage and transportation inspections completed.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	16 inspections	16 inspections	16 inspections	16 inspections	16 inspections	16 inspections
Actual:	16 inspections	16 inspections	16 inspections	17 inspections		

## RESEARCH

### Timeliness of completing actions on critical research programs\*.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	85% of major milestones met on or before their due date.	85% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.	90% of major milestones met on or before their due date.
Actual:	96% across programs.	100% across programs.	100% across programs.	100% across programs.		

\*Definition: Critical research programs typically respond to high priority needs from the Commission and NRC's licensing organizations. Critical research programs regarding the highest priority needs identified at the beginning of the fiscal year.

### Acceptable\* technical quality of agency research technical products

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New measure in FY 2007	Combined score $\geq 3.0$	Combined score $\geq 3.0$	Combined score $\geq 3.5$	Combined score $\geq 3.5$	Combined score $\geq 3.5$
Actual:		4	4	4		

\*NRC has developed a process to measure the quality of research products that includes surveying end-users to determine usability and value-added of the product and feedback from the Advisory Committee on Reactor Safeguards on research programs and products. As appropriate, other mechanisms will be developed and added to this process to measure the quality of research products.

**Decommissioning and Low-Level Waste**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	17.1	78.5	16.9	78.7	16.7	76.9	(0.2)	(1.8)
Oversight	4.3	23.5	4.5	23.9	3.6	21.5	(0.9)	(2.4)
Rulemaking	0.0	0.0	0.6	3.6	0.8	5.0	0.2	1.4
International Activities	0.6	3.9	0.6	3.5	0.7	4.2	0.1	0.7
Research	2.4	7.8	1.3	7.8	1.4	7.9	0.1	0.1
<b>Subtotal</b>	<b>\$24.4</b>	<b>113.7</b>	<b>\$23.9</b>	<b>117.5</b>	<b>\$23.2</b>	<b>115.5</b>	<b>(\$0.7)</b>	<b>(2.0)</b>
Corporate Support	13.5	30.0	13.9	30.6	13.2	29.2	(0.7)	(1.4)
<b>Total</b>	<b>\$37.9</b>	<b>143.7</b>	<b>\$37.8</b>	<b>148.2</b>	<b>\$36.4</b>	<b>144.7</b>	<b>(\$1.4)</b>	<b>(3.5)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## DECOMMISSIONING AND LOW-LEVEL WASTE

Decommissioning is the safe removal of a nuclear facility from service and reduction of residual radioactivity to a level that permits release of the property and termination of the NRC license. The NRC rules for decommissioning establish site release criteria and provide for unrestricted and, under certain conditions, restricted release of a site. The NRC regulates the decontamination and decommissioning of uranium recovery facilities, materials and fuel cycle facilities, nuclear power plants, RTRs, and uranium recovery facilities, with the ultimate goal of license termination. The NRC ensures safety and security in the disposition of radioactive waste. Certain nuclear waste is categorized as LLW, which include items that have become contaminated with radioactive material or that have become radioactive through exposure. The NRC regulates the management and disposition of LLW (see Figure 18). The NRC or Agreement States license, oversee, and regulate commercial LLW disposal facilities.

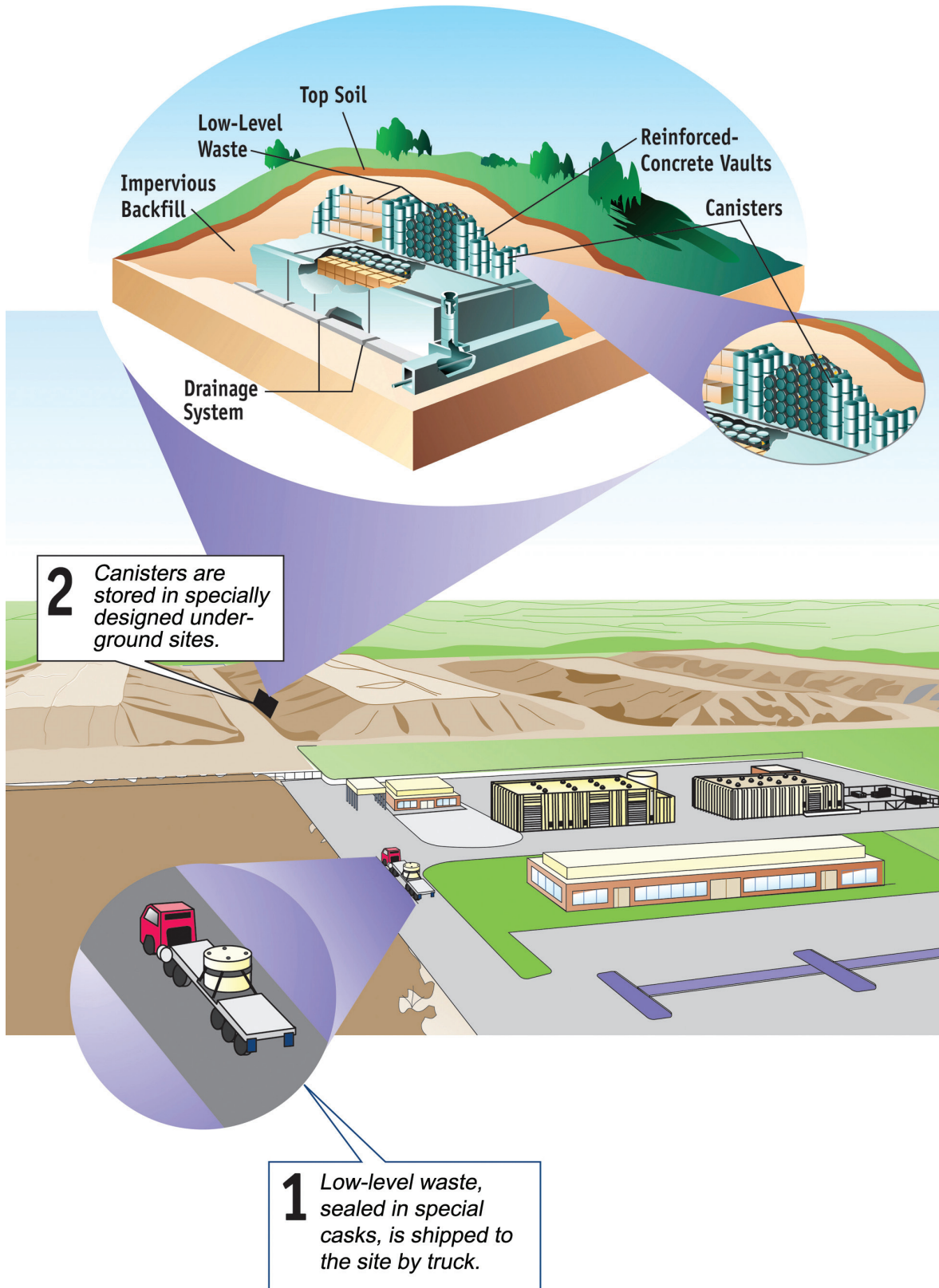
The Decommissioning and LLW Product Line provides project management; technical, safety, and environmental reviews for uranium recovery facilities, and decommissioning of power reactors, RTRs, complex materials sites, and

inactive uranium recovery facilities undergoing decommissioning. It supports interfaces with licensees, applicants, Federal and State agencies, the public, other stakeholders, and Native American Tribal governments. Resources support five environmental and eight safety reviews, including hearings for uranium recovery facility applications, as well as the management of approximately 13 decommissioning power reactors, 10 decommissioning RTRs, 21 decommissioning materials sites, and 18 decommissioning uranium recovery facilities.

Resources provide for oversight of certain DOE waste determination activities and plans consistent with the NRC's responsibilities under the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005. This act requires DOE to consult with the NRC on its waste incidental to reprocessing (WIR) determinations for facilities in South Carolina and Idaho and requires NRC monitoring at those sites.

*Low-Level Waste are items that have become contaminated with radioactive material or have become radioactive through exposure.*

**Figure 18 - Low-Level Waste Disposal Site**



Resources also support the regulation and oversight of LLW activities, including interactions with and technical assistance to DOE and the States on important LLW regulatory issues. In addition, resources support guidance development and import/export reviews.

Research activities will provide data and process models for technical analysis to assess public exposure to environmental releases of radioactive materials and the technical basis for rulemakings associated with radiological environmental contamination. These resources also provide issue-specific assistance for emerging scientific issues in complex decommissioning reviews.

The NRC has organized Decommissioning and LLW activities into product lines that best support safety and security strategies and impact strategic outcomes as they relate to decommissioning and low-level waste licensing, inspection, and related environmental activities. The resources requested support all direct aspects of the Decommissioning and LLW Business Line within the following five Product Lines: Licensing, Oversight, Rulemaking, International Activities, and Research. The outputs of these product lines contribute to the scoring of the NRC safety and security performance measures and their contribution to achievement of strategic outcomes.

## LICENSING

### *Strategic Goal Strategies Supported*

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities material, spent fuel management, waste management, uranium recovery, and decommissioning.*

*Security – Review security plans and changes for consistency with security requirements.*

### *Workload*

For FY 2011, the NRC requests \$16.7 million, including 76.9 FTE, to provide for Licensing activities. This represents a decrease of \$0.2 million, including 1.8 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion,

the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports activities that confirm requests to terminate a license through a decommissioning process and the licensing of LLW disposal sites (or the support of Agreement State licensing) to provide an adequate margin of safety and security consistent with the NRC rules and regulations. Licensing supports project management; technical, safety, and environmental reviews; and other licensing activities facilitating the licensing of uranium recovery facilities, and the decommissioning of power reactors, RTRs, complex materials sites, and inactive uranium recovery facilities. Product Line resources support interfaces with NRC licensees, applicants, Federal and State agencies, the public, other stakeholders, Native American Tribal governments, and legal advice and representation.

In FY 2011, resources for decommissioning remain relatively level and will support performing project management and technical reviews for 13 decommissioning power reactors, 10 decommissioning RTRs, 21 decommissioning materials sites, and 18 decommissioning uranium recovery facilities, including license termination plans, decommissioning plans, and license amendments. FY 2011 resources provide support to perform complex environmental reviews for decommissioning cases and for licensing actions.

The agency will perform safety reviews, environmental reviews, and project management for uranium recovery licensing. It will also support interactions with licensees, applicants, Federal and State agencies, the public, other stakeholders, and Native American Tribal governments. Resources will support five environmental and eight safety reviews including hearings of applications in the FY 2011 time frame.

### *Changes from FY 2010 Enacted*

The workload and resources remain essentially flat. A slight FTE decrease for uranium recovery legal support was partially offset by the transfer of resources to this Business Line to provide independent advice.

## OVERSIGHT

### *Strategic Goal Strategies Supported*

*Safety – Oversee the decontamination and decommissioning of nuclear facilities in license termination.*

*Security – Review security plans for decommissioning for consistency with security requirements.*

### *Workload*

For FY 2011, the NRC requests \$3.6 million, including 21.5 FTE, to provide for Oversight activities. This represents a funding decrease of \$0.9 million, including 2.4 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Oversight Product Line supports the NRC in continuously overseeing Decommissioning and LLW activities to ensure that licensees continue to maintain acceptable safe and secure practices. In FY 2011, resources provide for decommissioning and uranium recovery inspections, waste determinations at two DOE sites, and support for LLW strategic assessment activities and program casework.

Resources provide for inspections to ensure that decommissioning is being conducted safely and in accordance with NRC regulations. Increased resources are provided to conduct inspections because of anticipated growth in the number of uranium recovery licensees.

Resources are provided to perform monitoring WIR at the Savannah River Site and the Idaho National Laboratory under the 2005 National Defense Authorization Act.

Resources remain relatively level and continue support for LLW program casework and LLW strategic assessment activities, a scoping study on financial assurance for by-product material, and the development of guidance for an alternative waste class (10 CFR 61.58,) “Alternative Requirements for Waste Classification and Characteristics.”

### *Changes from FY 2010 Enacted*

Workload and resources are decreasing in this area because the agency oversight of DOE waste determination activities have decreased.

## RULEMAKING

### *Strategic Goal Strategies Supported*

*Safety – Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls.*

### *Workload*

For FY 2011, the NRC requests \$0.8 million, including 5.0 FTE, to provide for Rulemaking activities. This represents a funding increase of \$0.2 million, including 1.4 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Rulemaking Product Line supports the NRC goal of maintaining a safety and security framework of rules, regulatory guidance, and standard review plans that promote licensee compliance with underlying safety principles and security requirements. In FY 2011, the budget request for the Rulemaking Product Line will provide resources to support the 10 CFR Part 61 rulemaking, including development of technical basis documents, environmental reviews, and other regulatory products for the disposal of large quantities of depleted uranium and technical support for enhanced security at decommissioning power plants.

### *Changes from FY 2010 Enacted*

Workload and resources are slightly increasing because of the increased work required to develop the technical basis for the limited 10 CFR Part 61 depleted uranium rulemaking.

## INTERNATIONAL ACTIVITIES

### *Strategic Goal Strategies Supported*

*Safety – Use domestic and international operating experience to inform decision-making.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, and transshipment of radioactive materials.*

### *Workload*

For FY 2011, the NRC requests \$0.7 million, including 4.2 FTE, to provide for International Activities. This represents a funding increase of \$0.1 million, including 0.7 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The International Activities Product Line supports activities with international counterparts to exchange information, expertise, operating experiences, and ongoing research to recognize and respond to emerging technical issues and promote best safety and security practices. The NRC also participates in the development of international standards to ensure they are soundly based and determine whether substantial safety improvements can be identified and incorporated domestically. Resources provide support for international activities and for bilateral assistance to foreign counterparts on decommissioning issues, development of regulations for the handling and disposal of LLW, and decommissioning of nuclear power plants and other facilities. Resources also support participation in IAEA activities, including working groups for the preparation and update of safety guides. In addition, resources provide for staff assistance to the foreign assignee program and for bilateral and multilateral exchanges of technical information.

### *Changes from FY 2010 Enacted*

Workload and resources remain essentially level.

## RESEARCH

### *Strategic Goal Strategies Supported*

*Safety – Improve the NRC's regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### *Workload*

For FY 2011, the NRC requests \$1.4 million, including 7.9 FTE, to provide for Research activities. This represents essentially flat funding compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line supports activities to identify, lead, or sponsor reviews that support the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC's independent decision-making process. The FY 2011 budget allocates resources for research activities that provide more realistic data, models, and computer tools to support staff assessment of potential exposure to individuals because of environmental releases of radioactive materials for decommissioning activities.

### *Changes from FY 2010 Enacted*

Workload and resources remain essentially level.

## SIGNIFICANT ACCOMPLISHMENTS

In FY 2009, the NRC provided project management and technical reviews for decommissioning activities at 13 power and early demonstration reactors, 10 RTRs, 18 inactive uranium recovery facilities, and 21 complex materials sites and fuel cycle facilities, including license termination plans, decommissioning plans, and license amendments. The agency also accepted license applications for two additional uranium recovery facilities and initiated the associated safety and environmental reviews. The NRC issued the final generic environmental impact statement (GEIS) for in situ recovery (ISR) uranium recovery facilities in June 2009.



## OUTPUT MEASURES

### LICENSING

Support program licensing activities by reviewing environmental reports and preparing environmental review documents.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete 1 final EIS and 1 draft EIS.*	Complete 1 final EIS or draft EIS.* Complete 3 complex EAs.	Complete 2 final EISs or draft EISs.* Complete 3 complex EAs.	Complete 1 final EIS or draft EIS.* Complete 3 complex EAs.	Complete 2 draft EISs.* Complete 2 complex EAs.	Complete environmental reviews consistent with the Environmental Protection and Performance Assessment Operating Plan.
Actual:	Completed 1 final EIS (USEC), completed comments as a cooperating agency on the draft West Valley EIS.	Completed the draft Sequoyah Fuels Corp. EIS and provided comments as a cooperating agency on the preliminary final draft West Valley EIS.  Completed 3 EAs (NARM Rulemaking, Westinghouse License Renewal EA and the Rancho Seco EA.)	Completed the Final EIS for Sequoyah Fuels Corp. and the draft Generic EIS for ISR Uranium Recovery facilities.  No complex EAs completed because there were none to complete in FY 2008.	Completed GEIS for Uranium Recovery. Three complex EAs were completed for AREVA, GNFA, and Oconee.		

\*Within 45 days of acceptance of application and environmental report, publish notice of intent to prepare the EIS and proposed schedule in the Federal Register.

Clean up complex material sites, fuel cycle sites, power reactors, and research/test reactors; and complete uranium recovery license reviews.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Complete final guidance to address issues identified in the license termination rule analysis and provides risk-informed approaches for restricted-use, more realistic scenarios, and preventing legacy sites. Complete high-priority licensing actions as scheduled in the Decommissioning Operating Plan.	Complete licensing actions as scheduled in the Decommissioning Operating Plan. Conduct PART for the Decommissioning and Low-Level Waste program.  Complete proposed rule to prevent legacy sites.	Complete decommissioning and uranium recovery licensing actions as scheduled in the Decommissioning Operating Plan.  Complete final rule to prevent legacy sites.	Complete decommissioning and uranium recovery licensing actions as scheduled in the Decommissioning Operating Plan.	Complete licensing actions consistent with the Decommissioning Operating Plan.	Complete licensing actions consistent with the Decommissioning Operating Plan.
Actual:	Completed revision to NUREG-1757 Volumes 1 and 2 to incorporate decommissioning lessons-learned and issues identified in the license termination rule analysis and included risk-informed approach for restricted use, more realistic scenarios, and guidance for preventing future legacy sites. Completed decommissioning at 7 sites.	Completed proposed rule to prevent future legacy sites.  Conducted PART for the DLLW program; program rated "effective" by OMB.  Completed decommissioning at 11 sites.	Completed decommissioning at 8 sites.  Completed two uranium recovery licensing actions.	Completed decommissioning at 1 site. Completed final rule for preventing future legacy sites currently under review by the Commission.		

**Provide support to DOE for Waste Incidental to Reprocessing (WIR) activities.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<b>Target:</b>	Complete 2 WIR reviews.	Complete 2 WIR monitoring plans. Complete the draft Final WIR Standard Review Plan (SRP). Complete resolution of 2 WIR generic technical and policy issues identified in FY 2006.	Complete monitoring activities as scheduled in the Environmental Protection and Performance Assessment Operating Plan. Complete resolution of 2 WIR generic technical and policy issues identified in FY 2006.	Complete WIR review or monitoring plan/ activities as scheduled in the Environmental Protection and Performance Assessment Operating Plan.	Complete WIR review or monitoring plan/ activities as scheduled in the Environmental Protection and Performance Assessment Operating Plan.	Complete WIR review and monitoring plan activities as scheduled in the Environmental Protection and Performance Assessment Operating Plan.
<b>Actual:</b>	Met Target.*	Completed 2 WIR monitoring plans (INL and SRS) Issued the Draft Final WIR SRP (NUREG-1854) Completed resolution of 2 WIR generic technical and policy issues.	Completed 4 WIR Monitoring visits and issued 4 WIR Monitoring Reports. Completed resolution of 7 WIR generic technical and policy issues identified in FY 2006.	Completed 3 WIR Monitoring Visits and reviewed 11 Technical Reports related to Saltstone.		

\*Completed technical review for Saltstone Disposal Facility Waste Determination in November 2005 and issued the Technical Evaluation report in December 2005, and completed technical review of the Idaho National Laboratory Tank Farm Facility Determination in September 2006 and issued the Technical Evaluation Report in October 2006.

**Eliminate the need for some site specific environmental impact statements (i.e. by reducing resource needs) by developing a Generic Environmental Impact Statement (GEIS) for uranium recovery environmental reviews.**

	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<b>Target:</b>	New measure in FY 2009			Projected savings of \$1,040K and 1 FTE	Projected Savings of \$1,100K and 4 FTE	Projected savings of \$450K and 0.7 FTE
<b>Actual:</b>				Actual savings of \$2.2 million and 0.6 FTE in FY 2009.		

