



# U.S. NRC

United States Nuclear Regulatory Commission

*Protecting People and the Environment*



Fiscal Year 2012

## PERFORMANCE AND ACCOUNTABILITY REPORT

# MISSION

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.

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## PAPERWORK REDUCTION ACT STATEMENT

This NUREG contains and references information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). These information collection requirements were approved by the Office of Management and Budget, approval numbers 3150-0014, 3150-0017, 3150-0130, 3150-0020, 3150-0011, 3150-0151, 3150-0009, 3150-0002, 3150-0123, and 3150-0012.

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*This Performance and Accountability Report is available on  
the NRC Web site <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1542/>*



*Left to right: Commissioner William D. Magwood IV, Commissioner Kristine L. Svinicki, Chairman Allison M. Macfarlane, Commissioner George Apostolakis, and Commissioner William C. Ostendorff.*

The Fiscal Year 2012 Performance and Accountability Report provides performance results and audited financial statements that enable the President, Congress, and the public to assess the performance of the agency in achieving its mission and stewardship of its resources. The report contains a concise overview, Management's Discussion and Analysis, as well as performance and financial sections. Details of performance results and program evaluations can be found in the Other Accompanying Information section.

## A MESSAGE FROM THE CHAIRMAN



I am pleased to present the U.S. Nuclear Regulatory Commission's (NRC's) Performance and Accountability Report (PAR) for Fiscal Year (FY) 2012. This report highlights the NRC's success in achieving our mission to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. The report also provides key financial and performance information to Congress and the American people of how we used our resources during FY 2012. The report is available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1542/>.

The NRC is an independent regulatory agency devoted to the effective and efficient oversight of the Nation's 104 nuclear reactors. The agency also reviews all safety aspects of new reactor designs, environmental siting, combined license applications, and provides oversight for the two nuclear power plants currently under construction. Further, the agency focuses on the safe and secure use of nuclear materials in the energy, medical, and industrial sectors through effective oversight of fuel facilities, uranium recovery sites, decommissioning sites, and nuclear material user licensees. In FY 2012, the NRC met all of its strategic goals and performance measure targets.

The NRC continues its work in response to the Fukushima Dai-ichi accident in Japan to ensure that appropriate safety enhancements are implemented at nuclear power plants in the U.S. In FY 2012, the NRC issued the first regulatory requirements for the Nation's 104 operating reactors based on the lessons learned at Fukushima Dai-ichi. These requirements set stronger standards for coping with extreme natural events. The NRC also identified additional safety improvements that are part of a longer-term effort to enhance safety, which are expected to be completed in the next four years.

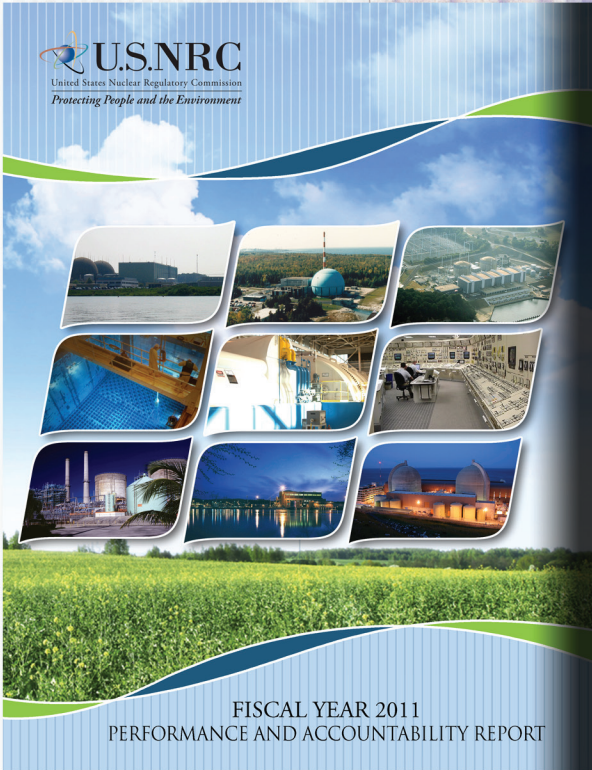
The NRC is committed to good governance and the prudent management of resources entrusted to it by the American people. The agency will continue to evaluate, test, and strengthen its internal controls, including those related to financial reporting and financial management systems, as required by the *Federal Managers' Financial Integrity Act of 1982* (FMFIA). Based on the FMFIA assessments, I have concluded that there is reasonable assurance that the agency is in substantial compliance with FMFIA, and the financial and performance data published in this report are complete, accurate, reliable, and timely, in accordance with the *Reports Consolidation Act of 2000* and Office of Management and Budget Circular A-136 requirements. Additionally, I have determined that the agency is in substantial compliance with the *Federal Financial Management Improvement Act of 1996* (FFMIA), based on the NRC's application of the FFMIA risk model.