Between FY 2008 and FY 2012, the staff expects to receive 21 in-situ recovery (ISR) uranium recovery license applications. The development of a Generic Environmental Impact Statement (GEIS) is expected to eliminate the need to develop site-specific environmental impact statements (EISs) for some of these applications. Rather than developing a site-specific EIS for each site the staff will be able to "tier off" the GEIS and instead rely on a less resource intensive environmental assessment (EA) or a site specific supplemental EIS to evaluate the environmental impacts of the site-specific ISR license request (total savings of at least \$2.0M and 7.0 FTE in FY 2008-FY 2011 and beyond) the final GEIS was issued in June 2009 on schedule.

**High-Level Waste Repository**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	37.0	82.1	23.0	83.6	10.0	32.0	(13.0)	(51.6)
Oversight	1.3	4.2	0.7	3.9	0.0	0.0	(0.7)	(3.9)
Rulemaking	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research	0.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0
<b>Subtotal</b>	<b>\$38.6</b>	<b>88.0</b>	<b>\$23.7</b>	<b>87.5</b>	<b>10.0</b>	<b>32.0</b>	<b>(\$13.7)</b>	<b>(55.5)</b>
Corporate Support	10.6	23.6	5.2	10.9	0.0	0.0	(5.2)	(10.9)
<b>Total</b>	<b>\$49.2</b>	<b>111.6</b>	<b>\$29.0</b>	<b>99.0</b>	<b>\$10.0</b>	<b>32.0</b>	<b>(\$19.0)</b>	<b>(67.0)</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## HIGH-LEVEL WASTE REPOSITORY

The High-Level Waste Repository program is responsible for licensing activities related to the Yucca Mountain geologic repository. This program supports achievement of the NRC's strategic goal of safety and security through its regulatory activities associated with the licensing review of the DOE application for the permanent disposal of spent fuel at Yucca Mountain, Nevada. To conduct the license application review, the program implemented two concurrent processes: assess the technical merits of the repository design, and support the adjudicatory hearing before the NRC Atomic Safety and Licensing Boards convened to hear the technical and legal challenges posed by a number of parties to the DOE application.

The Administration has indicated that it does not support developing a repository at Yucca Mountain, Nevada. Consistent with that position, DOE may submit to the NRC a motion to withdraw or suspend its Yucca Mountain license application during FY 2010. The NRC Budget reflects that possibility. Upon the withdrawal or suspension of the licensing review, the NRC would begin an orderly closure

of the technical review and adjudicatory activities and would document the work and insights gained from the review.

The NRC has organized HLW Repository activities into product lines that best support safety and security strategies and impact strategic outcomes as they relate to HLW. The resources requested support all direct aspects of HLW Repository within the Licensing Product Line. This product line contributes to progress on the NRC safety and security performance measures and their contribution to achievement of the strategic outcomes.

*Resources for the High-Level Waste Repository business Line will support hearing-related activities.*

## LICENSING

### *Strategic Goal Strategies Supported*

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities material, spent fuel management, waste management, uranium recovery, and decommissioning.*

### *Workload*

For FY 2011, the NRC requests \$10.0 million, including 32.0 FTE, to provide for Licensing activities. This represents a funding decrease of \$13.7 million, including 55.5 FTE, when compared with estimated FY 2010 funding levels. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

Resources will support work related to the orderly closure of the agency's Yucca Mountain licensing support activities. This would involve archiving material, completion of some technical work, knowledge capture and management, and maintenance of certain electronic systems to support these efforts. Resources will also support closing the adjudicatory aspects upon actual notice from the Congress or DOE.

### *Changes from FY 2010 Enacted*

Resources decrease to reflect the orderly closure of the agency's Yucca Mountain licensing support activities.

## OVERSIGHT

### *Workload*

None.

### *Changes from FY 2010 Enacted*

Resources were reduced to zero.

## RULEMAKING

### *Workload*

None.

### *Changes from FY 2010 Enacted*

Resources were reduced to zero.

## RESEARCH

### *Workload*

None.

### *Changes from FY 2010 Enacted*

Resources were reduced to zero.

## SIGNIFICANT ACCOMPLISHMENTS

In FY 2009, the NRC published a notice of hearing and leave to intervene in October 2008. Petitions for leave to intervene and contentions were filed. In May 2009, almost 300 contentions were admitted, and only three were rejected when the Commission ruled on the appeals in June 2009. Hearing activities are continuing. In March 2009, the NRC amended its regulations in 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada," to conform to a new EPA standard for the proposed repository.

**Integrated Spent Fuel Management**  
(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Licensing	0.0	0.0	0.0	0.0	5.0	16.8	5.0	16.8
Research	0.0	0.0	0.0	0.0	7.9	22.5	7.9	22.5
<b>Subtotal</b>	<b>\$0.0</b>	<b>0.0</b>	<b>\$0.0</b>	<b>0.0</b>	<b>\$12.9</b>	<b>39.3</b>	<b>\$12.9</b>	<b>39.3</b>
Corporate Support	0.0	0.0	0.0	0.0	4.9	10.9	4.9	10.9
<b>Total</b>	<b>\$0.0</b>	<b>0.0</b>	<b>\$0.0</b>	<b>0.0</b>	<b>\$17.7</b>	<b>50.2</b>	<b>\$17.7</b>	<b>50.2</b>

Numbers may not add due to rounding.

FY 2009 and FY 2010 enacted resources are respectively being executed according to the requirements in the FY 2009 and FY 2010 Appropriation Acts and as outlined in the FY 2009 and FY 2010 Congressional Budget Justifications. FY 2009 and FY 2010 resources are mapped in this table to the FY 2011 budget structure only for comparison.

## INTEGRATED SPENT FUEL MANAGEMENT

Integrated Spent Fuel Management is a new business line in FY 2011. This business line was created to develop regulatory tools, analyses, and data needed to evaluate and support future waste management strategies.

The Integrated Spent Fuel Management Business Line will develop the information necessary to inform the agency's regulatory perspectives on waste management options, undertake research, analysis, and modeling efforts to support regulatory development for potential future high-level waste disposal systems, and serve as the agency's point for coordinating and integrating key interdependent work on disposal, extended long-term storage, and other waste management strategies.

The NRC has organized Integrated Spent Fuel Management activities into product lines that best support safety and security strategies and impact strategic outcomes as they relate to alternate waste management. The resources requested support all direct aspects of Integrated Spent Fuel Management within the following two Product Lines: Licensing and Research. These activities are designed to ensure that high-level waste management is done in a manner that adequately protects the public health and safety, protects the environment, and provides high assurance of

protection against radiological sabotage, theft or diversion of Spent Nuclear Material. These activities are being closely coordinated with efforts in the New Fuel Facilities and Spent Fuel Storage and Transportation business lines.

*The Integrated Spent Fuel Management Program encompasses the NRC's effort to address ongoing revisions to the National strategy for managing spent nuclear fuel.*

### LICENSING

#### **Strategic Goal Strategies Supported**

*Safety – Develop, maintain, and implement licensing and regulatory programs for fuel facilities material, spent fuel management, waste management, uranium recovery, and decommissioning.*

*Security – Use a risk-informed approach to implement appropriate regulatory controls for the possession, handling, import, export, and transshipment of radioactive materials.*

### **Workload**

For FY 2011, the NRC requests \$5.0 million, including 16.8 FTE, to provide for Licensing activities. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Licensing Product Line supports preparatory activities for the generic long-term future of waste management that will ensure the adequate protection of public health and safety and the environment. The Licensing Product line focuses on the review, investigation, and development of an appropriate licensing regulatory framework that will accommodate alternative geologic disposal or other spent fuel disposition options. Activities will include regulatory reviews and development activities to increase the flexibility and utility of regulations and alternative licensing approaches. No specific licensing actions are planned for FY 2011.

### **Changes from FY 2010 Enacted**

Workload and resources are increasing in this product line to support the agency's regulatory perspectives on waste policy options and preparatory efforts for generic long-term future of waste management. In FY 2010, resources for related activities will be executed in the Spent Fuel Storage and Transportation Business Line. In FY 2011, resources are requested in the Integrated Spent Fuel Management Business Line to better align workload priorities.

## **RESEARCH**

### **Strategic Goal Strategies Supported**

*Safety – Improve the NRC's regulatory programs and apply safety-focused research to anticipate and resolve safety issues.*

*Security – Use research to inform the security activities of the agency.*

### **Workload**

For FY 2011, the NRC requests \$7.9 million, including 22.5 FTE, to provide for Research Product Line. FY 2010 resources are being executed according to the requirements in the FY 2010 Appropriation Act and as outlined in the FY 2010 Congressional Budget Justification. In this discussion, the FY 2010 resources are mapped to the FY 2011 budget structure only for comparison.

The Research Product Line focuses on the analyses, data collection, and modeling needed to support future waste management strategies. Activities include development of an understanding of key technical issues and risk insights related to alternative geological media, waste disposal systems, different repository concepts (e.g., cold repositories below the water table), and the behavior of alternative waste forms (e.g., higher burn-up fuel and reprocessed waste). Targeted laboratory studies and field investigations will be conducted to support the refinement of risk insights and understanding of key technical issues. Development of a flexible performance assessment models and other tools for addressing disposal in alternative geological media, with different barrier and waste forms will also be performed.

Through research, the NRC identifies, leads, and/or sponsors reviews that support the resolution of ongoing and future safety issues, including providing tools and expertise needed to support the NRC's independent decision-making process.

### **Changes from FY 2010 Enacted**

The workload and resources for this product line are increasing to support the development of a technical basis for rulemaking and licensing for the various options under consideration, and to prepare the agency to provide input, as requested, into discussions on waste management strategies including disposal of HLW. Additional research will be conducted to develop the technical basis to support extended dry storage of spent fuel. In FY 2010, resources for related activities will be executed in the Spent Fuel Storage and Transportation Business Line. In FY 2011, resources are requested in the Integrated Spent Fuel Management Business Line to better align workload priorities.

## **OUTPUT MEASURES**

Output measures for this business line are being developed for the FY 2012 budget cycle.





# Performance Measures





*Previous Page: (Images from left to right):*

*1. Chief Financial Officer and Performance Improvement Officer, Jim Dyer*

*2. Commission Meeting*

*3. Executive Director for Operations, R. William Borchardt*

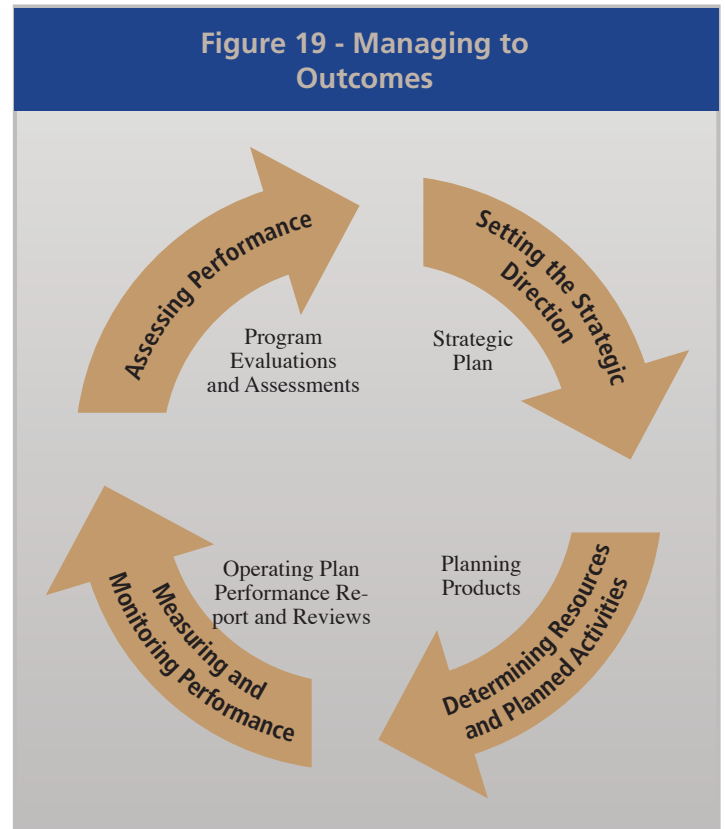
# Performance Measures

The NRC's Strategic Plan for FYs 2008-2013 describes the agency's mission and establishes the Commission's direction by defining its goals, strategic outcomes, and strategies and means. The revised plan changes the goal structure to ensure a focus on outcomes. The FY 2011 Performance Budget uses the Strategic Plan structure to align resources and to show a clear linkage between programs and the agency's goals.

Measuring and monitoring performance is one of the four components of the NRC's Planning, Budgeting, and Performance Management (PBPM) process. The other components are: Setting the Strategic Direction, Determining Resources and Planned Activities, Measuring and Monitoring Performance, and Assessing Performance (see Figure 19).

The components of the PBPM process are closely linked and complementary, reflecting a continuous cycle of performance management centered on outcomes. This document integrates the agency's PBPM functions by aligning resources with the agency's goals and establishing performance measures to enable periodic measurement and monitoring of program execution. Annual performance assessments are used to analyze performance and seek improvements in effectiveness and efficiency.

The table shows the alignment of the NRC's fully costed Nuclear Reactor Safety Program and the Nuclear Materials and Waste Safety Program with the NRC's safety and security goals.



**ALIGNMENT OF RESOURCES TO NRC GOALS**  
(Dollars in Millions)  
(Excludes OIG)

	FY 2010 Enacted			FY 2011 Request		
	Safety	Security	Total	Safety	Security	Total
<b>Major Programs</b>						
Nuclear Reactor Safety	761.5	34.6	796.1	769.7	34.4	804.1
Nuclear Materials and Waste Safety	239.3	25.6	264.9	210.5	28.9	239.4
<b>Total</b>	<b>1,00.8</b>	<b>60.2</b>	<b>1,061.0</b>	<b>980.2</b>	<b>63.3</b>	<b>1,043.5</b>

*Numbers may not add due to rounding.*

## SAFETY MEASURES

### 1. NRR - Number of new conditions evaluated as red by the NRC's reactor oversight process.<sup>1</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	< 3	< 3	< 3	< 3	< 3	< 3
Actual:	0	0	0	0		

### 2. RES - Number of significant accident sequence precursors (ASPs) of a nuclear reactor accident.<sup>2</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	< 1	< 0	< 0	< 0	< 0	< 0
Actual:	0	0	0	0		

### 3. NRR - Number of operating reactors whose integrated performance entered the Manual Chapter 0350 process, the multiple/repetitive degraded or unacceptable cornerstone of the Reactor Oversight Program (ROP) Action Matrix with no performance exceeding Abnormal Occurrence Criteria. (NRR).<sup>3</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	< 4	< 4	< 3	< 3	< 3	< 3
Actual:	0	1	0	0		

### 4. NRR - Number of significant adverse trends in industry safety performance.<sup>4</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	< 1	< 1	< 1	< 1	< 1	< 1
Actual:	0	0	0	0		

### 5. Number of events with radiation exposures to the public or occupational workers that exceed Abnormal Occurrence Criterion I.A.<sup>5</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Reactor Target:	0	0	0	0	0	0
Actual:	0	0	0	0		
Material Target:	≤ 6	≤ 3	≤ 2	≤ 2	≤ 2	≤ 2
Actual:	0	0	0	0		
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0		

### 6. Number of radiological releases to the environment that exceed applicable regulatory limits.<sup>6</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Reactor Target: <sup>7</sup>	< 3	< 3	0	0	0	0
Actual:	0	0	0	0		
Material Target:	< 5	< 2	< 2	< 2	< 2	< 2
Actual:	0	0	0	0		
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0		

## SECURITY MEASURES

### 1. NSIR - Unrecovered losses of risk-significant<sup>8</sup> radioactive sources.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	0	0	0	0	0	0
Actual:	0	0	0	0		

### 2. NSIR - Number of substantiated<sup>9</sup> cases of actual theft or diversion of licensed, risk-significant radioactive sources or formula quantities<sup>10</sup> of special nuclear material; or attacks that result in radiological sabotage.<sup>11</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New Measure in FY 2007 <sup>12</sup>	0	0	0	0	0
Actual:		0	0	0		

### 3. NSIR - Number of substantiated<sup>9</sup> losses of formula quantities of special nuclear material or substantiated<sup>9</sup> inventory discrepancies of formula quantities of special nuclear material that are judged to be caused by theft or diversion or by substantial breakdown of the accountability system.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New Measure in FY 2007 <sup>12</sup>	0	0	0	0	0
Actual:		0	0	0		

### 4. NSIR - Number of substantial breakdowns<sup>13</sup> of physical security or material control (i.e., access control, containment, or accountability systems) that significantly weakened the protection against theft, diversion, or sabotage.

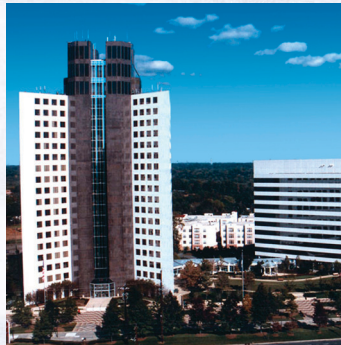
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New Measure in FY 2007 <sup>12</sup>	≤1	≤1	≤1	≤1	≤1
Actual:		0	0	0		

### 5. NSIR - Number of significant unauthorized disclosures of classified and/or safeguards information.<sup>14</sup>

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	0	0	0	0	0	0
Actual:	0	0	0	0		



# Inspector General





*Previous Page: (Images from left to right):*

- 1. Investigation*
- 2. NRC Headquarters*
- 3. OIG Staff*



# Inspector General

In the 1970s, scandals, oil shortages, and stories of Government corruption covered by media outlets negatively impacted the American public's faith in its Government. The U.S. Congress knew it had to restore the public's trust by increasing oversight of Federal programs and creating a mechanism to evaluate effectiveness. In response, the landmark legislation known as the Inspector General (IG) Act was signed into law in 1978. The IG Act created independent Inspectors General who were entrusted to protect the integrity of Government; improve program efficiency and effectiveness; prevent and detect fraud, waste, and abuse in Federal agencies, and keep agency heads and Congress fully informed of the findings of the IG work.

In 1988, the IG Act was amended and established Inspectors General in smaller, independent agencies. In 2008, Congress again amended the IG Act to enhance the independence of the Inspectors General, create a Council of the Inspectors General on Integrity and Efficiency and for other purposes.

There are currently 69 statutory Offices of Inspector General (OIGs) throughout Government. Today, the IG concept is a proven success and continues to deliver significant benefits to Federal agencies and our Nation.

NRC's OIG was established as a statutory entity on April 15, 1989, in accordance with the 1988 amendments. The OIG mission is to (1) independently and objectively conduct and supervise audits and investigations relating to NRC programs and operations, (2) prevent and detect fraud, waste, and abuse, and (3) promote economy, efficiency, and effectiveness in NRC's programs and operations.

In addition, OIG reviews existing and proposed regulations, legislation, and directives and provides comments, as appropriate; and makes recommendations to the agency concerning their impact on the economy and efficiency of agency programs and operations. The Inspector General keeps the NRC Chairman and members of Congress informed about problems; recommends corrective actions; and monitors NRC's progress in implementing these actions.

## Budget Overview

Summary	FY 2009 Enacted		FY 2010 Enacted		FY 2011 Request		Change from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
	<b>Budget Authority by Program</b>							
Program Support	1.870		1.406		0.518		(0.888)	
Program Salaries & Benefits	8.990	58	9.454	58	9.584	58	0.130	0
<b>Total</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.102</b>	<b>58</b>	<b>(\$0.758)</b>	<b>0</b>

Numbers may not add due to rounding

**Program Resource Summary:** The FY 2011 proposed budget request for the Office of the Inspector General is \$10.102 million, which includes \$9.584 million in salaries and benefits to support 58 FTE, and \$518,000 in contract support and travel. These resources will fund the activities for the Audits and Investigations Programs.