I am proud of the performance of NRC employees in achieving the agency's Safety and Security goals, and I look forward to continuing the high-quality service the American people have come to expect from us.

A handwritten signature in black ink, appearing to read "Allison M. Macfarlane". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Allison M. Macfarlane  
Chairman  
November 14, 2012

# FISCAL YEAR 2011 CERTIFICATE OF EXCELLENCE



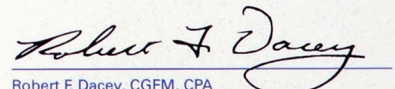
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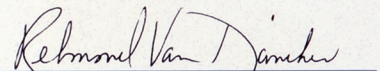
### *U.S. Nuclear Regulatory Commission*

In recognition of your outstanding efforts in preparing the agency's Performance and Accountability Report and Summary of Performance and Financial Information for the fiscal year ended **September 30, 2011.**

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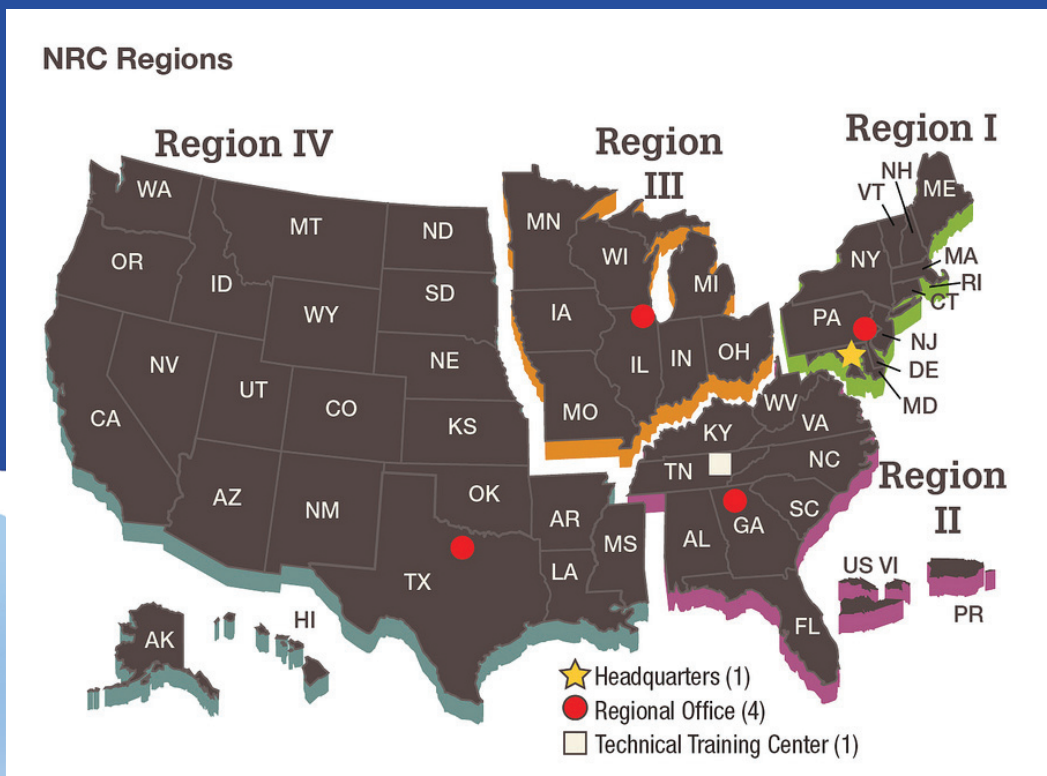


# *Chapter 1*

## MANAGEMENT'S DISCUSSION AND ANALYSIS



*The U.S. Nuclear Regulatory Commission (NRC) Headquarters*



*The U.S. Nuclear Regulatory Commission (NRC) Regions*



## INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) Performance and Accountability Report is an account of the agency's effectiveness in achieving its mission during fiscal year (FY) 2012. The report describes the agency's program and financial management performance during FY 2012, which covers the period from October 1, 2011, to September 30, 2012.

The NRC had a very successful year in FY 2012. The agency has two strategic goals: Safety and Security. The agency achieved both its Safety and Security goals and met all of its performance measure targets.

The agency's nuclear reactor and materials licensees maintained their excellent safety record. The agency also improved its operational activities by continuing to invest in its skilled workforce of engineers and scientists through knowledge transfer programs, recruiting a diverse workforce, and providing training opportunities.

The agency is in a sound financial position, having sufficient funds to meet programmatic needs and adequate control of these funds in place. The agency received an unqualified audit opinion on its financial statements by its auditors, with no instances of noncompliance with laws and regulations.

This report consists of four chapters. Chapter 1, "Management's Discussion and Analysis," provides an overview of the NRC and describes its programmatic and financial accomplishments during FY 2012. Chapter 2, "Program Performance," describes in detail the agency's success in meeting its goals and describes the programmatic activities that are the basis for accomplishing those goals. Chapter 3, "Financial Statements and Auditor's Report," describes the agency's financial position. Chapter 4, "Other Accompanying Information," includes information on management challenges, a summary of the financial statement audit, and other information. The NRC places a high priority on keeping the public informed of its activities. Visit our Web site at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1542/> to access this report and learn more about who we are and what we do to serve the American public.

## ABOUT THE NRC

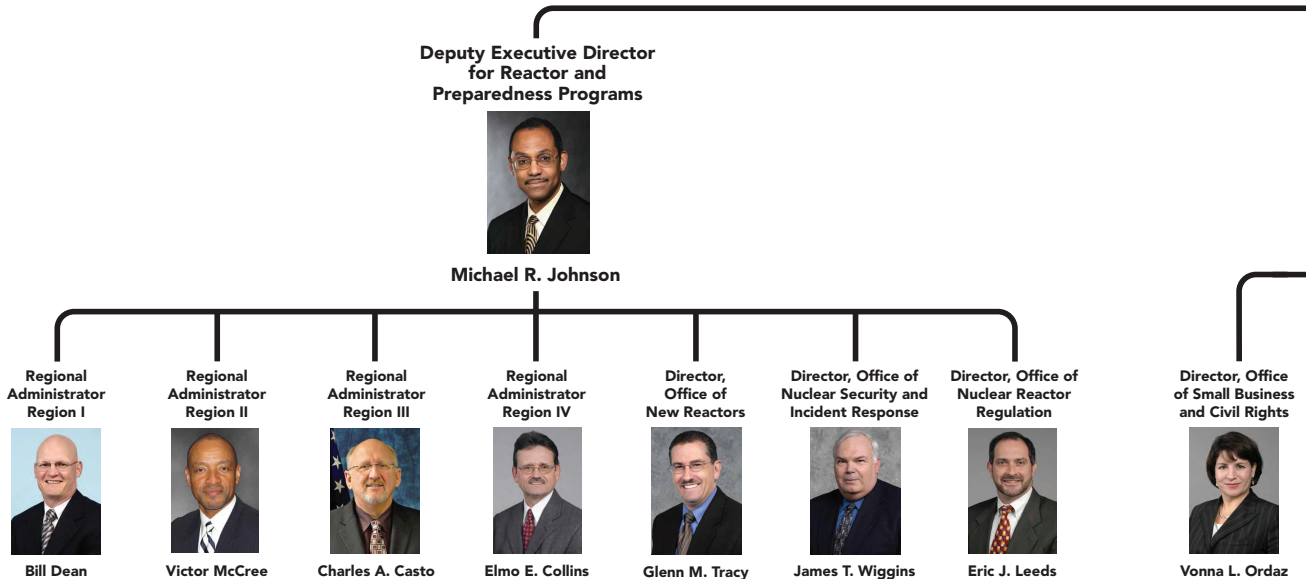
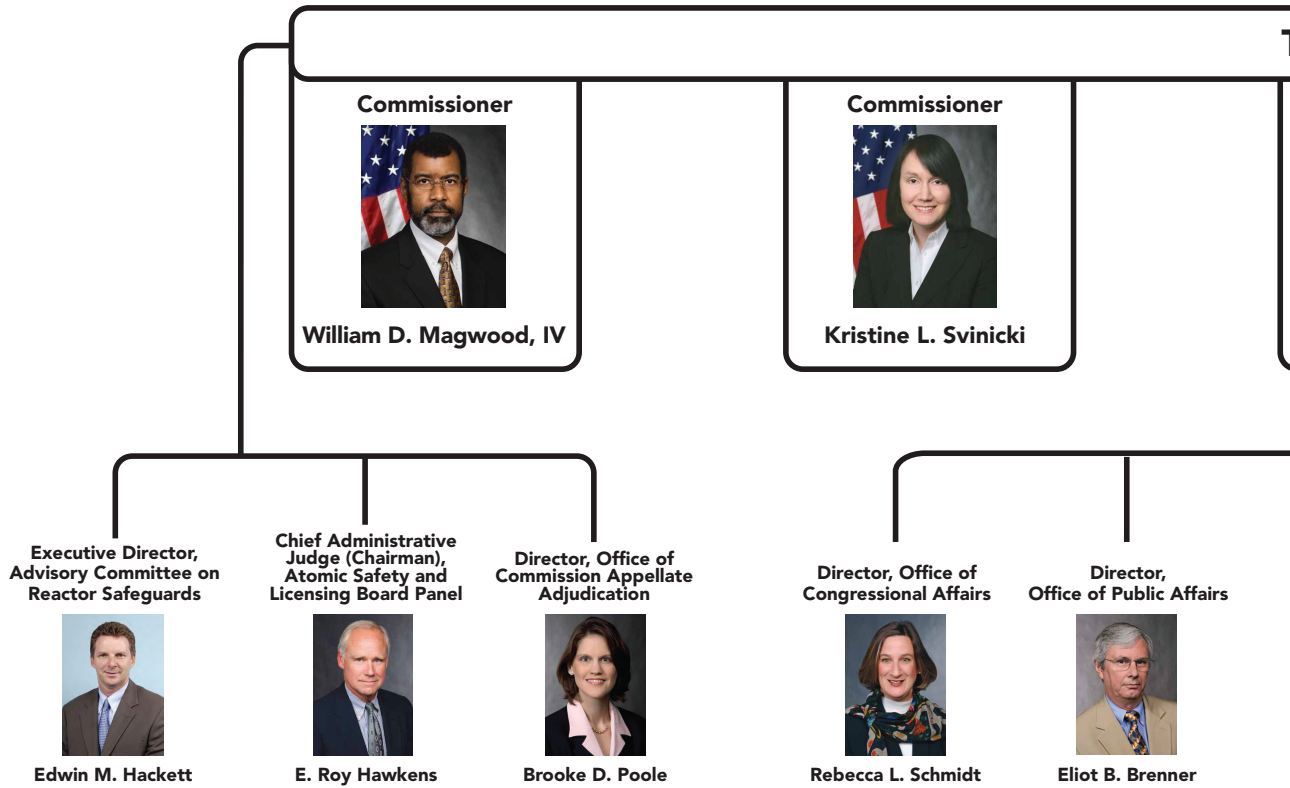
The U.S. Congress established the NRC on January 19, 1975, as an independent Federal agency regulating the commercial and institutional uses of nuclear materials. *The Atomic Energy Act of 1954*, as amended, and the *Energy Reorganization Act of 1974*, as amended, define the NRC's purpose. These acts provide the foundation for the NRC's mission to regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. The agency regulates civilian nuclear power plants and other nuclear facilities, as well as other uses of nuclear materials. These other uses include nuclear medicine programs at hospitals; academic activities at educational institutions; research work; industrial applications, such as gauges and testing equipment; and the transport, storage, and disposal of nuclear materials and wastes.

The NRC is headed by a Commission composed of five members, with one member designated by the President to serve as Chairman. With the advice and consent of the Senate, the President appoints each member to serve a five-year term. The Chairman is the principal executive officer and official spokesperson for the Commission. The Executive Director for Operations carries out program policies and decisions made by the Commission.