## BUDGET AUTHORITY AND FTE BY PROGRAM

Programs	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Change from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Audits	7.210	37	7.142	37	6.358	37	(0.784)	0
Investigations	3.650	21	3.718	21	3.744	21	0.026	0
<b>Total</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.860</b>	<b>58</b>	<b>\$10.102</b>	<b>58</b>	<b>(\$0.758)</b>	<b>0</b>

Numbers may not add due to rounding

In accordance with Office of Management and Budget (OMB) requirements, OIG is showing the full cost associated with its programs for the FY 2011 budget with the following caveat. As a result of an October 1989 memorandum of understanding between NRC's Chief Financial Officer and the Inspector General and a subsequent amendment in March 1991, OIG no longer requests that funding for some OIG management and support services be included in the OIG appropriation. It was agreed that funds for OIG infrastructure requirements and other agency support services would instead be included in NRC's main appropriation. For the most part, these costs are not readily severable. Thus, this funding continues to be included in NRC's main appropriation.

For FY 2011, OIG requests \$6.358 million and 37 FTE to carry out its Audits Program activities. With these resources, the Audits Program will conduct approximately 25 audits and evaluations. In addition, OIG will provide enhanced coverage of NRC's Nuclear Reactor Safety Program that have grown in response to a national resurgence of interest in the construction of new nuclear power plants and associated facilities and programs. OIG's assessment of these mission critical programs will support the agency in accomplishing its goals while protecting public health and safety.

### Audits Program

Summary	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Change from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
<b>Budget Authority by Program</b>								
Program Support	7.210	37	7.142	37	6.358	37	(0.784)	0
<b>Total</b>	<b>\$7.210</b>	<b>37</b>	<b>\$7.142</b>	<b>37</b>	<b>\$6.358</b>	<b>37</b>	<b>(\$0.784)</b>	<b>0</b>

Numbers may not add due to rounding

## AUDITS

The OIG Audits Program focuses on the agency's management and financial operations; economy and efficiency with which an organization, program, or function is managed; and whether the programs achieve intended results. OIG auditors assess the degree to which an organization complies with laws, regulations, and internal policies in carrying out programs, and they test program effectiveness as well as the accuracy and reliability of financial statements. The overall objective of an audit is to identify ways to enhance agency operations and promote greater economy and efficiency.

## CHANGES FROM FY 2010 ENACTED

Resources decrease slightly in the Audits Program which will be addressed using other available sources.

## **FY 2010–FY 2011 AUDITS PROGRAM PERFORMANCE GOALS**

- ▶ Safety Area: 85% of audit products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's safety programs.
- ▶ Security Area: 90% of audit products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's security programs.
- ▶ Corporate Management Area: 80% of audit products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's corporate management programs.
- ▶ Eighty percent of completed audit products or activities will have a high impact on strengthening NRC's safety, security, and/or corporate management programs.
- ▶ Obtain agency agreement on at least 92% of OIG audit recommendations.
- ▶ Obtain final agency action on an aggregate of 70% of OIG audit recommendations within 2 years.

## **SELECTED FY 2009 AUDITS PROGRAM ACCOMPLISHMENTS**

In FY 2009, OIG issued 21 reports pertaining to NRC programs and operations. These reports either evaluate high-risk agency programs or comply with mandatory financial and computer security-related legislation.

## **EXAMPLES OF RECENTLY COMPLETED WORK ARE AS FOLLOWS:**

### ***Audit of Force-on-Force Inspections:***

NRC conducts Force-on-Force inspections at each of the Nation's nuclear power plants on at least a triennial basis in accordance with the 2005 Energy Policy Act. A Force-on-Force inspection is a performance-based inspection designed to assess the ability of licensees' security organizations to protect their facilities against sabotage. Any potentially significant deficiencies identified during these inspections are to be promptly corrected by the licensee. The agency's Office of Nuclear Security and Incident Response (NSIR) manages the Force-on-Force inspection program.

The objective of this audit was to evaluate NRC's Force-on-Force inspection program to determine if the design and implementation of the program are thorough, consistent, and in accordance with NRC standards. The audit focused on the program's development from the first triennial inspection cycle through the current second triennial inspection cycle.

### **Audit Results:**

NRC met its 2005 Energy Policy Act requirement to conduct Force-on-Force inspections on a triennial basis, and the program has adequate management controls to ensure that inspections are thorough and comply with NRC standards. In particular, OIG found: NSIR management assessed the Force-on-Force program early in the second inspection cycle and subsequently undertook organizational and procedural changes to improve internal controls and program performance. However, NSIR and regional staff differ over interpretation of some NRC guidance and approaches to conducting Force-on-Force inspections. By taking steps to reach agreement between headquarters and regional staff regarding Force-on-Force inspection program guidance, objectives, and best practices, NRC can better ensure its credibility with licensees and foster positive working relationships among staff involved in the Force-on-Force inspection program.

### ***Audit of NRC's Occupant Emergency Program:***

An Occupant Emergency Program (OEP) is defined as "a short-term emergency response program [that] establishes procedures for safeguarding lives and property during emergencies." A fundamental part of an OEP is an occupant emergency plan containing a set of procedures to protect life and property in a specific Federally occupied space under defined emergency conditions. Federal management regulations require every facility owned or leased by the Federal Government to have an occupant emergency plan. These regulations contain detailed information on how the plan should be developed and implemented. NRC Management Directive 10.130, Safety and Health Program Under the Occupational Safety and Health Act, provides criteria for developing and implementing individualized occupant emergency plans for each NRC-owned or leased building. The audit objective was to evaluate the extent to which the agency's Occupant Emergency Program complies with Federal regulations and standards.

#### Audit Results:

Although NRC's OEP meets Federal requirements and standards, weaknesses pertaining to the implementation of the OEP were identified. Specifically,

- ▶ NRC staff lacks awareness of emergency procedures, which could result in NRC staff and other building occupants not knowing how to respond appropriately during an emergency.
- ▶ Emergency equipment is inadequate and poorly maintained, which could result in lifesaving emergency equipment not being available and ready to use when needed.
- ▶ Signs in the White Flint complex are inadequate and inconsistent, which could result in staff not being able to evacuate the White Flint Complex safely and expediently during an emergency.

#### *Audit of NRC's Oversight of Construction at Nuclear Facilities:*

The nuclear industry is on the verge of constructing new nuclear power plants, but it has been decades since industry and NRC have been involved in the design and construction of such plants. Further, reactors are currently under construction around the world, and there have been reported problems with the quality of the construction. OIG's objective was to determine if and how NRC is identifying and incorporating lessons learned in its construction inspection program.

#### Audit Results:

NRC's process for identifying construction lessons learned contains some, but not all, of the key elements of a successful program. Key elements include support from upper management, a definition of the term "lessons learned," a well-defined work process for submitting and collecting potential lessons learned, and screening by qualified personnel. The lack of a well-developed process could jeopardize the construction inspection program's goal to prevent recurrences of construction-related problems and may compromise the public's confidence in NRC's ability to effectively oversee new nuclear construction projects.

#### *Audit of NRC's Material Control and Accounting Security Measures for Special Nuclear Materials at Fuel Cycle Facilities:*

The primary goal of the agency's Material Control and Accounting (MC&A) inspection program is to ensure that the licensee's MC&A system adequately detects and protects against the loss, theft, or diversion of special nuclear material that the licensee is authorized to possess, store, and utilize at its facility. The audit objective was to assess the effectiveness of NRC's MC&A inspection program over the accountability of special nuclear materials at fuel cycle facilities.

#### Audit Results:

The MC&A inspection program is at risk from the following:

- ▶ Lack of procedures with prioritized direction and detailed sampling instruction, which could result in NRC's relatively inexperienced MC&A inspection staff being unable to conduct MC&A inspection in a consistent, thorough manner.
- ▶ Limited qualified staff inhibiting NRC's ability to assure that inspections are conducted in a consistent, thorough manner.
- ▶ Lack of specialized training to enhance management knowledge, thereby increasing the risk that inspector errors will go undetected.

#### **EXAMPLES OF ONGOING AUDIT WORK ARE AS FOLLOWS:**

#### *Audit of NRC's Quality Assurance Planning for New Reactor:*

Federal regulations require every applicant for a construction permit to include in its preliminary safety analysis report a description of the quality assurance program to be applied to the design, fabrication, construction, and testing of the structures, systems, and components of the facility. The audit objective is to determine the extent to which NRC provides oversight of applicant new reactor quality assurance programs.

### ***Audit of the Placement and Monitoring of Work with Department of Energy Laboratories:***

NRC obligated approximately \$67 million in FY 2007 and \$65 million in FY 2008 for agreements with Department of Energy laboratories. The audit objective is to determine whether NRC has established and implemented an effective system of internal control over the placement and monitoring of work with the laboratories.

### ***Audit of NRC's Personnel Security Clearance Process for Employees:***

The Atomic Energy Act of 1954, as amended, requires all NRC employees to have a security clearance. To obtain these security

clearances, NRC requests a full background investigation from the Office of Personnel Management (OPM). After the OPM background investigation is returned to NRC, security staff evaluates the subject in light of the OPM investigative report information. Based on the issues raised, it may take several months to more than a year to complete this review and grant or deny a security clearance. The audit objectives are to determine whether (1) NRC is in compliance with external and internal personnel security requirements and (2) NRC's personnel security clearance program is efficiently managed.

Investigations Program								
Summary	FY 2009 Enacted		FY 2010 Enacted		FY 2011 Request		Change from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
	<b>Budget Authority by Program</b>							
Program Support	3.650	21	3.718	21	3.744	21	.026	0
<b>Total</b>	<b>\$3.650</b>	<b>21</b>	<b>\$3.718</b>	<b>21</b>	<b>\$3.744</b>	<b>21</b>	<b>\$0.026</b>	<b>0</b>

*Numbers may not add due to rounding*

## **INVESTIGATIONS**

OIG's responsibility for detecting and preventing fraud, waste, and abuse within NRC includes investigating possible violations of criminal statutes relating to NRC programs and activities, investigating misconduct by NRC employees, interfacing with the Department of Justice on OIG-related criminal matters, and coordinating investigations and other OIG initiatives with Federal, State, and local investigative agencies and other OIGs. Investigations may be initiated as a result of allegations or referrals from private citizens; licensee employees; NRC employees; Congress; other Federal, State, and local law enforcement agencies; OIG audits; the OIG hotline; and IG initiatives directed at bearing a high potential for fraud, waste, and abuse.

For FY 2011, OIG requests \$3.744 million and 21 FTE to carry out its Investigations Program activities. Reactive investigations into allegations of criminal and other wrongdoing will continue to claim priority on OIG's use of available resources. Because NRC's mission is to protect the health and safety of the public, the Investigations Program's main concentration of effort and resources will involve investigations of alleged NRC staff misconduct that could adversely impact matters

related to health and safety. OIG has also implemented a series of proactive initiatives designed to identify specific high-risk areas that are most vulnerable to fraud, waste, and abuse. With these resources, OIG will conduct approximately 60 investigations and Event Inquiries covering a broad range of allegations concerning misconduct and mismanagement affecting various NRC programs.

### **CHANGES FROM FY 2010 ENACTED**

Resources increase slightly in the Investigations Program because of salaries and benefits, training costs, and other support activities.

### **FY 2010–FY 2011 INVESTIGATIONS PROGRAM PERFORMANCE GOALS**

- Safety Area: 85% of investigation products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's safety programs.

- ▶ Security Area: 90% of investigation products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's security programs.
- ▶ Corporate Management Area: 80% of investigation products/activities undertaken will identify risk areas or management challenges relating to the improvement of NRC's corporate management programs.
- ▶ Eighty percent of investigations or activities completed will have a high impact on strengthening NRC's safety, security, and /or corporate management programs.
- ▶ Obtain 90% agency action in response to OIG investigative reports.
- ▶ Complete 90% of active cases in less than 18 months on average.

teams reviewing other issues and included other concerns in the chemical engineering request for additional information sent to the license applicant.

### ***NRC's Process for Reviewing Security Related Allegations:***

OIG conducted an investigation that examined NRC's process for handling security-related allegations in each NRC region.

#### **Investigative Results:**

NRC policy encourages staff to refer as many security-related allegations as possible to licensees for review. OIG identified several licensee allegation responses that NRC could have reviewed more thoroughly to ensure that the licensee performed an adequate evaluation. It was determined that while NRC staff reviewed derivative licensee responses for adequacy, they typically do not independently verify information provided by licensees or seek supporting documentation. Further, OIG identified a security-related allegation involving a licensee management official that, pursuant to established NRC policy, should not have been given to a licensee to review but rather should have been reviewed internally.

### **EXAMPLES OF ONGOING INVESTIGATIVE WORK ARE AS FOLLOWS:**

#### ***Nuclear Proliferation:***

OIG initiated a proactive effort to address possible proliferation of nuclear materials and technology within the regulatory purview of the NRC. This effort will focus on whether the regulatory process allows individuals and companies to inappropriately obtain NRC information and/or nuclear material. The project objectives are aimed at identifying potential fictitious or shell companies that obtain an NRC license and whether such companies export nuclear material without appropriate authorization. The project will also focus on whether NRC licensees who are legitimately authorized to possess nuclear materials violate license requirements by exceeding their authorized license limits.

## **SELECTED FY 2009 INVESTIGATIONS PROGRAM ACCOMPLISHMENTS**

In FY 2009, OIG completed 40 investigations and Event Inquiries. These investigative efforts focused on violations of law or misconduct by NRC employees and contractors and allegations of irregularities or inadequacies in NRC programs and operations.

### **EXAMPLES OF RECENTLY COMPLETED WORK ARE AS FOLLOWS:**

#### ***Allegation That NRC Staff Not Properly Reviewing MOX Fuel Fabrication Facility License Application:***

OIG conducted an investigation into an allegation that NRC management ignored safety concerns regarding a license application for a Mixed Oxide (MOX) Fuel Fabrication Facility in Aiken, South Carolina. Specifically, it was alleged that NRC management did not ask the license applicant to clarify safety significant portions of its application.

#### **Investigative Results:**

OIG learned that in accordance with NRC's license review process, the MOX chemical engineering review team reviewed all concerns. Based on this review, the team determined some concerns were not applicable to the chemical engineering review. The investigation also determined that the chemical engineering reviewers sent some concerns to

### ***Medical Use of Radioactive Materials:***

NRC has authority to regulate the use of radioactive materials for medical purposes. While NRC has a relatively clear set of criteria for oversight of radioactive materials for medical purposes, this project will focus on the effectiveness of NRC's oversight of the medical use program. In particular, OIG will review NRC's oversight of the Event Notification Reporting System which may involve adverse consequences from the use of radioactive materials in medical procedures and whether licensees have met reporting requirements.

### ***NRC Network Intrusions:***

Like many Government agencies, NRC has seen an increase in instances of internal and external cyber breaches of the NRC information technology infrastructure that could adversely impact the NRC's ability to meet its regulatory mission. OIG has initiated a project to work jointly with the NRC Office of Information Services and NRC Computer Security Office to identify activities that could pose a potential threat to the NRC network.

## **OIG'S STRATEGIC GOALS, STRATEGIES, AND ACTIONS**

The Office of the Inspector General carries out its mission through its Audits and Investigations Programs. The FY 2008-2013 NRC-OIG Strategic Plan features three goals and guides the activities of its Audits and Investigations Programs. The plan identifies the major challenges and risk areas facing the NRC and generally aligns with the agency's mission.

### **OIG STRATEGIC GOALS**

- ▶ Strengthen NRC's efforts to protect public health and safety and the environment.
- ▶ Enhance NRC's efforts to increase security in response to an evolving threat environment.
- ▶ Increase the economy, efficiency, and effectiveness with which NRC manages and exercises stewardship over its resources.

The FY 2008-2013 NRC-OIG Strategic Plan presents the office's priorities for the covered timeframe. It describes

OIG's strategic direction to stakeholders, including the NRC Chairman, and U.S. Congress. From this perspective, it presents OIG's results-based business case, explaining the return on investment. It also strengthens OIG by providing a shared set of expectations regarding the goals OIG expects to achieve and the strategies that it will use to do so. OIG adjusts the plan as circumstances necessitate, uses it to develop its annual plan and performance budget, and holds managers and staff accountable for achieving the goals and outcomes.

OIG's strategic plan also includes a number of supporting strategies and actions that describe planned accomplishments over the strategic planning period. Through associated annual planning activities, audit and investigative resources focus on assessing NRC's safety, security, and corporate management programs involving the major challenges and risk areas facing the NRC in the given budget year. The work of the OIG auditors and investigators support and complement each other in the pursuit of these objectives.

### **STRATEGIC GOAL 1: STRENGTHEN NRC'S EFFORTS TO PROTECT PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT.**

Discussion: NRC faces many safety challenges and an associated increased workload in the coming years related to nuclear reactor oversight, the regulation of nuclear materials, and the handling of nuclear waste. A significant concern for NRC is regulating the safe operation of the Nation's nuclear power plants through an established oversight process developed to verify that licensees identify and resolve safety issues before they adversely affect safe plant operation.

In addition, NRC must address an increasing number of license amendment requests to increase the power generating capacity of specific commercial reactors, license renewal requests to extend reactor operations beyond originally set expiration dates, and the introduction of new technology such as new and advanced reactor designs. In fulfilling its responsibilities to regulate nuclear materials, NRC must ensure that its regulatory activities regarding nuclear fuel cycle facilities and nuclear materials adequately protect public health and safety. NRC's regulatory activities concerning nuclear materials must protect against radiological sabotage and theft or diversion of these materials. Further, licensing of facilities (e.g., fuel fabrication) with new technologies poses additional challenges.

The handling of nuclear waste includes both low-level and high-level waste. Low-level waste includes items that have become contaminated with radioactive materials or have become radioactive through exposure to neutron radiation. Low-level waste disposal occurs at commercially operated low-level waste disposal facilities that must be licensed by either NRC or Agreement States. However, no new disposal facilities have been built since the 1980s and unresolved issues continue regarding the closures of the disposal facilities.

High-level radioactive waste is primarily in the form of spent fuel discharged from commercial nuclear power reactors. In the high-level waste area, NRC faces significant issues involving the potential licensing of the Yucca Mountain repository and certain aspects of the transportation of designated high-level waste from plants and facilities. Additional high-level waste issues include the interim storage of spent nuclear fuel both at and away from reactor sites, certification of storage and transport casks, and the oversight of the decommissioning of reactors and other nuclear sites. Further, DOE and the industry will need contingency plans if the repository is not licensed or not available as scheduled, and NRC will need to be able to respond to those plans.

***Strategy 1-1: Identify risk areas associated with NRC's Reactor Oversight Process and make recommendations, as warranted, for addressing them.***

**Actions:**

- a. Assess the adequacy of NRC's licensing and other oversight activities with regard to the safe operation of existing nuclear reactors.
- b. Assess the extent and effectiveness of NRC's emergency preparedness and incident response in relation to design-basis and beyond-design-basis events.
- c. Assess NRC's implementation of its risk-informed approach to licensing and regulatory oversight.
- d. Assess the impact that an increase in license renewal and power uprate requests would have on the licensing process.
- e. Assess the effectiveness of the NRC regulatory process and related enforcement actions.
- f. Assess NRC's actions to identify and address the potential risks associated with aging facilities and with the introduction of new technology.
- g. Monitor NRC activities and gather stakeholder information to identify potential gaps in NRC regulatory

oversight. Conduct, as appropriate, investigations and Event Inquiries when gaps are identified.

- h. Assess NRC's actions to identify and address the potential risks associated with the introduction of new technology into currently operating facilities.