The NRC's headquarters is located in Rockville, MD. The NRC has an Operations Center in the headquarters building that coordinates communications with its licensees, State agencies, and other Federal agencies. This center is the focal point for assessing and responding to operating events in the industry. The NRC operations officers man the Operations Center 24 hours a day, seven days a week.

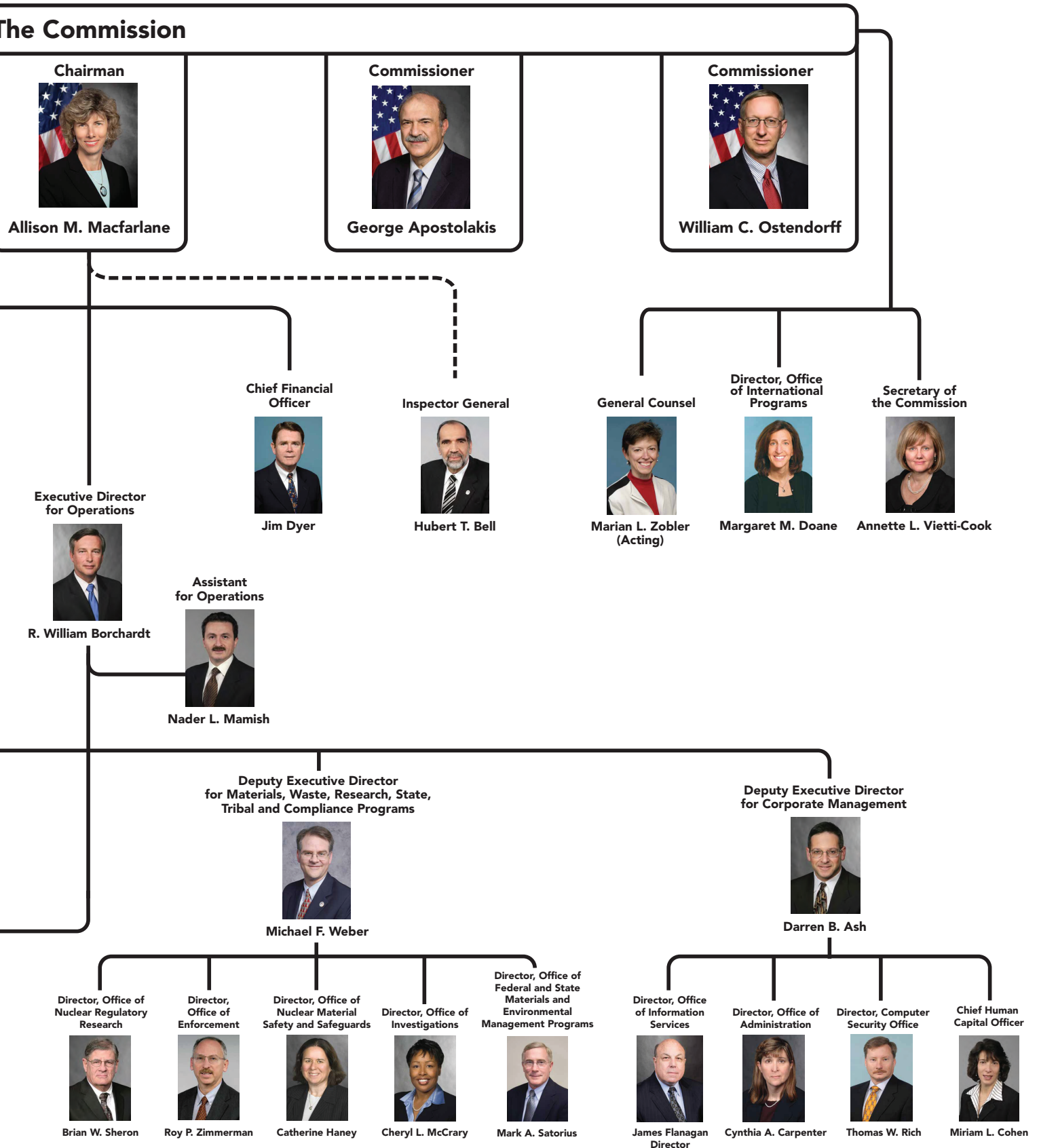
The agency also has four regional offices located in King of Prussia, PA; Atlanta, GA; Lisle, IL; and Arlington, TX. The regional offices allow the agency to work closely with the agency's licensees to ensure safety. The NRC also employs at least two resident inspectors at each of the Nation's nuclear power reactor sites.

The NRC's budget for FY 2012 was \$1,038 million, with 3,901 full-time equivalent staff. The NRC is primarily supported by fees collected from its licensees. The agency collected \$894 million (approximately 90 percent) of its budget from licensees, with the remaining \$144 million provided by the U.S. Department of the Treasury (Treasury).



November 1, 2012 *The dotted line signifies that the Inspector General exercises a much higher degree of independence with the Chairman in carrying out his roles and responsibilities in comparison to other executives reporting to the Chairman.*

# Regulatory Commission



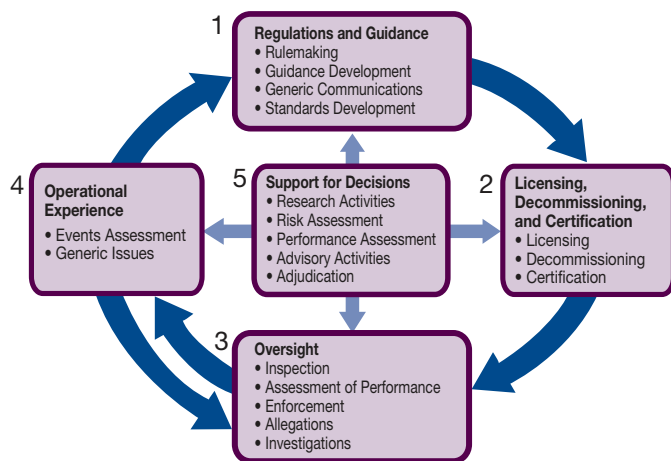
## THE NRC'S REGULATORY ACTIVITIES

To fulfill its responsibility to protect public health and safety, the NRC performs five principle regulatory functions (see Figure 1):

- Developing regulations and guidance for applicants and licensees;
- Licensing or certifying applicants to use nuclear materials, operate nuclear facilities, and decommissioning facilities;
- Inspecting and assessing licensee operations and facilities to ensure that licensees comply with NRC requirements and taking appropriate follow-up or enforcement actions when necessary;
- Evaluating operational experience of license facilities and activities;
- Conducting research, holding hearings, and obtaining independent reviews to support regulatory decisions.

Figure 1

### HOW WE REGULATE



The standards and regulations established by the agency set the rules that users of radioactive materials must follow. Drawing upon the knowledge and experience of the agency's scientists and engineers, these rules are the basis for protecting workers and the general public from the potential hazards associated with the use of radioactive materials.

With a few exceptions, any organization or individual intending to have or use radioactive materials must obtain a license. A

license identifies the type and amount of radioactive material that may be held and used. NRC scientists and engineers evaluate the license application to ensure that the potential licensee's use of nuclear materials meets the agency's safety and security requirements.

The agency inspects all facilities that it licenses on a regular basis to ensure that they meet NRC regulations and are being operated safely and securely. NRC specialists conduct 10 to 25 routine inspections each year at each of the 104 operating nuclear power plants. In addition, the agency oversees approximately 2,900 licenses for medical, academic, industrial, and general uses of nuclear materials. The agency conducts approximately 1,000 health and safety inspections of its nuclear materials licensees annually. Under the NRC's Agreement State program, 37 States have assumed primary regulatory responsibility over the industrial, medical, and other users of nuclear materials within their States, accounting for approximately 18,900 licensees. The NRC works closely with these States to ensure that they maintain public safety through acceptable licensing and inspection procedures.