***Strategy 1-2: Identify risk areas associated with NRC efforts to (1) prepare for and manage the review of applications for new power reactors, and (2) oversee construction of new power reactors to verify that they are built in conformance with approved designs and in compliance with approved construction standards and make recommendations, as warranted, for addressing the risks.***

**Actions:**

- a. Assess the extent to which NRC has examined the history of the licensing and construction of the first generation of plants and has developed a methodology to incorporate the lessons learned into the new licensing and construction process to include the design certification process.
- b. Assess the adequacy of NRC's application acceptance, review process, and approval standards.
- c. Assess the adequacy of NRC's development of a construction inspection program.
- d. Assess the adequacy of NRC's development of a rigorous quality assurance oversight program.
- e. Assess the environmental review process associated with new site construction to ensure that NRC carries out its responsibilities.
- f. Assess NRC's actions to address stakeholder concerns over potential gaps in NRC oversight of new construction.
- g. Assess NRC oversight of vendor material used in the construction of new reactor plants.
- h. Assess NRC's integration of operating experience, generic safety issues, and the introduction of new technologies (e.g., digital products) into new reactor licensing.
- i. As appropriate, conduct investigations and Event Inquiries when irregularities are identified.



***Strategy 1-3: Identify risk areas facing the materials programs and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess NRC's implementation of programs for controlling, accounting for, tracking, and inspecting nuclear materials.
- b. Assess the extent to which NRC has integrated into the materials program its emergency preparedness and incident response obligations associated with a potential significant nuclear event or incident.
- c. Assess NRC activities concerning the licensing, oversight, and aging effects of fuel cycle facilities.
- d. Assess NRC's handling of low-level waste issues, including security and disposal.
- e. Assess the impact of the Agreement State program on the safety and security of materials and on NRC regulatory activities.
- f. Review NRC and licensee reports and engage interested stakeholders to identify issues of concern in NRC oversight of nuclear material held by NRC licensees.
- g. Assess NRC's oversight of nuclear waste issues associated with the decommissioning and cleanup of nuclear reactor sites and other facilities.
- h. Through proactive initiatives, determine if material licensees have exceeded their license authorities and whether the NRC has failed to provide effective oversight.

***Strategy 1-4: Identify risk areas associated with low-level waste and the prospective licensing of the high-level waste repository and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess the key issues affecting the safe management of civilian low-level waste disposal, including the availability of low-level radioactive waste disposal sites.
- b. Assess NRC's regulatory activities involving the interim storage of high-level waste and spent fuel both at and away from reactor sites.

- c. Assess the adequacy of NRC's planned response if Yucca Mountain is not licensed or available as currently scheduled, including NRC's ability to respond to DOE and industry contingency plans.
- d. Assess issues involving the review of the Yucca Mountain repository application and certain aspects of the transportation of designated high-level waste from plants and facilities.
- e. As appropriate, conduct investigations and Event Inquires to determine NRC's efforts in addressing stakeholders concerns regarding low-level and high-level waste storage issues.

***STRATEGIC GOAL 2: ENHANCE NRC'S EFFORTS TO INCREASE SECURITY IN RESPONSE TO AN EVOLVING THREAT ENVIRONMENT.***

Discussion: NRC continues to face a number of challenges in ensuring the public is protected from improper use of nuclear materials and technology.

NRC, in concert with other agencies, must maintain a comprehensive assessment of threats and effectively integrate security considerations into its regulatory process. NRC must also ensure that security is adequately incorporated into the design and construction of new facilities.

In light of terrorist threats, natural disasters, and expanding populations around nuclear power plants, NRC plays a critical role in supporting emergency preparedness and incident response within the nuclear industry and State and local governments. NRC must protect its infrastructure and ensure that its facilities, computers, people, and competencies are adequately protected against emerging threats while providing for continuity of operations.

NRC faces new challenges in supporting United States international interests in the safe and secure use of nuclear materials and technology and in nuclear nonproliferation. These challenges include improving controls on the import and export of nuclear materials and equipment and NRC's successful exercising of its international oversight commitments, such as helping foreign regulators boost their efforts for controlling radioactive sources.

***Strategy 2-1: Identify risk areas involved in effectively securing both operating and proposed nuclear power plants, nuclear fuel cycle facilities, and nuclear materials and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess the adequacy of NRC's oversight activities with regard to the security of nuclear materials and facilities.
- b. Assess the comprehensiveness of NRC's threat assessment and the process for keeping it up to date.
- c. Assess the adequacy of regulations to respond to an evolving threat environment and the extent to which NRC is making appropriate adjustments.
- d. Assess NRC's coordination with other agencies.
- e. Assess NRC's acquisition of resources and expertise to meet its security responsibilities.
- f. Monitor the development of NRC requirements to enhance nuclear security in response to an evolving threat environment.
- g. Where appropriate, conduct investigations and Event Inquiries designed to address NRC's efforts in providing oversight of licensee responsibilities.

***Strategy 2-2: Identify risks associated with Emergency Preparedness and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess NRC's management of Emergency Preparedness guidelines, regulations, and programs.
- b. Assess NRC's ability to provide internal technical expertise on Emergency Preparedness issues and perform regulatory reviews of Emergency Preparedness applications and amendments.
- c. Assess NRC's performance of technical reviews of Emergency Preparedness applications and amendments.
- d. Assess NRC's management of the coordination with Federal, State, and local governments and licensees.

***Strategy 2-3: Identify challenges involved in responding to incidents and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess NRC's efforts to prepare for responding to nuclear incidents, including training, system reliability and interoperability, personnel availability, and response team organization and coordination.
- b. Assess the integration and coordination of NRC's efforts with other agencies at all levels.

***Strategy 2-4: Identify evolving threats to NRC security and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess how well NRC maintains a comprehensive threat assessment for its facilities and personnel.
- b. Assess the extent to which NRC effectively implements physical and information security controls and procedures.
- c. Assess how NRC balances security with public openness.
- d. Assess NRC's protection of the NRC IT infrastructure against internal and external threats.
- e. Assess NRC's continuity of operations planning in the event of an emergency.
- f. As appropriate, conduct investigations into internal and external cyber breaches of NRC's IT infrastructure.

***Strategy 2-5: Identify risks associated with nonproliferation of nuclear material and nuclear technology and make recommendations, as warranted, for addressing them.***

Actions:

- a. Assess NRC's management of controls on the import and export of nuclear materials and address nuclear technology transfer issues.
- b. Assess NRC's responsibilities linked to established statutes, international treaties, conventions, and cooperative agreements.

- c. Through proactive initiatives and, if appropriate, reactive investigations, identify potential shortcomings in NRC's actions to provide oversight of nuclear materials importation and exportation programs.

**STRATEGIC GOAL 3: INCREASE THE ECONOMY, EFFICIENCY, AND EFFECTIVENESS WITH WHICH NRC MANAGES AND EXERCISES STEWARDSHIP OVER ITS RESOURCES.**

Discussion: NRC faces significant challenges to efficiently, effectively, and economically manage its resources. Although a number of organizational changes have been implemented in recent years, more changes will occur over the strategic timeframe.

Over the next few years, the agency will need to balance workloads and priorities to support new reactor licensing efforts. This will create tremendous pressure on all program management areas, including human resources management, information technology, and financial management.

In addition, NRC needs to continue to improve its management and control over financial and other resources. As required by statute, OIG will continue to evaluate financial management practices and work with NRC staff to identify and improve weaknesses. The agency also needs to upgrade its information technology capabilities to provide state-of-the-art tools to NRC staff.

**Strategy 3-1: Identify areas of corporate management risk within NRC and make recommendations, as warranted, for addressing them.**

Actions:

- a. Assess NRC's management of human capital.
- b. Assess NRC's financial management practices.
- c. Provide reasonable assurance that NRC's financial statements are presented fairly in all material aspects.
- d. Assess NRC's implementation of Governmentwide and agency information technology initiatives, including the security of agency technology and information.
- e. Assess NRC's management of other administrative functions (e.g., contracts, property, facilities).
- f. Examine allegations of misuse pertaining to NRC's corporate management resources to include personnel, procurement, financial, and information technology.
- g. Investigate instances of alleged misconduct associated with NRC corporate management resources and programs.
- h. Reduce instances of employee criminal and administrative misconduct through investigations or proactive initiatives.

## OIG PROGRAM PERFORMANCE MEASURES

Measuring performance is a vital component of OIG's overall operation and is incorporated into the audits and investigations conducted.

OIG Strategic Goal 1: Strengthen NRC's Efforts To Protect Public Health and Safety and the Environment						
	2006	2007	2008	2009	2010	2011
<b>Measure 1. Percentage of OIG products/activities<sup>15</sup> undertaken to identify risk areas or management challenges<sup>16</sup> relating to the improvement of NRC's safety programs.</b>						
Target	80%	80%	80%	80%	85%	85%
Actual	100%	100%	100%	100%	TBD	TBD
<b>Measure 2. Percentage of OIG products/activities that have a high impact<sup>17</sup> on improving NRC's safety program.</b>						
Target	70%	70%	70%	70%	85%	85%
Actual	100%	100%	100%	89%	TBD	TBD
<b>Measure 3. Number of audit recommendations agreed to by agency.</b>						
Target	90%	90%	90%	90%	92%	92%
Actual	81% <sup>18</sup>	100%	93%	60% <sup>19</sup>	TBD	TBD
<b>Measure 4. Final agency action within 1 year of audit recommendations.</b>						
Target	50%	50%	50%	50%	70% <sup>20</sup>	70%
Actual	63%	36% <sup>21</sup>	63%	67%	TBD	TBD
<b>Measure 5. Agency action in response to investigative reports.</b>						
Target	90%	90%	90%	90%	95%	95%
Actual	100%	100%	100%	100%	TBD	TBD
OIG Strategic Goal 2: Enhance NRC's Efforts To Increase Security in Response to an Evolving Threat Environment						
	2006	2007	2008	2009	2010	2011
<b>Measure 1. Percentage of OIG products/activities undertaken to identify risk areas or management challenges relating to the improvement of NRC's security programs.</b>						
Target	85%	85%	85%	85%	90%	90%
Actual	100%	100%	100%	100%	TBD	TBD
<b>Measure 2. Percentage of OIG products/activities that have a high impact on improving NRC's security program.</b>						
Target	70%	70%	70%	70%	75%	75%
Actual	100%	100%	100%	100%	TBD	TBD
<b>Measure 3. Number of audit recommendations agreed to by agency.</b>						
Target	90%	90%	90%	90%	92%	92%
Actual	100%	100%	100%	82% <sup>22</sup>	TBD	TBD

<b>Measure 4. Final agency action within 1 year of audit recommendations.</b>						
Target	65%	65%	65%	65%	70% <sup>23</sup>	70%
Actual	25% <sup>24</sup>	61% <sup>25</sup>	70%	40% <sup>26</sup>	TBD	TBD
<b>Measure 5. Agency action in response to investigative reports.</b>						
Target	90%	90%	90%	90%	90%	90%
Actual	100%	100%	100%	100%	TBD	TBD
<b>OIG Strategic Goal 3:</b>						
<b>Improve the Economy, Efficiency, and Effectiveness with which NRC Manages and Exercises Stewardship over Its Resources</b>						
	2006	2007	2008	2009	2010	2011
<b>Measure 1. Percentage of OIG products/activities undertaken to identify risk areas or management challenges relating to the improvement of NRC's resources stewardship.</b>						
Target	65%	65%	65%	65%	80%	80%
Actual	99%	100%	100%	100%	TBD	TBD
<b>Measure 2. Percentage of OIG products/activities that have a high impact on improving NRC's resources stewardship.</b>						
Target	70%	70%	70%	70%	85%	85%
Actual	96%	100%	100%	92%	TBD	TBD
<b>Measure 3. Number of audit recommendations agreed to by the agency.</b>						
Target	90%	90%	90%	90%	92%	92%
Actual	100%	100%	100%	96%	TBD	TBD
<b>Measure 4. Final agency action within 1 year of audit recommendations.</b>						
Target	65%	65%	65%	65%	70% <sup>27</sup>	70%
Actual	60% <sup>28</sup>	85%	53% <sup>29</sup>	54% <sup>30</sup>	TBD	TBD
<b>Measure 5. Agency action in response to investigative reports.</b>						
Target	90%	90%	90%	90%	90%	90%
Actual	100%	100%	100%	100%	TBD	TBD
<b>Measure 6. Acceptance by NRC's Office of the General Counsel of OIG-referred Program Fraud and Civil Remedies Act cases.</b>						
Target	70%	70%	70%	70% <sup>31</sup>		
Actual	100%	No referrals	No referrals	No referrals		

## **VERIFICATION AND VALIDATION OF MEASURED VALUES AND PERFORMANCE**

OIG uses an automated management information system to capture program performance data for the Audits and Investigations Programs. The integrity of the system was thoroughly tested and validated before implementation. Reports generated by the system provide both detailed information and summary data. Beginning with FY 2006, statistics for the Audits and Investigations Program were fully integrated into the new system and used to compile

OIG statistical performance data. All system data are deemed reliable.

## **PROGRAM EVALUATIONS (PEER REVIEWS)**

An independent audit peer review performed in FY 2009 found that the audit organization's system of quality control provided reasonable assurance that audits were conducted in accordance with applicable professional standards. Independent quality assurance reviews undertaken in FY 2007 and FY 2008 determined that audits were conducted

in conformance with the Government Accountability Office's Government Auditing Standards. In addition, an independent investigative peer review was conducted in FY 2007 of the OIG Investigations Program. The program was found to be in compliance with President's Council on Integrity and Efficiency and Department of Justice investigative standards.

## INSPECTOR GENERAL REFORM ACT CERTIFICATION FOR FY 2011

In accordance with the Inspector General Reform Act (Public Law 110-409), the aggregate budget request for NRC OIG operations for FY 2011 is \$10.102 million and 58 FTE.

The Inspector General certifies that NRC's OIG training request of \$142,000 satisfies all training requirements for the Inspector General's office for FY 2011. In addition, sufficient funds are available in the FY 2011 budget request to include the necessary funding resources of approximately \$25,000 to support the Council of the Inspectors General on Integrity and Efficiency.

## FY 2011 BUDGET RESOURCES LINKED TO STRATEGIC GOALS

The following table depicts the relationship of the Inspector General program and associated resource requirements to OIG strategic goals.

Program Links to Strategic Goals			
	OIG Strategic Goals		
	Strengthen NRC's Public Health & Safety Efforts	Enhance NRC's Security Efforts	Increase NRC's Resource Stewardship Efforts
<b>FY 2011 Programs (\$10,102,000; 58 FTE)</b>			
Audits (\$6,358,000; 37 FTE)	\$3,153,000 18.5 FTE	\$1,103,000 6.5 FTE	\$2,102,000 12.0 FTE
Investigations (\$3,744,000; 21 FTE)	\$1,462,000 8.0 FTE	\$626,000 3.5 FTE	\$1,656,000 9.5 FTE

*Numbers may not add due to rounding*

## MANAGEMENT AND OPERATIONAL SUPPORT

The IG's Management and Operational Support staff consists of senior managers, the general counsel, and an administrative support staff. OIG's senior managers will provide the continued vision, strategic direction, and guidance regarding the conduct and supervision of audits and investigations. Senior management will also ensure accountability regarding OIG's established goals and strategies and achievement of intended results.

In furtherance of OIG's mission to promote economy and efficiency, and to prevent fraud, waste, and abuse in agency programs and operations, OIG's general counsel, in coordination with cognizant OIG staff, will conduct analyses of existing and proposed legislation, regulations, directives, and policy issues. These objective analyses will result in timely

written commentaries to the agency that prospectively identify and prevent potential problems.

The administrative support staff will assist OIG programs by providing independent personnel services; information technology and information management support; financial management, policy, and strategic planning support; training coordination; and the publication of OIG's Semiannual Report to Congress in accordance with the requirements of the Inspector General Act.

To carry out the functions of this program in FY 2011, OIG estimates that its costs will be \$1,453,000, which includes salaries and benefits for eight FTE. The tables below provide a breakdown of the FY 2011 budget estimates for Management and Operational Support by program and a cost comparison by function.

**ALLOCATION OF SUPPORT COSTS TO OIG PROGRAMS**  
(Dollars in Thousands)

Management and Operational Support Allocation by Program)	FY 2011	FY 2011	FY 2011
	FTE	Salaries and Benefits	Contract and Support
Audits	5	830	78
Investigations	3	498	47
<b>Total</b>	<b>8</b>	<b>1,328</b>	<b>125</b>

*Numbers may not add due to rounding*

**COMPARATIVE COSTS OF MANAGEMENT AND OPERATIONAL SUPPORT**  
(Dollars in Thousands)

Summary	FY 2009 Enacted	FY 2010 Enacted	FY 2011 Request <sup>32</sup>
<b>Budget Authority by Function</b>			
Salaries and Benefits	1,240	1,304	1,328
Contract Support and Travel	326	149	125
<b>Total Budget Authority</b>	<b>1,566</b>	<b>1,453</b>	<b>1,453</b>
FTE	8	8	8

*Numbers may not add due to rounding*





# Appendix I

## Budget Authority by Function





# Appendix I

## Budget Authority by Function

The U.S. Nuclear Regulatory Commission's (NRC's) budget authority is aggregated into the major categories of salaries and benefits, contract support, and travel. Salaries and benefits are estimated based upon full-time equivalent (FTE), pay rates, pay raise assumptions, and effective pay period for pay raise. Benefits cost include the Government's contributions for retirement, health benefits, life insurance, Medicare, Social Security, and the Thrift Savings Plan. Contract support consists of obligations for commercial contracts, interagency agreements, grants, and other nontravel services such as rent and utility payments. Travel costs consist primarily of the expenses for nuclear reactor inspection trips.

### Budget Authority by Function (Dollars in Millions)

NRC Appropriations	FY 2009 Enacted	FY 2010 Enacted	FY 2011	
			Request	Changes from FY 2010
Salaries and Expenses (S&E)				
Salaries and Benefits	560.50	589.80	593.40	3.60
Contract Support	445.20	435.10	418.30	(16.80)
Travel	28.90	31.10	31.80	0.70
<b>Total (S&amp;E)</b>	<b>\$1034.60</b>	<b>\$1056.00</b>	<b>\$1043.50</b>	<b>\$(12.50)</b>
Office of the Inspector General (OIG)				
Salaries and Benefits	9.00	9.50	9.60	0.10
Contract Support	1.59	1.13	0.21	(0.92)
Travel	0.31	0.28	0.29	0.02
<b>Total (OIG)</b>	<b>\$10.90</b>	<b>\$10.90</b>	<b>\$10.10</b>	<b>\$(0.80)</b>
Total NRC Appropriation				
Salaries and Benefits	569.50	599.30	603.00	3.70
Contract Support	446.79	436.23	418.21	(18.02)
Travel	29.21	31.38	32.39	1.02
<b>Total (NRC)</b>	<b>\$1045.50</b>	<b>\$1066.90</b>	<b>\$1053.60</b>	<b>\$(13.30)</b>

Numbers may not add due to rounding.



# Appendix II

Corporate Support





# Appendix II

## Corporate Support

The FY 2011 Performance Budget identifies the infrastructure and support costs for the U.S. Nuclear Regulatory Commission (NRC) and distributes them to programs as a portion of the total program cost. The allocation methodology is consistent with the methodology used for preparing the agency's financial statements. The business line tables present the associated infrastructure and support funding included in the programmatic funding to provide the full cost of each business line.

The agency's corporate support involves centrally managed activities that are necessary for the staff and agency

programs to achieve goals more efficiently and effectively. These activities include administration and rent; human resources, outreach, and training and development; information technology, information management, and disaster recovery; financial management; performance management; and policy support services to the Commission and program area staff in performing regulatory mission activities and achieving their performance goals. The following tables display the costs and resources required for the agency's Corporate Support activities, organized by program and business line.

### Corporate Support Allocation by Business Line

(Dollars in Millions)

Business Line	FY 2009 Enacted		FY 2010 Enacted		FY 2011 Request	
	\$M	FTE	\$M	FTE	\$M	FTE
Operating Reactors	175.0	388.4	185.2	409.2	181.9	401.2
New Reactors	76.0	168.7	79.9	176.4	83.0	183.2
<b>Nuclear Reactor Safety Subtotal</b>	<b>\$251.0</b>	<b>557.1</b>	<b>\$265.1</b>	<b>585.7</b>	<b>\$264.8</b>	<b>584.3</b>
Operating Fuel Facilities	10.5	23.2	11.8	26.0	11.9	26.3
New Fuel Facilities	7.0	15.6	7.0	15.5	8.4	18.6
Nuclear Materials Users	27.9	61.9	28.5	63.0	28.3	62.5
Spent Fuel Storage and Transportation	8.8	19.6	11.5	25.3	11.4	25.1
Decommissioning and Low-Level Waste	13.5	30.0	13.9	30.6	13.2	29.2
High-Level Waste	10.6	23.6	5.2	10.9	0.0	0.0
Integrated Spent Fuel Management	0.0	0.0	0.0	0.0	4.9	10.9
<b>Nuclear Materials and Waste Safety Subtotal</b>	<b>\$78.4</b>	<b>174.0</b>	<b>\$77.8</b>	<b>171.2</b>	<b>\$78.1</b>	<b>172.6</b>
<b>Corporate Support Allocation Total</b>	<b>\$329.3</b>	<b>731.1</b>	<b>\$343.0</b>	<b>756.9</b>	<b>\$343.0</b>	<b>756.8</b>

Numbers may not add due to rounding.

FY 2011 Corporate Support Budget Authority and Full-Time Equivalent by Product Line

(Dollars in Millions)

Product Line	FY 2011							
	FY 2009 Enacted		FY 2010 Enacted		Request		Changes from FY 2010	
	\$M	FTE	\$M	FTE	\$M	FTE	\$M	FTE
Administration and Rent	92.9	88.0	104.0	84.0	103.7	84.0	(0.3)	0.0
Human Resources, Outreach and Training and Development	58.9	71.0	51.1	74.0	50.2	74.0	(0.9)	0.0
Information Technology, Information Management, and Disaster Recovery	96.6	152.7	98.9	155.7	98.5	156.7	(0.4)	1.0
Financial Management	34.8	138.0	37.3	138.0	39.1	142.0	1.8	4.0
Performance Management	1.5	5.0	1.6	4.0	1.8	4.0	0.2	0.0
Policy Support	19.6	121.4	22.8	136.2	22.3	131.1	(0.5)	(5.1)
Supervisory, Non-Supervisory, and Travel	25.0	155.0	27.3	165.0	27.4	165.0	0.1	0.0
<b>Total</b>	<b>\$329.3</b>	<b>731.1</b>	<b>\$343.0</b>	<b>756.9</b>	<b>\$343.0</b>	<b>756.8</b>	<b>\$0.0</b>	<b>(0.1)</b>

Numbers may not add due to rounding.

## ADMINISTRATION AND RENT

The administration and rent budgets provide resources for Headquarters (HQ) full-time equivalent (FTE) staff; rent for HQ space; Information Technology (IT) systems; facilities management costs, including systems and office furniture, property management, utilities, labor services, custodial services, operation and maintenance services, and building alterations; administrative services, including shuttles, transit subsidies, supplies, multimedia services, security equipment and investigations, and guard services; and administrative services and rental costs in the regional offices.

## HUMAN RESOURCES, OUTREACH, AND TRAINING AND DEVELOPMENT

Resources provide for professional development training, including leadership training; recruitment, outreach, and staffing activities; work/life services; strategic workforce planning; building and maintaining a positive, discrimination-free work environment; advocating for contracts with small businesses; and continuing efforts to implement the NRC's Outreach and Compliance Coordination Program in accordance with applicable Federal civil rights statutes and

NRC regulations. These resources also support the agency's program for minority-serving higher education institutions, with the goal of obtaining a highly qualified, diverse workforce to meet hiring needs. In addition, resources provide for grants to universities for university-led, mission-related research in nuclear science, engineering, and related disciplines and trades.

In addition, resources will provide for permanent change-of-station activities, based on projected FTE increases, as well as employee relocations, including resident inspector moves and new agency hires.

## SIGNIFICANT ACCOMPLISHMENTS

Strategic Management of Human Capital: To address challenges presented by the projected growth in the nuclear industry, the NRC has streamlined recruitment procedures, enhanced the agency's relocation and retention incentives process, and implemented to the maximum degree possible, short-term, contractor, and other flexible hiring practices, thereby enhancing the agency's ability to handle new work. Through the use of an automated strategic workforce planning tool, the NRC is able to determine what critical skill and knowledge gaps exist and can thereby focus its recruitment and other programs appropriately. The NRC's strategic approach to training and development allows the agency to establish priorities and leverage investments to ensure a



comprehensive, integrated, competency-based system of staff training, which is more crucial with the large number of new employees.

In FY 2009, the NRC implemented several of the recommendations developed by a Lean Six Sigma Team to meet the timeliness standards established by the U.S. Office of Personnel Management (OPM) end-to-end hiring model, including launching the NRC Knowledge Center, an

agencywide collection of electronic communities of practice designed to enable staff to collaborate, capture, and share knowledge in order to build organizational memory; establishing an Expertise Exchange to capture the lessons learned and best practices from the NRC's most experienced staff; and actively contacting Knowledge Management (KM) staff across the Federal family and in industry to identify best practices and lessons learned in KM.

## OUTPUT MEASURES

Percentage of professional hires retained for a minimum of 3 years after initial employment.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	75%	75%	85%	85%	85%	85%
Actual:	95%	93%	82%	87%		

## INFORMATION TECHNOLOGY, INFORMATION MANAGEMENT, AND DISASTER RECOVERY

In FY 2011, resources will support ongoing needs, including a new IT seat management contract, document and records management requirements, enhanced information security to meet new requirements and government mandates, computer security-related activities, a new Enterprise Content Management (ECM) solution for replacing aging document and records management technology, and a disaster recovery plan to include support of Continuity of Operations (COOP). Specifically, the budget provides support for the following ongoing activities:

- Infrastructure services and support activities manage the NRC's IT infrastructure agencywide and maintain current service levels. This includes the transition to the new IT infrastructure contract that is replacing the current seat contract; integration, testing, implementation, and maintenance of agency IT infrastructure capabilities; managed public key infrastructure (MPKI); operational security services and Federal Information Security Management Act (FISMA) compliance activities for infrastructure; telecommunications, such as cellular phone service for emergency response equipment including cell phones, BlackBerrys, and secure circuits for the Homeland Secure Data Network

(HSDN); maintenance of the phone switch, voice mail, secure communications, and information security; and production operations to support systems administration and data center operations.

- Application development, maintenance, and operational support activities provide service for agency information systems. The enterprise architecture and ECM programs provide interoperability and integration to maintain a seamless interface for end users. Migration of business processes, such as the Digital Data Management System (DDMS), Licensing Support Network (LSN), and Electronic Hearing Docket to the new operating system for the Agencywide Documents Access and Management System (ADAMS) will continue in FY 2011. Automation of records management will begin in FY 2011 as part of ECM. These activities support the NRC goal to allow staff and stakeholders to work from anywhere.
- Information management activities provided to NRC staff and stakeholders include operation of the Public Document Room, modernization of internal and external Web sites, and compliance with the Freedom of Information Act and Privacy Act. Information security includes secure communications, policy and procedures, maintenance/services and supplies, classification management, and management of Sensitive Unclassified Non-Safeguards Information.

- ▶ Computer Security Program activities address Federal mandates and directions (e.g., FISMA, Office of Management and Budget (OMB), and NRC directives) and help achieve operational excellence in accomplishing the agency's mission of safety and security. The program includes the deployment of automated tools to support the mission and to ensure that Federally mandated and NRC-defined security requirements have been fully addressed during the development, implementation, and maintenance of the NRC's information systems.
- ▶ Disaster recovery activities provide IT services for primary and secondary mission-essential functions of the COOP and mission-critical business functions of the agency. The Disaster Recovery Plan will outline the requirements for implementing full disaster recovery capabilities. Required activities include detailed technical architecture development, consolidation of mission-essential functions, and ongoing alternative site activities (e.g., selection, design, readiness testing, failover, and recovery exercises).

## **SIGNIFICANT ACCOMPLISHMENTS**

In FY 2009, the NRC completed a search of the ADAMS Publicly Available Records System for Personally Identifiable Information (PII) and took appropriate remedial actions. The NRC also revised the agency's PII Breach Notification Policy to provide credit monitoring services in high-risk PII breaches. The NRC also conducted a search of agency network shared drives to identify PII so that it could either be removed or access to it could be restricted based on the need to know.

The NRC began modernization of its public Web site by awarding three contracts. The first contract provides Content Management Services (CMS), which facilitate the management of Web content for creating, editing, and automating the approval process in order to propagate efficiently the latest content to the NRC public Web site. A second contract provides a usability assessment of the current NRC public Web site. This assessment, awarded in FY 2009, will recommend ways to improve the organization of information and the site visitor experience in navigating the site and finding information. The third contract will begin in FY 2010 to redesign the existing Web site within the new CMS environment, building upon the recommendations from the second contract.

In 2009, the NRC began the process of replacing ADAMS. Efforts to date include development of an ECM program; development of communications, user-data, and application migration plans; and establishing, prototyping, and testing the target operating system while also stabilizing the existing ADAMS infrastructure. Supporting activities include a technical assessment of the target platform to validate an incremental transition approach; planning delivery of ECM tool documentation, policies, and training; and delivery of prototype demonstrations to several key stakeholder groups. The NRC will continue acquisition planning activities for a major upgrade contract as well as support contracts to maintain critical business functions until the migration is complete.

In April 2009, the NRC doubled the agency's Internet bandwidth to support current and near-future requirements (i.e., Web browsing, Web streaming, iLearn training) and to resolve existing issues with performance degradation during peak periods. The bandwidth during normal operations is now approximately 90 megabits per second (Mbps) and will support failover in the event that one connection fails. The Internet connection at the agency's alternate site was also upgraded by a factor of 30 from 1.5 Mbps to 45 Mbps.

In May 2009, the NRC enhanced the BlackBerry infrastructure to support a maximum of 1,000 handheld devices



*Executive Director for Operations, R. William Borchardt (left) and Director of the Office of Information Services, Thomas M. Boyce (right) attending an IT summit*

in the Microsoft Exchange environment, as planned. In addition, a BlackBerry high-availability (HA) solution has been implemented in the production environment. This solution provides a redundant BlackBerry Enterprise Server for Exchange and a SQL failover database server in the event of a hardware failure or scheduled maintenance (e.g., patching or adding hardware).

The agency hosted more than 100 vendor representatives with an interest in bidding on the FY 2010 IT Infrastructure Services and Support (ITISS) acquisition, which will replace the current Infrastructure Services and Support Contract (ISSC). Vendors received a draft statement of work in advance of an NRC-hosted Industry Day. During the event, NRC subject matter experts spoke further about the agency's requirements. Vendors submitted more than 250 questions,

concerns, and suggestions to the NRC. The NRC provided the vendor community with answers to the questions and also used the questions and comments to improve the statement of work that will ultimately be provided with the request for proposal.

In FY 2009, the agency's Security Operations Center (SOC) became fully staffed and operational. The SOC coordinates activities to provide cyber security situational awareness for the agency by monitoring firewall logs, intrusion detection systems, e-mail, Internet Web traffic, and system vulnerabilities for malicious activity. The agency has deployed security tools that assist the SOC security analysts in the prevention, detection, and remediation of malicious activity.

## OUTPUT MEASURES

### Information Management

#### Information Dissemination Timeliness - Meets agency targets for key information dissemination channels, including public meeting notices, Freedom of Information Act, and documents made publicly available through ADAMS.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New measure in FY 2009			Timeliness targets met.*	Meet 3 of 4 timeliness targets for FOIA responses, public meeting notices, and NRC documents made publicly available.*	Meet 3 of 4 timeliness targets for FOIA responses, public meeting notices, and NRC documents made publicly available.
Actual:				85.50%		

\*Targets are as follows: Percentage of time the NRC responds to FOIA requests within 20 working days (75%); percentage of category 1, 2, and 3 meetings on regulatory issues for which the NRC posted a meeting notice on the public meeting notice Web site at least 10 days in advance of the meeting (90%); percentage of non-sensitive, unclassified regulatory documents generated by the NRC and sent to the agency's Document Processing Center that are released to the public by the 6th working day after the date of the document (90%); percentage of non-sensitive, unclassified regulatory documents received by the NRC that are released to the public by the 6th working day after the document is added to the ADAMS main library (90%).

### Information Technology

#### Percentage of the time that key IT infrastructure services are available.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:				99.50%	99.50%	99.50%
Actual:				99.60%		

**System Certification and Accreditation - Percentage of major applications and general support systems that have been certified and accredited.**

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New measure in FY 2009			90% of those scheduled to be accredited in FY 2009	90% of those scheduled to be accredited in FY 2010	90% of those scheduled to be accredited in FY 2011
Actual:				100%		

**OMB Exhibit 300 Scores - Percentage of major IT investments that are rated as "acceptable" based on OMB's evaluation of the NRC's Exhibit 300 submittal.**

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	New measure in FY 2009			90%	90%	90%
Actual:				90%		

## FINANCIAL MANAGEMENT

Resources in FY 2011 support the modernization of the agency's financial systems, agency planning, budgeting, accounting, current financial systems operations and activities, and acquisition of goods and services. In addition, resources provide for acquisition workforce enhancement. In FY 2011, the NRC will continue to focus on the early planning, timely monitoring, reporting, and analysis of budget execution and contracting activities. The NRC will continue to revise both budget formulation and execution processes as part of the implementation of systems modernization efforts. Also in FY 2011, the new core financial system will be upgraded to include acquisition workforce module. The implementation of the new core accounting system in FY 2011 will improve financial reporting by streaming and automating processes, improving access to financial data, and generating financial information.

## SIGNIFICANT ACCOMPLISHMENTS

The NRC will build on a number of actions underway to improve financial management in the agency.

**Budget Formulation and Execution:** The NRC has improved the budget formulation process by using a Web-based budget formulation system, which enhanced efficiency, reduced errors compared to the previous manual process, and provided numerous reports to NRC offices based on real-time data. In addition, the budget structure was updated to facilitate the cost estimation of regulatory products and align the budget

efficiently with the NRC mission and strategies. The NRC has begun a phased approach to implement the enhanced agency budget structure with this FY 2011 request. The outcome will be an improvement both to the transparency and communication of the NRC's resources, internally and externally. The timing was opportune for the agency to improve the budget structure over the next few years in preparation for the full-scale financial systems modernization effort.

**Financial Systems Modernization:** The NRC has begun the transition to a new core financial management system. In June 2009, the NRC began the configuration and integration phase for the new core financial system and will deliver a production-ready system by October 2010. The agency has also been working to implement an upgrade to the existing time and labor (T&L) system, which will be implemented by



*Deputy Chief Financial Officer, Milton Brown, presents financial system modernization plan.*

March 2010. The upgrade will provide a modern Web-enabled, user-friendly version of the existing PeopleSoft/Oracle T&L software. The NRC implemented e-Travel agencywide to improve travel operations and routine management in July 2009. Additionally, the agency upgraded the budget formulation system during FY 2009 to improve the capabilities and effectiveness of the system.

**Financial Reporting:** The NRC received an unqualified opinion on its FY 2009 financial statements. In FY 2009, the auditors closed a substantial noncompliance with the Federal Financial Management Improvement Act as a result of the NRC completing the certification and accreditation of the Fee Billing System. In addition, the auditors closed a significant deficiency as a result of the NRC implementing a revised methodology that more accurately estimates accounts payable. Also, in FY 2009, procedures were put in place to improve Prompt Payment Act compliance.

**Internal Controls:** The agency has improved and will continue to improve internal controls over programmatic operations.

The agency provided an agencywide online training course for all employees, revised the risk assessment process to make it more meaningful, increased the programmatic focus, and continued efforts to update agencywide directives on internal controls.

**Competitive Sourcing:** One of the NRC's corporate management strategies is to acquire goods and services in an efficient manner. To achieve this, the NRC adopted a performance-based approach to contracting and posted procurement synopses on the agency's Web sites.

The NRC uploaded its 2009 Federal Activities Inventory Reform Act inventory into the OMB's Workforce Inventories Tracking System on June 30, 2009. In accordance with the NRC's Competitive Sourcing Plan, the agency completed one business case analysis as of June 2009 and will continue to look for opportunities to conduct commercial activities in the most cost-effective and efficient manner that will yield results consistent with the mission of the agency.

## OUTPUT MEASURES

Meet statutory fee collection requirement.							
	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Target:	Achieve approximately 100% actual collections when compared with projected collections. Maintain past-due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past-due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past-due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past-due accounts receivable at 1% or less of annual billings for the fiscal year.	Achieve approximately 100% actual collections when compared with projected collections. Maintain past-due accounts receivable at 1% or less of annual billings for the fiscal year.
Actual:	Target met.	Target met.	98% collected. Maintained past-due amounts receivable at less than 1% of annual billings.	98% collected. Maintained past-due amounts receivable at less than 1% of annual billings.			

Percentage of non-salary payments made electronically and accurately within established schedule.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	95%	95%	98%	98%	98%	98%
Actual:	99%	95%	99%	96%		

OMB Directed Acquisition Reform Initiative Measure: Percentage of eligible service contracting dollars (contracts over \$25,000) that use performance-based contracting techniques during the fiscal year.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	Not less than 40%	Not less than 40%	Not less than 65%	Not less than 65%	Not less than 65%	Not less than 65%
Actual:	67%	67%	78%	89%		

OMB Directed Acquisition Reform Initiative Measure: Percentage of required synopses for acquisitions that are posted on the government-wide point-of-entry Website (www.FedBizOpps.gov) during the fiscal year. Synopses for acquisitions are those valued at over \$25,000 for which widespread notice is required including all associated solicitations except for acquisitions covered by an exemption in the Federal Acquisition Regulation.

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	100% of all required synopses	100% of all required synopses	100% of all required synopses	100% of all required synopses	100% of all required synopses	100% of all required synopses
Actual:	98%	100%	100%	100%		

OMB Directed Acquisition Reform Initiative Measure: Competitive Sourcing FY 2004. Number of business case analyses performed on commercial activities listed on the approved FAIR Act inventory and conducted in accordance with agency competitive sourcing plan. (Measure revised in FY 2004.)

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Target:	3 business case analyses	3 business case analyses	3 business case analyses	3 business case analyses	3 business case analyses	3 business case analysis
Actual:	3	3	3	One reverse business case analysis was completed. *		

\* Notice was provided to OMB that the agency competitive sourcing plan was revised to delete the requirement to perform a minimum of 3 BCAs annually. Additional guidance from the current administration is anticipated to clarify the future direction of the competitive sourcing program. Notification to OMB of NRC's planned change in strategy in using BCAs was issued on September 8, 2009.

## PERFORMANCE MANAGEMENT

Resources in FY 2011 will provide for better integration of budget formulation, budget execution, the NRC's Strategic Plan design, and the Chief Financial Officer's Council. In 2011 the Agency will review programmatic performance and efficiency measures to make improvements if necessary and evaluate whether changes are needed to align with the new budget structure. Specifically, the budget provides resources for the following:

- ▶ Coordination of the NRC's planning, performance measuring, monitoring, and assessing components of the Planning, Budgeting, and Performance Management process.
- ▶ Preparation of the NRC's Strategic Plan, performance plan, and performance report for submission to OMB and Congress and recommendations pertaining to the conduct of performance evaluations.

- ▶ Coordination of activities in support of the Performance Improvement Officer and the Performance Improvement Council.
- ▶ Training and certification for the Lean Six Sigma Program.

## POLICY SUPPORT

Resources in FY 2011 will provide for additional policy and adjudicatory support to the Commission. Specifically, the budget provides resources for the following:

- ▶ Agency policy formulation, advice and assistance to the Commission on congressional and protocol issues, adjudicatory review, legal advice, management and oversight of agency programs, and public affairs activities leading to openness and increased public confidence.
- ▶ Independent evaluations of agency programs.