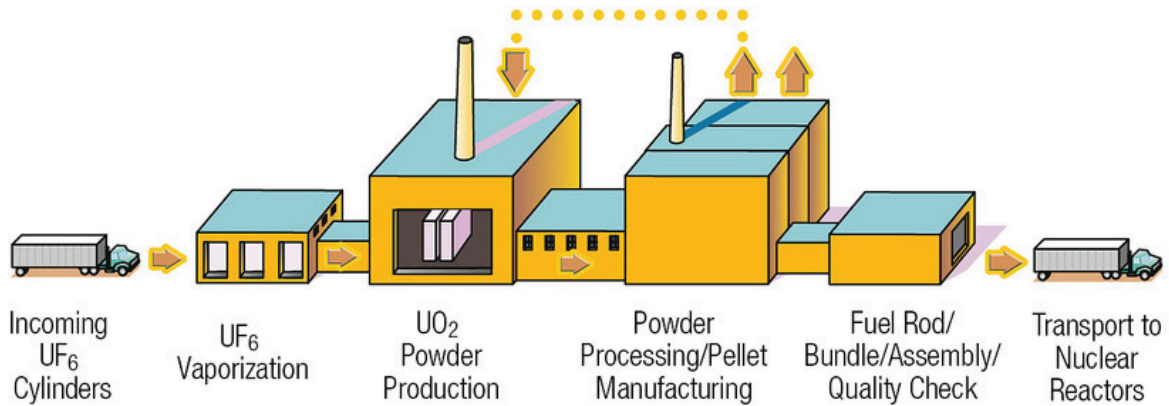
## THE NUCLEAR INDUSTRY

The NRC is responsible for regulating all aspects of the civilian nuclear industry. The industry can best be described by examining the nuclear material cycle. The nuclear material cycle begins with the mining and production of nuclear fuel or the use of nuclear materials for medical, industrial, and other applications, continues with the use of nuclear fuel to power the Nation's 104 nuclear power plants, and ends with the safe transportation and storage of spent nuclear fuel and other nuclear waste. The NRC's regulatory programs ensure that radioactive materials are used safely and securely at every stage in the nuclear material cycle. To address safety and security issues, the NRC has developed regulatory practices, knowledge, and expertise specific to each activity in the nuclear material cycle.

### FUEL FACILITIES

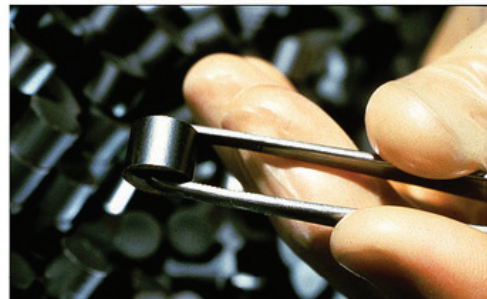
The production of nuclear fuel begins at uranium mines where milled uranium ore is used to produce a uranium concentrate called "yellow cake." At a special facility, the yellow cake is converted into uranium hexafluoride gas and loaded into cylinders. The cylinders are sent to a gaseous diffusion plant, where uranium is enriched for use as reactor fuel. The enriched

**Figure 2**  
**Simplified Fuel Fabrication Process**



*Fabrication of commercial light-water reactor fuel consists of the following three basic steps:*

- (1) the chemical conversion of  $UF_6$  to  $UO_2$  powder*
- (2) a ceramic process that converts  $UO_2$  powder to small ceramic pellets*
- (3) a mechanical process that loads the fuel pellets into rods and constructs finished fuel assemblies*



*Small ceramic fuel pellets.*

fuel pellets (each about the size of a fingertip), loaded into metal fuel rods about 3.5 meters long, and bundled into reactor fuel assemblies at a fuel fabrication facility. Assemblies are then transported to nuclear power plants, non-power research reactor facilities, and naval propulsion reactors for use as fuel (see Figure 2). The NRC licenses eight major fuel fabrication and production facilities and three enrichment facilities in the United States. Because they handle extremely hazardous material, these facilities take special precautions to prevent theft, diversion by terrorists, and dangerous exposures to workers and the public from this nuclear material.