# Appendix III

## Verification and Validation of Performance Measures





# Appendix III

## Verification and Validation of Performance Measures

**T**he U.S. Nuclear Regulatory Commission (NRC) obtains or derives the majority of the data used to measure the agency's safety and security strategic goals from two sources: the NRC abnormal occurrence (AO) data and licensee-submitted reports or preliminary notifications of events.. The AO criteria have been amended to ensure that they are consistent with the NRC's Strategic Plan for Fiscal Year (FY) 2008–2013 and the NRC rulemaking on Title 10 of the Code of Federal Regulations (10 CFR) Part 35, "Medical Use of Byproduct Materials."

The NRC developed its AO criteria in order to comply with the legislative intent of Section 208 of the Energy Reorganization Act of 1974, as amended. The Act requires the NRC to inform Congress of unscheduled incidents or events that the Commission determines to be significant from the standpoint of public health and safety. The NRC includes events that meet the AO criteria in an annual "Report to Congress on Abnormal Occurrences" (NUREG-0090). In addition, in 1997, the Commission determined that events occurring at Agreement State-licensed facilities that meet the AO criteria should be reported in the annual AO report to Congress. Therefore, the AO criteria developed by the NRC are uniformly applied to events that occur at facilities licensed or otherwise regulated by the NRC and the Agreement States.

Data for AOs originate from external sources, such as Agreement States and NRC licensees. The NRC believes these data are credible because (1) the information needed from external sources is required to be reported to the NRC by regulations, (2) the NRC maintains an aggressive inspection program that, among other activities, audits licensees and evaluates Agreement State programs to determine whether information is being reported as required by the regulations, and (3) The NRC has procedures for reviewing and evaluating licensees. The NRC database systems for safety that support this process include the Licensee Event Report Search System (LER Search), the Accident Sequence Precursor (ASP) Database, the Nuclear Material Events Database (NMED), and the Radiation Exposure Information Report System. The NRC database systems for security that support this process include the Suspicious Incidents Data System.

The NRC has established procedures for systematic review and evaluation of events reported by NRC licensees and Agreement State licensees. The objective of the review is to identify events that are significant from the standpoint of public health and safety, based on criteria that include specific thresholds. The NRC uses a number of sources to determine the reliability and the technical accuracy of event information reported to the NRC. Such sources include (1) NRC licensee

reports, (2) NRC inspection reports, (3) Agreement State reports, (4) periodic review of Agreement State regulatory programs, (5) NRC consultant/contractor reports, and (6) U.S. Department of Energy operating experience weekly summaries. In addition, there are daily interactions and exchanges of event information between headquarters and the regional offices, as well as periodic conference calls between headquarters, the NRC regions, and Agreement States to discuss event information. Identified events that meet the AO criteria are validated and verified by all applicable NRC headquarters program offices, regional offices, and agency management before submission to Congress.

The following performance measures have been identified for verification and validation.

### GOAL 1—SAFETY

Ensure adequate protection of public health and safety and the environment.

#### NUCLEAR REACTOR SAFETY

##### *Strategic Outcomes:*

- ▶ Prevent the occurrence of any nuclear reactor accidents.
- ▶ Prevent the occurrence of any inadvertent criticality events.
- ▶ Prevent the occurrence of any acute radiation exposures resulting in fatalities.
- ▶ Prevent the occurrence of any releases of radioactive materials that result in significant radiation exposures.
- ▶ Prevent the occurrence of any releases of radioactive materials that cause significant adverse environmental impacts.

##### *Performance Measure*

1 - Number of new conditions evaluated as red by the NRC's Reactor Oversight Process.

Reactor Safety Target: Less than or equal to 3

**Verification:** The data for this performance measure are collected in two ways as part of the NRC's Reactor Oversight Process (ROP). Inspection findings are collected at least

quarterly by NRC inspectors. Inspectors use formal detailed inspection procedures to review plant operations and maintenance. Inspection findings are reviewed by NRC managers to assess their significance as part of the ROP's significance determination process (SDP). The data for performance indicators is collected by licensee's and submitted to the NRC at least quarterly. The significance of the data is determined by thresholds for each indicator. Red findings indicate a finding of high safety significant. The NRC conducts inspections of licensee processes for collecting and submitting the data to ensure completeness, accuracy, consistency, timeliness, and validity.

The NRC enhances the quality of its inspections through inspector feedback and periodic reviews of results. The inspectors are trained through a rigorous qualification program. The quality of performance indicators is improved through continuous feedback from licensees and inspectors that is incorporated into guidance documents. The NRC publishes the inspection findings and performance indicators on the agency's web site and incorporates feedback received from all stakeholders, as appropriate.

**Validation:** The inspection findings and performance indicators used by the ROP cover a broad range of plant operations and maintenance. NRC managers review significant issues that are identified and inspectors, conduct supplemental inspections of selected aspects of plant operations as appropriate. Plants that are identified as having performance issues, as well as a self-assessment of the ROP, are reviewed by senior agency managers on an annual basis, and the results are reported to the Commission.

2 - Number of significant accident sequence precursors of a nuclear accident.

Reactor Safety Target: Zero

**Verification:** The NRC has an ASP program to evaluate U.S. nuclear power plant operating experience systematically to identify, document, and rank those operating events that were most significant in terms of the potential for inadequate core cooling and core damage (i.e., precursors). The ASP program evaluation process has five steps. First, the NRC screens operating experience data to identify events and conditions that may be potential precursors to a nuclear accident. The data that are evaluated include LERs from a LER Search; Incident Investigation Team or Augmented Inspection Team, reviews the NRC's daily screening of operational events, and other events identified by NRC staff

as candidates. The second step is to conduct an engineering review of these screened events, using specific criteria, to identify those events requiring detailed analyses as candidate precursors. Third, the NRC staff calculates a conditional core damage probability by mapping failures observed during the event to accident sequences in risk models. Fourth, the preliminary potential precursor analyses are provided to the NRC staff and the licensee for independent peer review. However, for ASP analyses of noncontroversial, low-risk precursors in which the ASP results reasonably agree with the SDP results, formal peer reviews by licensees may not be performed. The NRC staff will continue to perform an in-house review process for all analyses. Lastly, the agency provides analysis findings to the licensee and the public.

It must also be noted that there is a time lag in obtaining ASP analysis results, since they are often based on LERs (submitted up to 60 days after an event) and most analyses take approximately 6 months to complete. Final data will be reported in the year in which the event occurred.

**Validation:** The ASP program identifies significant precursors as those events that have a 1/1000 ( $10^{-3}$ ) or greater probability of leading to a nuclear reactor accident. Significant accident sequence precursor events have a conditional core damage probability or  $\Delta CDP$  of  $> 1 \times 10^{-3}$ .

3 - Number of operating reactors whose integrated performance entered the Manual Chapter 0350 process, the multiple/repetitive degraded cornerstone column, or the unacceptable performance column of the ROP Action Matrix.

Reactor Safety Target: Less than or equal to 3

**Verification:** The data for this performance measure are collected by the NRC ROP on a continuous basis, and the information is published at least quarterly. NRC inspectors use detailed formal procedures to conduct inspections of licensee performance, and NRC managers review the results to ensure the completeness, accuracy, consistency, timeliness, and validity of the data.

The NRC enhances the quality of its inspections through inspector feedback and periodic reviews of results. The inspectors are trained through a rigorous qualification program. The quality is also improved through continuous feedback from licensees and inspectors that is incorporated into guidance documents. The NRC publishes the data on the agency's Web site and incorporates feedback received from all stakeholders, as appropriate.

**Validation:** The information collected by the ROP covers a broad range of plant operations and maintenance. NRC managers review significant issues that, are identified and inspectors conduct supplemental inspections of selected aspects of plant operations as appropriate. Plants that are identified as having performance issues are reviewed by senior agency managers on an annual basis, and the results are reported to the Commission. The same is true of the agency's self-assessment of the ROP.

This measure is the number of plants that have entered the Inspection Manual Chapter 0350 process, the multiple/repetitive degraded cornerstone column, or the unacceptable performance column during the fiscal year (i.e., were not in these columns or process the previous fiscal year). Data for this measure are obtained from the NRC external web Action Matrix Summary page that provides a matrix of the five columns with the plants listed within their applicable column, and notes the plants in the Inspection Manual Chapter 0350 process. For reporting purposes, plants that are the subject of an approved deviation from the Action Matrix are included in the column or process in which they appear on the Web page.

4 - Number of significant adverse trends in industry safety performance.

Reactor Safety Target: Less than or equal to 1

**Verification:** The data for this performance measure are derived from data supplied by all power plant licensees in LERs and from monthly operating reports, as well as performance indicator data submitted for the ROP. These data are either required by Title 10 of the Code of Federal Regulation (10 CFR) 50.73 Licensee Event Report System and/or plant-specific technical specifications, or are submitted by all plants as part of the ROP. Detailed NRC guidelines and procedures are in place to control each of these reporting processes. The NRC reviews these procedures for appropriateness, both periodically and in response to licensee feedback. The NRC also conducts periodic inspections of licensees' processes for collecting and submitting the data to ensure completeness, accuracy, consistency, timeliness, and validity.

All licensees report the data at least quarterly. The NRC staff reviews all the data and conducts inspections to verify safety-significant information. The NRC also employs a contractor to review the data submitted by licensees, input the data into a database, and compile the data into various indicators. Quality assurance processes for this work have

been established and included in the statement of work for the contract. The experience and training of key personnel are controlled through administration of the contract. The contractor identifies discrepancies to both licensees and the NRC for resolution. The NRC reviews the indicators and publishes them on the agency's Web site on a quarterly basis. The agency also incorporates feedback from licensees and the public, where appropriate.

The target value is based on the expected addition of several indicators and a change in the long-term trending methodology.

**Validation:** The data and indicators that support reporting against this performance measure provide a broad range of information on nuclear power plant performance. The NRC staff tracks indicators and applies statistical techniques to provide an indication of whether industry performance is improving, steady, or degrading over time. If the staff identifies any adverse trends, the NRC handles the problem through its processes for addressing generic safety issues and issuing generic communications to licensees. The NRC is developing additional, risk-informed indicators to enhance the current set. In doing so, the staff considers the costs and benefits of collecting the data through ongoing, extensive interactions with industry regarding the indicators. The Industry Trends Program is reviewed by senior agency managers on an annual basis, and the results are reported to the Commission.

5 - Number of events with radiation exposures to the public and occupational workers from nuclear reactors that exceed Abnormal Occurrence Criteria I.A.

Reactor Safety Target: Zero

**Verification:** Licensees use the LER process to report overexposures which are then entered into a searchable database. The database is used to identify those LERs that report overexposures. NRC resident inspectors stationed at each nuclear power plant provide a high degree of assurance that all events meeting reporting criteria are reported to the NRC. In addition, the NRC conducts inspections if there is any indication that an exposure exceeded, or could have exceeded, a regulatory limit. Finally, areas of the facility that may be subject to radiation contamination have monitors that record radiation levels. These monitors would immediately reveal any instances in which high levels of radiation exposure occurred.

**Validation:** Given the nature of the process of using radioactive materials to generate power, overexposure to radiation is a potential danger from the operation of nuclear power plants. Such exposure to radiation in excess of the applicable regulatory limits may potentially occur through either a nuclear accident or other malfunctions at the plant. Consequently, tracking the number of overexposures that occur at nuclear reactors is an important indicator of the degree to which safety is being maintained.

6 - Number of radiological releases to the environment from nuclear reactors that exceed applicable regulatory limits.

Reactor Safety Target: Zero

**Verification:** As with worker overexposures, licensees report environmental releases of radioactive materials that are in excess of regulations or license conditions through the LER process, which are then entered into a searchable database. The database is used to identify those LERs reporting releases, and the number of reported releases is then applied to this measure. The NRC also conducts periodic inspections of licensees to ensure that they properly monitor and control releases to the environment through effluent pathways. In addition, onsite monitors would record any instances in which the plant releases radiation into the environment. If the inspections or the monitors reveal any indication that an accident or inadvertent release has occurred, the NRC conducts follow up inspections.

**Validation:** The generation of nuclear power creates radioactive materials that are released into the environment in a controlled manner. These radioactive discharges are subject to regulatory controls that limit the amount discharged and the resultant dose to members of the public. Consequently, the NRC tracks all releases of radioactive materials in excess of regulatory limits as a performance measure, as such large releases have the potential to endanger public safety or harm the environment. The NRC inspects every nuclear power plant for compliance with regulatory requirements and specific license conditions related to radiological effluent releases. The inspection program includes enforcement actions to be taken for violations of the regulations or license conditions, based on the severity of the event.

This performance measure includes dose values that are classified as being as low as reasonably achievable (ALARA), contained in Appendix I to 10 CFR Part 50 as well as the public dose limits contained in 10 CFR Part 20. Because

the performance measure includes ALARA values, which are not safety limits, and because Appendix I to 10 CFR Part 50 allows licensees to temporarily exceed the ALARA dose values for good reason, the performance measure is set to 2.

## **NUCLEAR MATERIAL AND WASTE SAFETY**

### **Strategic Outcomes:**

- ▶ Prevent the occurrence of any inadvertent criticality events.
- ▶ Prevent the occurrence of any acute radiation exposures resulting in fatalities.
- ▶ Prevent the occurrence of any releases of radioactive materials that result in significant radiation exposures.
- ▶ Prevent the occurrence of any releases of radioactive materials that cause significant adverse environmental impacts.

### **Performance Measures:**

1 - Number of events with radiation exposures to the public or occupational workers from radioactive material that exceed Abnormal Occurrence Criteria I.A.

Materials Safety Target: Less than or equal to 2

Waste Safety Target: Zero

**Verification:** This performance measure includes any event involving licensed radioactive materials that results in significant radiation exposures to the public or occupational workers that exceed the dose limits in the AO reporting criteria. Because of the extremely high doses employed during medical applications of radioactive materials, it is also appropriate to use a radiation exposure that results in unintended permanent functional damage to an organ or a physiological system, as determined by a physician, as a criterion for this measure. AO Criterion I.A is used as the basis for this measure.

Should an event meeting this threshold occur, it would be reported to the NRC and/or Agreement States through a number of sources, but primarily through required licensee notifications. These events are summarized in event notifications and preliminary notifications, which are used to

widely disseminate the information to internal and external stakeholders.

The operating fuel facilities, new fuel facilities, materials users, high-level waste repository, decommissioning and low-level waste, and spent fuel storage and transportation programs contain elements that verify the completeness and accuracy of licensee reports. The Integrated Material Performance Evaluation program (IMPEP) also provides a mechanism to verify that Agreement States and NRC regions are consistently collecting and reporting such events as received from the licensees and entering them into the NMED.

The NRC has taken a number of steps to improve the timeliness and completeness of materials event data. These steps include assessment of the NMED data during monthly staff reviews; emphasis and analysis of NMED data during the IMPEP reviews; NMED training in Headquarters, the regions, and Agreement States; and discussions at all Agreement State and Conference of Radiation Control Program Directors (CRCPD) meetings.

**Validation:** There is a logical basis for using events involving radiation exposures to the public and occupational workers from radioactive material that exceed AO Criterion I.A., as a performance measure for ensuring the protection of public health and safety. An event is considered an AO if it is determined to be significant from the standpoint of public health or safety. The NRC's regulatory process, including licensing, inspection, guidance, regulations, and enforcement activities, is designed to mitigate the likelihood of an event that would exceed AO Criterion I.A.

Events of this magnitude are rare. In the unlikely event that an AO should occur, the NRC or Agreement State technical specialists will confirm whether the criteria were met, with input provided by expert consultants, as necessary.

The NRC does not use statistical sampling of data to determine results. Rather, all event data are reviewed to determine if the performance measure has been met. There are two important data limitations in determining this performance measure. These include delay time for receiving information and/or the failure of NRC to become aware of an event that causes significant radiation exposures to the public or occupational workers. Although the Office of Nuclear Materials Safety and Safeguards (NMSS) and the Office of Federal State materials and Environmental Management program (FSME) procedures and NRC regulations associated with event reporting include specific requirements for timely notifications, there is a lag time separating the occurrence of an event and the known consequences of an event.

The NRC believes the probability of not being aware of an event that causes significant radiation exposures to the public or occupational workers is very small. Periodic licensee inspections and regulatory reporting requirements are sufficient to ensure that an event of this magnitude would become known. If such an event occurred, it would result in a prompt and thorough investigation of the event, its consequences, its root causes, and the necessary actions by the licensee and the NRC to mitigate the situation and prevent recurrence. In addition to these immediate actions, the NRC holds periodic meetings, where staff and management validate the occurrence of these events.

2 - Number of radiological releases to the environment that exceed applicable regulatory limits.

Materials Safety Target: Less than or equal to 2

Waste Safety Target: Zero

**Verification:** This performance measure is defined as any release to the environment from the following activities: operating fuel facilities, new fuel facilities, materials users, high-level waste repository, decommissioning and low level-waste, and spent fuel storage and transportation activities that exceed applicable regulations as defined in 10 CFR 20.2203(a)(3). A 30-day written report is required on such releases.

Should an event meeting this threshold occur, it would be reported to the NRC and/or Agreement States through a number of sources, but primarily through required licensee notifications. These events are summarized in event notifications and preliminary notifications, which are used to widely disseminate the information to internal and external stakeholders.

The operating fuel facilities, new fuel facilities, materials users, high-level waste repository, decommissioning and low-level waste, and spent fuel storage and transportation programs contain elements that verify the completeness and accuracy of licensee reports. The IMPEP also provides a mechanism to verify that Agreement States and NRC Regions are consistently collecting and reporting such events, as received from the licensees, and entering them into the NMED.

The NRC has taken a number of steps to improve the timeliness and completeness of materials event data. These steps include assessment of the NMED data during monthly staff reviews; emphasis and analysis on NMED data during

the IMPEP review; NMED training in Headquarters, the NRC Regions, and Agreement States; and discussions at all Agreement State and CRCPD meetings.

**Validation:** The regulations in 10 CFR Part 20 provides standards for protection against radiation. There is a logical basis for tracking releases subject to the 30-day reporting requirement under 10 CFR 20.2203(a) (3) (ii) as a performance measure for ensuring the protection of the environment. The NRC's regulatory process, including licensing, inspection, guidance, regulations, and enforcement activities, is sufficient to ensure that releases of radioactive materials that exceed regulatory limits are infrequent.

In the unlikely event that a release to the environment exceeds regulatory limits, the NRC or Agreement State technical specialists will determine whether the criteria were met, with input provided by expert consultants, as necessary.

The NRC does not look at statistical sampling of data to determine results. Rather, the agency reviews all event data to determine if the performance measure has been met. There are two important data limitations in determining this performance measure. These include delay time for receiving information and/or the failure of NRC to become aware of an event that causes environmental impacts. Although NMSS and FSME procedures and NRC regulations associated with event reporting include specific requirements for timely notifications, there is a lag time separating the occurrence of an event and the known consequences of an event.

The NRC believes the probability of not being aware of an event that causes a radiological release to the environment that exceeds applicable regulations is very small. Periodic licensee inspections and regulatory reporting requirements are sufficient to ensure that an event of this magnitude would become known.

If such an event occurred, it would result in a prompt and thorough investigation of the event, its consequences, its root causes, and the necessary actions by the licensee and the NRC to mitigate the situation and prevent recurrence. In addition to these immediate actions, the NRC holds periodic meetings, where staff and management validate the occurrence of these events.

## GOAL 2—SECURITY

Ensure the secure use and management of radioactive materials.

### NUCLEAR REACTOR AND NUCLEAR MATERIALS AND WASTE SECURITY

#### *Strategic Outcome*

- Prevent any instances where licensed radioactive materials are used domestically in a manner hostile to the security of the United States.

#### *Performance Measures*

1 – Number of unrecovered losses or thefts of risk-significant radioactive sources.

Target: Zero

Under AO Criterion I.C.1, the agency counts any unrecovered lost, stolen, or abandoned sources that exceed the values listed in Appendix P, “Category 1 and 2 Radioactive Material,” to 10 CFR Part 110, “Export and Import of Nuclear Equipment and Material.” Excluded from reporting under this criterion are those events involving sources that are lost, stolen, or abandoned under certain conditions, specifically (1) sources abandoned in accordance with the requirements of 10 CFR 39.77(c), (2) sealed sources contained in labeled, rugged source housings, (3) recovered sources with sufficient indication that doses in excess of the reporting thresholds specified in AO Criteria I.A.1 and I.A.2 did not occur during the time the source was missing, (4) unrecoverable sources lost under such conditions that doses in excess of the reporting thresholds specified in AO Criteria I.A.1 and I.A.2 were not known to have occurred, and (5) other sources that are lost or abandoned and declared unrecoverable, for which the agency has determined that the risk significance of the source is low, based on the location (e.g., water depth) or physical characteristics (e.g., half life, housing) of the source and its surroundings, where all reasonable efforts have been made to recover the source and where it has been determined that the source is not recoverable and would not be considered a realistic safety or security risk under this measure.

**Verification:** Losses or thefts of radioactive materials greater than or equal to 1,000 times the quantity specified in Appendix



C, “Quantities of Licensed Material Requiring Labeling,” to 10 CFR Part 20 must be reported (per 10 CFR 20.2201(a)) by telephone to the NRC Headquarters Operations Center or to Agreement State immediately (interpreted as within 4 hours) if the licensee believes that an exposure could result to persons in unrestricted areas. If an event meeting the thresholds described above occurs, it would be reported through a number of sources, but primarily through this required licensee notification. Events that are publicly available are then entered and tracked in NMED. Separate methods are used to track events that are not publicly available. Additionally, licensees must meet the reporting and accounting requirements in 10 CFR Part 73, “Physical Protection of Plants and Materials,” and 10 CFR Part 74, “Material Control and Accounting of Special Nuclear Material.”

The NRC’s inspection programs are key elements in verifying the completeness and accuracy of licensee reports. The IMPEP also provides a mechanism to verify that Agreement States and the NRC Regions are consistently collecting and reporting such events as received from the licensees and are entering these events in the NMED. In some cases, upon receiving a report, the NRC or Agreement State initiates an independent investigation that verifies the reliability and accuracy of the reported information.

The regulation in 10 CFR 20.2201(b) requires a 30-day written report for lost or stolen sources that are greater than or equal to 10 times the quantity specified in Appendix C to 10 CFR Part 20 if the source is still missing at that time. In addition, 10 CFR 20.2201(d) requires an additional written report within 30 days of a licensee learning any additional substantive information. The NRC interprets this requirement as including reporting the recovery of sources.

The NRC issued guidance in the form of a regulatory information summary (RIS 2005-21) to clarify the current 10 CFR 20.2201(d) requirement for reporting the recovery of a risk-significant source. FSME asked the Agreement States to send copies of the RIS (or equivalent document) to their licensees. The NRC issued the National Source Tracking System final rule in November 2006. On January 31, 2009, NRC licensees and Agreement State licensees were required to begin reporting information on source transactions to the National Source Tracking System. Implementation of this system creates an inventory of risk-significant sources. This rulemaking established reporting requirements for risk-significant sources (including reporting timeframes) by adding specific requirements to 10 CFR 20.2201, “Reports of Theft or Loss of Licensed Material,” for risk-significant sources, including a requirement for licensees to report the

recovery of a risk-significant source within 30 days.

**Validation:** Events collected under this performance measure are actual losses, thefts, or diversions of materials described above. Such events could compromise public health and safety, the environment, and the common defense and security. Events of this magnitude are expected to be rare. The information reported under 10 CFR Part 73 and 10 CFR Part 74 is required so that the NRC is aware of events that could endanger public health and safety or national security. Any failures at the level of the Strategic Plan would result in immediate investigation and follow up.

If an event subject to the reporting requirements described above occurs, it would result in a prompt and thorough investigation of the event, its consequences, its root causes, and the necessary actions by the licensee, the NRC, and/or an Agreement State to mitigate the situation and prevent recurrence.

2 - Number of substantiated cases of actual theft or diversion of licensed risk-significant radioactive sources or a formula quantity of special nuclear material or act that results in radiological sabotage.

Target: Zero

**Verification:** In AO Criterion I.C.2, “substantiated” means a situation that requires additional action by the agency or other proper authorities because of an indication of loss, theft, or unlawful diversion such as an allegation of diversion, report of lost or stolen material, statistical processing difference, or other indication of loss of material control or accountability that cannot be refuted following an investigation. A formula quantity of special nuclear material is defined in 10 CFR 70.4, “Definitions.” Radiological sabotage is defined in 10 CFR 73.2, “Definitions.” Licensees subject to the requirements of 10 CFR Part 73 must call the NRC within 1 hour of an occurrence to report any breaches of security or other event that may potentially lead to theft or diversion of material or to sabotage at a nuclear facility. The NRC’s safeguards requirements are described in 10 CFR 73.71, “Reporting of Safeguards Events”; Appendix G, “Reportable Safeguards Events,” to 10 CFR Part 73; and 10 CFR 74.11, “Reports of Loss or Theft or Attempted Theft or Unauthorized Production of Special Nuclear Material.” The information assessment team, composed of NRC Headquarters and regional staff members, would conduct an immediate assessment for any significant events to determine any further actions that are needed, including coordination with the intelligence community and

law enforcement. In accordance with 10 CFR 73.71(d), the licensee must also file a written report within 60 days of the incident, describing the event and the steps that the licensee took to protect the nuclear facility. This information will enable the NRC to adequately assess whether radiological sabotage has occurred.

**Validation:** Events subject to reporting requirements are those that endanger public health and safety and the environment through deliberate acts of theft or diversion of materials or through sabotage directed against the nuclear facilities that the agency licenses. Events of this type are extremely rare. If such an event occurs, it would result in a prompt and thorough investigation of the event, its consequences, its root causes, and the necessary actions by the licensee and/or the NRC to mitigate the situation and prevent recurrence. The investigation ensures the validity of the information and assesses the significance of the event.

3 - Number of substantiated losses of a formula quantity of special nuclear material or substantiated inventory discrepancies of a formula quantity of special nuclear material that are judged to be caused by theft or diversion or substantial breakdown of the accountability.

Target: Zero

**Verification:** Licensees must record events associated with AO Criterion I.C.3 within 24 hours of the identified event in a safeguards log maintained by the licensee. The licensee must retain the log as a record for 3 years after the last entry is made or until termination of the license. The NRC relies on its safeguards inspection program to ensure the reliability of recorded data. The NRC determines whether a substantiated breakdown has resulted in a vulnerability to radiological sabotage, theft, diversion, or unauthorized enrichment of special nuclear materials. When making substantiated breakdown determinations, the NRC evaluates the materials event data to ensure that licensees are reporting and collecting the proper event data.

**Validation:** “Substantiated” means a situation that requires additional action by the agency or other proper authorities because of an indication of loss, theft, or unlawful diversion such as an allegation of diversion, report of lost or stolen material, statistical processing difference, other system breakdown closely related to the material control and accounting program (e.g. an item control system associated with the licensee’s facility information technology system), or other indication of loss of material control or accountability

that cannot be refuted following an investigation. A formula quantity of special nuclear materials is defined in 10 CFR 70.4. Events collected under this performance measure may indicate a vulnerability to radiological sabotage, theft, diversion, or loss of special nuclear materials. Such events could compromise public health and safety, the environment, and the common defense and security. The NRC relies on its safeguards inspection program to help validate the reliability of recorded data and determine whether a breakdown of a physical protection or material control and accounting system has actually resulted in vulnerability.

4 - Number of substantial breakdowns of physical security or material control (i.e., access control containment or accountability systems) that significantly weaken the protection against theft, diversion, or sabotage.

Target: Zero

**Verification:** The AO Criterion I.C.4, a “substantial breakdown” is defined as a red finding in the security cornerstone of the ROP or significant performance problems and/or operational events resulting in a determination of overall unacceptable performance or in a shutdown condition (inimical to the effective functioning of the Nation’s critical infrastructure). Radiological sabotage is defined in 10 CFR 73.2. Licensees are required to report to the NRC, immediately after the occurrence becomes known, any known breakdowns of physical security, based on the requirements in 10 CFR 73.71 and Appendix G to 10 CFR Part 73. If a licensee reports such an event, the Headquarters Operations Officer prepares an official record of the initial event report. The NRC begins responding to such an event immediately upon notification, with the activation of its information assessment team. A licensee must follow its initial telephone notification with a written report submitted to the NRC within 30 days.

The licensee records breakdowns of physical protection resulting in a vulnerability to radiological sabotage, theft, diversion, or loss of special nuclear materials or radioactive waste within 24 hours in a safeguards log maintained by the licensee. The licensee must retain the log as a record for 3 years after the last entry is made or until termination of the license. Licensees subject to 10 CFR Part 73 must also meet the reporting requirements detailed in 10 CFR 73.71. The NRC evaluates all of the reported events based on the criteria in 10 CFR 73.71 and Appendix G to 10 CFR Part 73. The NRC also maintains and relies on its safeguards inspection program to ensure the reliability of recorded and reported data.

**Validation:** Events assessed under this performance measure are those that threaten nuclear activities by deliberate acts, such as radiological sabotage, directed against facilities. If a licensee reports such an event, the information assessment team evaluates and validates the initial report and determines any further actions that may be necessary. Tracking breakdowns of physical security indicates whether the licensee is taking the necessary security precautions to protect the public, given the potential consequences of a nuclear accident attributable to sabotage or the inappropriate use of nuclear materials either in this country or abroad.

Events collected under this performance measure may indicate a vulnerability to radiological sabotage, theft, diversion, or loss of special nuclear materials or radioactive waste. Such events could compromise public health and safety, the environment, and the common defense and security. The NRC relies on its safeguards inspection program to help validate the reliability of recorded data and determine whether a breakdown of a physical protection or material control and accounting system has actually resulted in vulnerability.

5 - Number of significant unauthorized disclosures of classified and/or safeguards information.

Target: Zero

**Verification:** With regard to AO Criterion I.C.5, any alleged or suspected violations by NRC licensees of the Atomic Energy Act, Espionage Act, or other Federal statutes related to classified or safeguards information must be reported to the NRC under the requirements of 10 CFR 95.57(a) (for classified information), 10 CFR Part 73 (for Safeguards Information), and NRC orders (for Safeguards Information subject to modified handling requirements). However, for performance reporting, the NRC would only count those disclosures or compromises that actually cause damage to the national security or to public health and safety. Such events would be reported to the cognizant security agency (i.e., the security agency with jurisdiction) and the regional administrator of the appropriate NRC regional office, as listed in Appendix A, “U.S. Nuclear Regulatory Commission Offices and Classified Mailing Addresses,” to 10 CFR Part 73. The regional administrator would then contact the Division of Security Operations at NRC Headquarters, which would assess the violation and notify other NRC offices and other government agencies, as appropriate. A determination would be made as to whether the compromise damaged national security or public health and safety. Any unauthorized disclosures or compromises of

classified or safeguards information that damaged national security or public health and safety would result in immediate investigation and follow up by the NRC. In addition, NRC inspections will verify that licensees’ routine handling of classified and safeguards information (including Safeguards Information subject to modified handling requirements) conforms to established security information management requirements.

Any alleged or suspected violations of this performance measure by NRC employees, contractors, or other personnel would be reported, in accordance with NRC procedures, to the Director of Division of Facilities and Security at NRC Headquarters. The NRC maintains a strong system of controls over national security and Safeguards Information, including (1) annual required training for all employees, (2) safe and secure document storage, and (3) physical access control in the form of guards and badged access.

**Validation:** Events collected under this performance measure are unauthorized disclosures of classified or safeguards information that damage national security or public health and safety. Events of this magnitude are not expected and would be rare. If such an event occurs, it would result in a prompt and thorough investigation, including consequences, root causes, and necessary actions by the licensees and the NRC to mitigate the consequences and prevent recurrence. NRC investigation teams also validate the materials event data to ensure that licensees are reporting and collecting the proper event data.



# Appendix IV

Report on Drug Testing





# Appendix IV

## Report on Drug Testing

**C**ongress and the U.S. Department of Health and Human Services (DHHS) initially approved the Nuclear Regulatory Commission's (NRC's) drug testing program in August 1988, and the agency subsequently updated the program in November 1997. The program was revised again and received approval from DHHS on August 23, 2007. The NRC's drug testing requirements for the nuclear industry, as imposed by agency regulations, are separate and distinct from this program and are not covered by this report. The NRC's drug testing program under Executive Order (E.O.) 12564 includes random, applicant, voluntary, followup, reasonable suspicion, and accident-related drug testing. Testing was initiated for non-bargaining unit employees in November 1988 and for bargaining unit employees in December 1990, after an agreement was negotiated with the National Treasury Employees Union. On August 25, 2008, NRC's testing program was expanded to include all NRC positions as testing designated and thereby all employees became subject to random drug testing.

During Fiscal Year (FY) 2009, the NRC conducted approximately 2,500 tests of all types between October 1, 2008 and September 30, 2009. There were two positive drug test results, one for marijuana and one for cocaine. The employee who tested positive for marijuana resigned. The employee who tested positive for cocaine completed an intensive outpatient treatment program on October 27, 2009.

The NRC also completed internal quality control reviews during the past year to ensure that the agency's program continues to be administered in a fair, confidential, and effective manner.

The NRC's drug testing program is based on the principles and guidance provided through E.O. 12564, Public Law 100-71, DHHS guidelines, and Commission decisions.





# Appendix V

## Reimbursable Work Agreements





# Appendix V

## Reimbursable Work Agreements

The Nuclear Regulatory Commission (NRC) performs services for other Federal agencies and non-Federal organizations on a reimbursable basis. Reimbursable work performed by the NRC is financed with funds of the ordering organization and represents additional funding in excess of the NRC's directly appropriated funds.

### SUMMARY OF REIMBURSABLE WORK AGREEMENTS\* (New Budget Authority Dollars)

	FY 2009	FY 2010 (Estimate)	FY 2011 (Estimate)
<b>INTERNATIONAL ASSISTANCE TO FOREIGN GOVERNMENTS AND ORGANIZATIONS</b>			
International Invitational Travel (IAEA & various foreign Governments and international organizations)	92,000	100,000	100,000
Nuclear Safety Initiatives for the New Independent States (USAID)	1,417,000	1,050,000	750,000
Invitational Travel–American Institute for Taiwan	15,000	16,000	18,000
<b>ADMINISTRATIVE AGREEMENTS</b>			
Criminal History Program (Licensees)	2,846,000	2,400,000	2,500,000
Material Access Authorization Program (Licensees)	0	0	0
Information Access Authorization Program (Licensees)	803,000	901,000	901,000
Employee Details to Domestic Nuclear Detection Office (DHS)	326,000	266,000	180,000
Employee Detail to National Counterterrorism Center (NCTC)	166,000	184,000	190,000
<b>OTHER AGREEMENTS</b>			
Mars Science Laboratory Mission (NASA)	25,000	50,000	15,000
Office of Safety and Mission Assurance (OSMA) PRA Study (NASA)	0	20,000	10,000
Foreign Cooperative Research Agreements (Multiple)	2,015,000	1,396,000	1,406,000
Advanced Fuel Cycle Initiative (DOE)	650,000	650,000	0
Review/Approval of Selected Foreign Certificates for Packages (Casks) (DOE)	180,000	350,000	350,000
Route Reviews (DOE)	0	10,000	10,000
Navy Reviews (U.S. Navy)	10,000	10,000	10,000
Gerald R. Ford Class Aircraft Carrier Safety Review (DOE)	25,000	130,000	21,000
Waste Actions for Hanford (DOE)	0	800,000	550,000
Waste Review for West Valley (DOE)	150,000	0	0
NGNP Cooperative Activities (DOE)	4,255,000	3,500,000	3,500,000

**SUMMARY OF REIMBURSABLE WORK AGREEMENTS\***  
(New Budget Authority Dollars)

	<b>FY 2009</b>	<b>FY 2010 (Estimate)</b>	<b>FY 2011 (Estimate)</b>
Joint Funding of ICRP Activities (EPA)	15,000	15,000	15,000
<b>TOTAL</b>	<b>\$12,990,000</b>	<b>\$11,848,000</b>	<b>\$10,526,000</b>

*\*Does not include classified reimbursable work agreements*

# Appendix VI

## Estimated Fees





# Appendix VI

## Estimated Fees

**A**ssuming a full appropriation of the FY 2011 requested budget, the projected impact on fees are shown below.

### NRC BUDGET AND FEE RECOVERY AMOUNTS (Dollars in Millions)

	FY 2009 Final Fee Rule <sup>4</sup>	FY 2010 Projection <sup>5,6</sup>	FY 2011 Projection <sup>5</sup>
Total Appropriation <sup>1</sup>	1,045.5	1,066.9	1,053.6
<b>Less Non-Fee Items<sup>2</sup></b>	<b>(\$78.1)</b>	<b>(\$53.3)</b>	<b>(\$36.6)</b>
Base	967.4	1,013.6	1,017.0
Fee Recovery Rate - 90% of Base	870.6	912.2	915.3
<b>Billing &amp; Carryover Adjustments<sup>3</sup></b>	<b>(\$4.1)</b>	<b>(\$4.1)</b>	<b>(\$4.1)</b>
Amount to be Recovered through Fees	866.5	908.1	911.2
Estimated 10 CFR 170 Fees	333.9	349.9	351.1
<b>Percent of total recovered amount</b>	<b>38.5%</b>	<b>38.5%</b>	<b>38.5%</b>
Estimated 10 CFR 171 Annual Fees	532.6	558.2	560.1
<b>Percent of total recovered amount</b>	<b>61.5%</b>	<b>61.5%</b>	<b>61.5%</b>

<sup>1</sup> Includes both Salaries and Expenses Appropriation and Inspector General Appropriation

<sup>2</sup> Non-Fee Items:

Nuclear Waste Fund (NWF)	49.0	29.0	10.0
Waste Incidental to Reprocessing (WIR)	2.0	2.1	0.5
Generic Homeland Security	27.1	22.2	26.1
<b>Total Non-Fee Items</b>	<b>\$78.1</b>	<b>\$53.3</b>	<b>\$36.6</b>

<sup>3</sup> Includes estimated unpaid invoices and payments of prior year invoices

<sup>4</sup> Published in the Federal Register (74 FR 27641; June 10, 2009)

<sup>5</sup> Assuming same rate as FY 2009 for Adjustments and split between 10 CFR 170 and 171

<sup>6</sup> Based on FY 2010 Appropriation





# Appendix VII

## Goals, Performance Measures, and Program Crosswalk





# Appendix IIV

## Goals, Performance Measures, and Program Crosswalk

**T**he following table shows the relationship between the agency’s goals, performance measures, and its nine business lines. For example, the strategic outcome of “prevent the occurrence of any nuclear reactor accidents” relates to are the New Reactors and Operating Reactors business lines. The strategic outcome of “prevent the occurrence of any inadvertent criticality events” relates to all of the agency’s business lines. Each program evaluates event reports and other pertinent data<sup>33</sup> to report the results for each strategic outcome, performance measure, and output measure. For each output measure, the specific product line involved is identified in the tables located on the following pages.

Measures

NRC Business Lines

	New Reactors	Operating Reactors	New Fuel Facilities	Operating Fuel Facilities	Nuclear Materials Users	Integrated Spent Fuel Management	High-Level Waste	Decomm. & Low-Level Waste	Spent Fuel Storage & Transport.
<b>Strategic Outcomes</b>									
Prevent the occurrence of any nuclear reactor accidents.	X	X	X	X	X	X	X	X	X
Prevent the occurrence of any inadvertent criticality events.	X	X	X	X	X	X	X	X	X
Prevent the occurrence of any acute radiation exposures resulting in fatalities.	X	X	X	X	X	X	X	X	X
Prevent the occurrence of any releases of radioactive materials that result in significant radiation exposures.	X	X	X	X	X	X	X	X	X
Prevent the occurrence of any releases of radioactive materials that cause significant adverse environmental impacts.	X	X	X	X	X	X	X	X	X
<b>Performance Measures</b>									
Number of new conditions evaluated as red by the NRC's reactor oversight process.		X							
Number of significant accident sequence precursors (ASPs) of a nuclear reactor accident.		X							
Number of significant adverse trends in industry safety performance.		X							
Number of events with radiation exposures to the public or occupational workers that exceed Abnormal Occurrence Criterion I.A.	X	X	X	X	X	X	X	X	X
Number of radiological releases to the environment that exceed applicable regulatory limits.	X	X	X	X	X	X	X	X	X
<b>Output Measures</b>									
Review early site permit applications on the schedules negotiated with the applicants.									Licensing
Review design certification applications on the schedules negotiated with the applicants.									Licensing

Measures

NRC Business Lines

	New Reactors	Operating Reactors	New Fuel Facilities	Operating Fuel Facilities	Nuclear Materials Users	Integrated Spent Fuel Management	High-Level Waste	Decomm. & Low-Level Waste	Spent Fuel Storage & Transport.
Review combined license (COL) applications on the schedules negotiated with the applicants.	Licensing								
Licensing actions completed per year.	Licensing								
Age of licensing action inventory, except for license renewal and ISTS conversions.	Licensing								
Other licensing tasks completed per year.	Licensing								
Age of Other Licensing Task Inventory.	Licensing								
Acceptable technical quality of agency research technical products.	Research								
Efficiency measure: Transitioning from hard-copy distribution of outgoing licensee correspondence to electronic distribution	Licensing								
Completion of license renewal application reviews.	Licensing								
Number of plants for which the baseline inspection program was completed during the most recently ended inspection cycle.	Oversight								
Timeliness of Significance Determination Process (SDP) evaluations.	Oversight								
Number of operator licensing examinations administered.	Licensing								
Time to complete reviews of technical allegations.	Oversight								
Timeliness in completing enforcement actions.	Oversight								
Reactor investigations output measures: Timeliness in completing investigations - Target 1.	Oversight								
Emergency Response Performance Index.	Event Response								

**Measures**

**NRC Business Lines**

	New Reactors	Operating Reactors	New Fuel Facilities	Operating Fuel Facilities	Nuclear Materials Users	Integrated Spent Fuel Management	High-Level Waste	Decomm. & Low-Level Waste	Spent Fuel Storage & Transport.
Timeliness of fuel cycle licensing actions (amendments, renewals, new applications, and reviews) from the date of acceptance (for licensing actions received after October 1, 2000).			Licensing						
Timeliness of Safety and Safeguards inspection modules.		Oversight							
Safety and safeguards inspection module.		Oversight							
Timeliness in completing reviews for technical allegations.		Oversight							
Timeliness of licensing actions- review of application for new materials licenses and license amendments....				Licensing					
Timeliness of licensing actions - reviews of application for materials license renewals and sealed source and device designs.				Licensing					
Timeliness of safety inspections of materials licensees				Oversight					
Timeliness in completing investigations - Target 2.				Oversight					
Timeliness in completing enforcement actions.				Oversight					
Timeliness in completing reviews for technical allegations				Oversight					
Percentage of Materials and Waste rulemakings completed on schedule.				Rulemaking					
Issuances of NRC import/export authorizations.				International Activities					
Clean-up complex materials, fuel cycle sites, and power reactors; complete uranium recovery licensing actions.							Licensing		
Support program licensing activities by preparing and/or reviewing required environmental reports.								Licensing	

**Measures**

**NRC Business Lines**

	New Reactors	Operating Reactors	New Fuel Facilities	Operating Fuel Facilities	Nuclear Materials Users	Integrated Spent Fuel Management	High-Level Waste	Decomm. & Low-Level Waste	Spent Fuel Storage & Transport.
DOE waste incidental to reprocessing (WIR) reviews completed.							Licensing		
Complete transportation container design reviews within timeliness goals.							Licensing		
Complete storage container and installation design reviews within timeliness goals.							Licensing		
Number of inspections completed.							Oversight		
Develop risk-informing standard review plans and incorporating applicable interim staff guidance documents.							Rulemaking		
Timeliness of completing actions on critical research programs.							Research		
Acceptable technical quality of agency research technical products.							Research		

Measures	NRC Business Lines									
	New Reactors	Operating Reactors	New Fuel Facilities	Operating Fuel Facilities	Materials Users	Integrated Spent Fuel	High-Level Waste	Decomm. & Low-Level Waste	Spent Fuel Storage & Transport.	
<b>Strategic Outcomes</b>										
No instances where licensed radioactive materials are used domestically in a manner hostile to the security of the United States.	X	X	X	X	X	X	X	X	X	X
Performance Measures										
Unrecovered losses of risk-significant radioactive sources.	X	X	X	X	X	X	X	X	X	X
Number of substantiated cases of actual theft or diversion of licensed, risk-significant radioactive sources or formula quantities of special nuclear material; or attacks that result in radiological sabotage.	X	X	X	X	X	X	X	X	X	X
Number of substantiated losses of formula quantities of special nuclear material or substantiated inventory discrepancies of formula quantities of special nuclear material that are judged to be caused by theft or diversion or by substantial breakdown of the accountability system.	X	X	X	X	X	X	X	X	X	X
Number of substantial breakdowns of physical security or material control (i.e., access control, containment, or accountability systems) that significantly weakened the protection against theft, diversion, or sabotage.	X	X	X	X	X	X	X	X	X	X
Number of significant unauthorized disclosures of classified and/or safeguards information.	X	X	X	X	X	X	X	X	X	X



# Endnotes

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# Endnotes

1. This measure is the number of new red inspection findings during the fiscal year plus the number of new red performance indicators during the fiscal year. Programmatic issues at multiunit sites that result in red findings for each individual unit are considered separate conditions for purposes of reporting for this measure. A red performance indicator and a red inspection finding related to an issue with the same underlying causes are also considered separate conditions for purposes of reporting for this measure. Red inspection findings are included in the fiscal year in which the final significance determination was made. Red performance indicators are included in the fiscal year in which Reactor Oversight Process external Web page was updated to show the red indicator.
2. Significant accident sequence precursor (ASP) events have a conditional core damage probability (CCDP) or  $\Delta$ CDP of  $> 1 \times 10^{-3}$ . Such events have a 1/1000 ( $10^{-3}$ ) or greater probability of leading to a reactor accident involving core damage. An identical condition affecting more than one plant is counted as a single ASP event if a single accident initiator would have resulted in a single reactor accident. One event was identified in FY 2002 as having the potential of being a significant precursor. This precursor involved reactor pressure vessel head degradation at Davis-Besse. The detailed ASP Program preliminary analysis of this complex event was completed in September 2004. Based on the screening and engineering evaluation of FY 2002, FY 2003, and FY 2004 events, no other potentially significant precursors were identified. Therefore, the second performance measure was not exceeded for FY 2002, FY 2003, and FY 2004.
3. This measure is the number of plants that have entered the Inspection Manual Chapter 0350 process, the multiple/repetitive degraded cornerstone column, or the unacceptable performance column during the fiscal year (i.e., were not in these columns or process the previous fiscal year). Data for this measure is obtained from the NRC external web Action Matrix Summary page, that provides a matrix of the five columns with the plants listed within their applicable column, and notes the plants in the Inspection Manual Chapter 0350 process. For reporting purposes, plants that are the subject of an approved deviation from the Action Matrix are included in the column or process in which they appear on the Web page. The target value is set based on the expected addition of several indicators and a change in the long-term trending methodology (which will no longer be influenced by the earlier data and will be more sensitive to changes in current performance).
4. Considering all indicators qualified for use in reporting.
5. Beginning in FY 2005, this measure is based upon Abnormal Occurrence Criterion 1.A. Prior to FY 2005, the criterion was based upon a higher threshold of significant functional damage to organs or physiological systems. Using the pre-FY 2005 criterion, NRC reported zero events through FY 2004. However, it should be noted that if the FY 2005 performance measure, based upon Abnormal Occurrence Criterion 1.A., had been in place in FY 2003, two materials events would have been reported for that fiscal year.
6. Releases for which a 30-day report requirement under Title 10 of the Code of Federal Regulations (10 CFR) 20.2203(a)(3) applies.
7. With no event exceeding AO Criterion 1.B.1.
8. "Risk-significant" is defined as any unrecovered lost or abandoned sources that exceed the values listed in "Appendix P to 10 CFR Part 110--High Risk Radioactive Material, Category 2." For excluded reporting under this criteria, see Verification and Validation for Security Performance Measure 1.
9. "Substantiated" means a situation where an indication of loss, theft, or unlawful diversion, such as: an allegation of diversion, report of lost or stolen material, statistical processing difference, or other indication of loss of material control or accountability, cannot be refuted following an investigation; and requires further action on the part of the agency or other proper authorities.

10. A “formula quantity of special nuclear material” is defined in 10 CFR 70.4, “Definitions.”
11. “Radiological sabotage” is defined in 10 CFR 73.2, “Definitions.”
12. Security Goal Performance Measures 2, 3, and 4 together encompass the discontinued performance measure “Number of security events and incidents that exceed the Abnormal Occurrence Criterion I.C 2-4” to provide greater clarity and detail.
13. A “substantial breakdown” is defined as a red finding in the security inspection program, or any plant or facility determined to have overall unacceptable performance or to be in a shutdown condition (inimical to the effective functioning of the nation’s critical infrastructure) as a result of significant performance problems and/or operational events.
14. “Significant unauthorized disclosure” is defined as a disclosure that harms national security or public health and safety.
15. OIG products are issued OIG reports. For the Audits Program, these are audit reports and evaluations. For the Investigations Program, these are investigations, Event Inquiries, and special inquiries. Activities are the OIG hotline or proactive investigative reports.
16. Congress left the determination and threshold of what constitutes a most serious challenge to the discretion of the Inspectors General. As a result, OIG applied the following definition: Serious management challenges are mission-critical areas or programs that have a potential for a perennial weakness or vulnerability that, without substantial management attention, would seriously impact agency operations or strategic goals.
17. High impact is the effect of an issued report or activity undertaken that results in: a) confirming risk areas or management challenges that caused the agency to take corrective action, b) real dollar savings or reduced regulatory burden, c) identifying significant wrongdoing by individuals that results in criminal or administrative action, d) clearing an individual wrongly accused, or e) identifying regulatory actions or oversight that may have contributed to the occurrence of a specific event or incident or resulted in a potential adverse impact on public health or safety.
18. During FY 2006, three recommendations involving byproduct materials were not agreed to by the agency. These recommendations have since been resolved and implemented.
19. The agency required more than 90 days to review 5 of 6 recommendations on the Agreement State Program audit before resolution. Three of the 5 recommendations were agreed to within 98 days.
20. Measure changed from final agency action within 1 year on audit recommendations to 2 years on audit recommendations starting in FY 2010.
21. During FY 2007, five recommendations involving three separate audit reports on byproduct materials licensing, Probabilistic Risk Assessment, and the National Source Tracking System respectively have taken longer than 1 year for the agency to implement.
22. The agency took more than 90 days to review 2 recommendations on the National Source Tracking System audit. The agency agreed to both recommendations within 97 days.
23. Measure changed from final agency action within 1 year on audit recommendations to 2 years on audit recommendations starting in FY 2010.
24. Majority of these audit recommendations dealt with FISMA and a specific computer-based security program that took longer than one year to implement. Final action has been completed on all recommendations.

25. During FY 2007, 11 recommendations involving 3 separate audit reports on baseline security, Nuclear Security and Incident Response, and the Integrated Personnel Security System have taken longer than 1 year for the agency to implement.
26. The agency is taking more than 1 year to complete final action on recommendations related to information security. The agency agreed with all recommendations and action is underway to correct identified deficiencies.
27. Measure changed from final agency action within 1 year on audit recommendations to 2 years on audit recommendations starting in FY 2010.
28. Final action on recommendations in the Financial Statements audit took 16 months to complete.
29. Majority of these audit recommendations pertain to the Technical Training Center audit recommendations audit that took longer for the agency to implement.
30. The agency is taking more than 1 year to complete final action on 12 of 17 Training and Development audit recommendations. The agency agreed with all recommendations and final action has been completed on 5 of 17 recommendations.
31. Performance measure was determined to be ineffective since another NRC program office was primarily responsible for ensuring completion of action with minimal activity from year to year and will be removed starting in FY 2010.
32. The OIG Management and Operational Support staff consists of senior managers, a general counsel, and administrative support personnel. To carry out the function of this program for FY 2011, OIG estimates its costs to be \$1.453 million, which includes salaries and benefits for eight FTE. The estimates for the associated FTE and salaries and benefits, and contract support and travel, were allocated in proportion to each program's FTE percentage.
33. Complete information on data measurement for each strategic outcome and performance measure can be found in the Verification and Validation of NRC Measures and Metrics appendix in this document.



# Acronym List

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# Acronym List

## ACRONYM

3WFN

ABWR

ACRS

ADAMS

ADM

ADR

AEA

AEC

AFCI

AO

ASME

ASP

B&W

B&W NOG

BESX

CAMP

CBJ

CDBI

CFR

CMS

CNS

COL

COOP

CRCPD

CSO

DBT

DC

DDMS

DHHS

DHS

DLP

DOE

DOJ

DOL

DONO

DOT

ECCS

ECM

EIS

## DESCRIPTION

Three White Flint

Advanced Boiling-Water Reactor

Office of the Advisory Committee on Reactor Safeguards

Agencywide Document Access & Management System

Office of Administration

Alternative Dispute Resolution

Atomic Energy Act

Atomic Energy Commission

Advanced Fuel Cycle Initiative

Abnormal Occurrence

American Society of Mechanical Engineers

Accident Sequence Precursor

Babcock & Wilcox

Babcock & Wilcox Nuclear Operations Group

Blackberry Enterprise Server for Exchange

Code Application and Maintenance Program

Congressional Budget Justification

Component Design Basis Inspection

Code of Federal Regulations

Content Management Services

Convention on Nuclear Safety

Combined License

Continuity of Operations

Conference of Radiation Control Program Directors, Inc

Computer Security Office

Design Basis Threat

Design Certification

Digital Data Management System

Department of Health and Human Services

U.S. Department of Homeland Security

Data Point Library

Department of Energy

U.S. Department of Justice

U.S. Department of Labor

Domestic Nuclear Detection Officer

US Department of Transportation

Emergency Core Cooling System

Enterprise Content Management

Environmental Impact Statement

EP	Emergency Preparedness
EPA	Environmental Protection Agency
EPR	Evolutionary Power Reactor
ERDS	Emergency Response Data System
ESBWR	Economic Simplified Boiling-Water Reactor
ESP	Early Site Permit
FAQ	Frequently Asked Questions
FBI	US Federal Bureau of Investigation
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FISMA	Federal Information Security Management Act
FOF	Force-On-Force
FOIA	Freedom of Information Act
FRR SNF	Foreign Research Reactor Spent Nuclear Fuel
FTE	Full-Time Equivalent
FY	Fiscal Year
GALL	Generic Aging Lessons Learned
GAO	US Government Accountability Office
GEIS	Generic Environmental Impact Statement
HA	High Availability
HEU	High-Enriched Uranium
HLW	High-Level Waste
HQ	Headquarters
HRA	Human Reliability Analysis
HSDN	Homeland Secure Data Network
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiation Protection
IG	Inspector General
IMPEP	Integrated Materials Performance Evaluation Program
ISFSI	Independent Spent Fuel Storage Installations
ISSC	Infrastructure Services and Support Contract
ISTP	International Source Term Program
iSTS	improved Standard Technical Specifications
IT	Information Technology
ITAAC	Inspections, Tests Analyses and Acceptance Criteria
ITISS	IT Infrastructure Services and Support
IV&V	Independent Verification & Validation
Joint Guide	Joint-Canada-United States Guide for Approval of Type B (U) and Fissile Material Transportation Packages (RD-364)
KM	Knowledge Management

<b>LER Search</b>	Licensee Event Report Search System
<b>LES</b>	Louisiana Energy Services
<b>LEU</b>	Low-Enriched Uranium
<b>LLW</b>	Low-Level Waste
<b>LOCA</b>	Loss-of-Control Accidents
<b>LSN</b>	Licensing Support Network
<b>LVS</b>	License Verification System
<b>MC&amp;A</b>	Material Control and Accounting
<b>MDEP</b>	Multinational Design Evaluation Program
<b>MIPS</b>	Medical Isotope Production System
<b>MIS</b>	Management Information System
<b>Mo-99</b>	Medical Isotope Molybdenum
<b>MOX</b>	Mixed Oxide
<b>MPKI</b>	Managed Public Key Infrastructure
<b>MURR</b>	University of Missouri Research Reactor Center
<b>NARM</b>	Naturally Occurring and Accelerator-Produced Radioactive Material
<b>NAS</b>	National Academy of Sciences
<b>NASA</b>	National Aeronautics and Space Administration
<b>NCTC</b>	National Counter-Terrorism Center
<b>NDE</b>	Non-Destructive Examination
<b>NFPA 805</b>	National Fire Protection Standard 805
<b>NGNP</b>	Next Generation Nuclear Plant
<b>NMED</b>	Nuclear Materials Events Database
<b>NMMSS</b>	Nuclear Materials Management and Safeguards System
<b>NMP</b>	National Materials Program
<b>NPP</b>	Nuclear Power Plant
<b>NRC</b>	U.S. Nuclear Regulatory Commission
<b>NRR</b>	Office of Nuclear Reactor Regulation
<b>NSIR</b>	Office of Nuclear Security and Incident Response
<b>NTST</b>	National Source Tracking System
<b>NUREG</b>	US Nuclear Regulatory Commission Regulation
<b>O.E.</b>	Executive Order
<b>OAS</b>	Organization of Agreement States, Inc
<b>OCED</b>	Organization for Economic Cooperation and Development
<b>OCIMS</b>	Operations Center Information Management System
<b>OE</b>	Office of Enforcement
<b>OEP</b>	Occupant Emergency Program
<b>OI</b>	Office of Investigations
<b>OIG</b>	Office of the Inspector General

<b>OIS</b>	Office of Information Services
<b>OMB</b>	Office of Management and Budget
<b>OPM</b>	Office of Personnel Management
<b>PBPM Process</b>	Planning, Budget and Performance Management Process
<b>PI</b>	Performance Indicators
<b>PIC</b>	Performance Improvement Council
<b>PII</b>	Personally Identifiable Information
<b>PIO</b>	Performance Improvement Officer
<b>PKL</b>	Primär Kreislauf
<b>PL</b>	Public Law
<b>PRA</b>	Probabilistic Risk Assessment
<b>RAMQC</b>	Radioactive Materials Quantities of Concern
<b>RES</b>	Office of Nuclear Regulatory Research
<b>RIC</b>	Regulatory Information Conference
<b>ROP</b>	Reactor Oversight Process
<b>RPS</b>	Reactor Program System
<b>RTM-96</b>	Response Technical Manual
<b>RTR</b>	Research and Test Reactor
<b>S&amp;E</b>	Salaries & Expenses
<b>SAPHIRE</b>	Systems Analysis Programs for Hands on Integrated Reliability Evaluation
<b>SCOL</b>	Subsequent Combined License
<b>SDP</b>	Significant Determination Process
<b>SER</b>	Safety Evaluation Report
<b>SNF</b>	Spent Nuclear Fuel
<b>SNM</b>	Special Nuclear Materials
<b>SOARCA</b>	State-of-the-Art Reactor Consequence Analysis
<b>SOC</b>	Security Operations Center
<b>SPAR</b>	Standardized Plant Analysis Risk
<b>SRP</b>	Standard Review Plan
<b>T&amp;L</b>	Time & Labor
<b>USAPWR</b>	Advanced Pressurized-Water Reactor
<b>USEC</b>	US Enrichment Corporation
<b>USNRC</b>	US Nuclear Regulatory Commission
<b>WBL</b>	Web-Based Licensing
<b>WIR</b>	Waste Incidental to Reprocessing

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