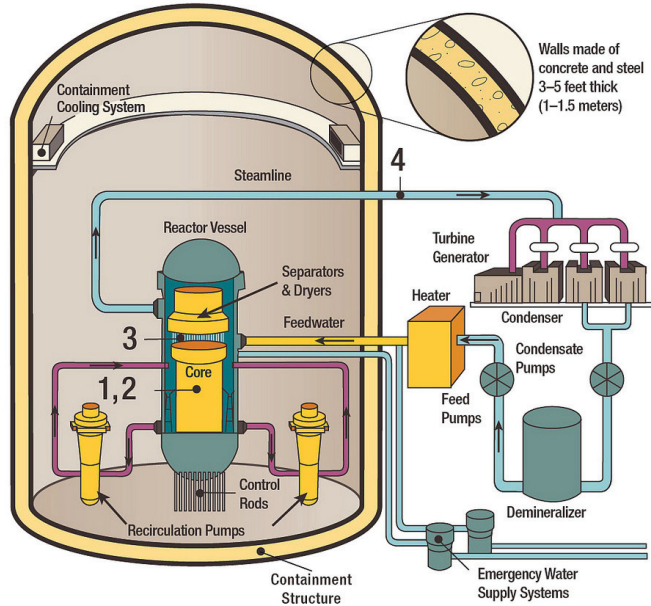
## REACTORS

Power plants change one form of energy into another. Electrical generating plants convert heat energy, the kinetic energy of wind or falling water, or solar energy, into electricity. A nuclear power plant converts heat energy into electricity. Other types of heat-conversion plants burn coal, oil, or gas to produce heat energy that is then used to produce electricity. Nuclear energy

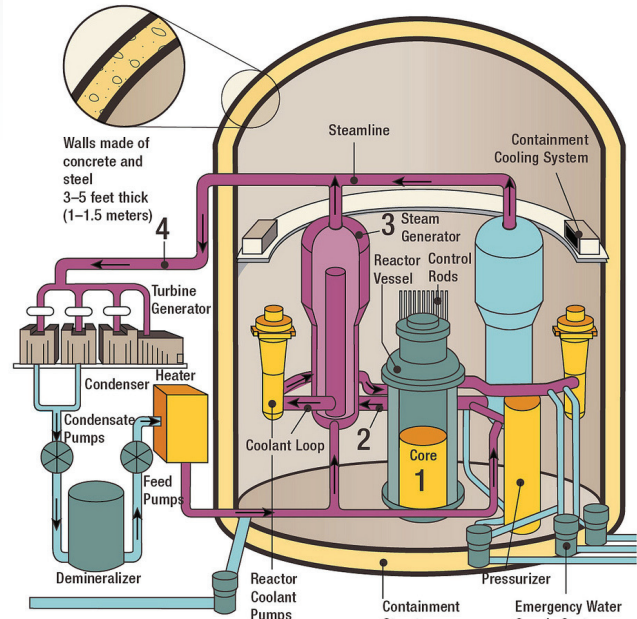
cannot be seen. There is no burning of fuel in the usual sense. Rather, energy is given off by the nuclear fuel as certain types of atoms split in a process called nuclear fission. This energy is in the form of fast-moving particles and invisible radiation. As the particles and radiation move through the fuel and surrounding water, the energy is converted into heat. The radiation energy can be hazardous, and facilities take special precautions to protect people and the environment from these hazards.

Because the fission reaction produces potentially hazardous radioactive materials, nuclear power plants are equipped with safety systems to protect workers, the public, and the environment. Radioactive materials require careful use because they produce radiation, a form of energy that can damage human cells. Depending on the amount and duration of the exposure, radiation can potentially cause cancer. In a nuclear reactor, most hazardous radioactive substances, called fission byproducts, are trapped in the fuel pellets or in the sealed metal tubes holding the fuel. However, small amounts of these radioactive fission

**Figure 3**  
**Typical Boiling-Water Reactor**



**Figure 4**  
**Typical Pressurized-Water Reactor**



byproducts, principally gases, become mixed with the water passing through the reactor. Other impurities in the water also become radioactive as they pass through the reactor. The facility processes and filters the water to remove these radioactive impurities and then returns the water to the reactor cooling system.

## MATERIALS USERS

The medical, academic, and industrial fields all use nuclear materials. For example, about one-third of all patients admitted to U.S. hospitals are diagnosed or treated using radioisotopes. Most major hospitals have specific departments dedicated to nuclear medicine. In all, about 112 million nuclear medicine or radiation therapy procedures are performed annually, with the vast majority used in diagnoses. Radioactive materials used as a diagnostic tool can identify the status of a disease and minimize the need for surgery. Radioisotopes give doctors the ability to look inside the body and observe soft tissues and organs, in a manner similar to the way X-rays provide images of bones. Radioisotopes carried in the blood also allow doctors to detect clogged arteries or check the functioning of the circulatory system.

The same property that makes radiation hazardous can also make it useful in treating certain diseases like cancer. When living

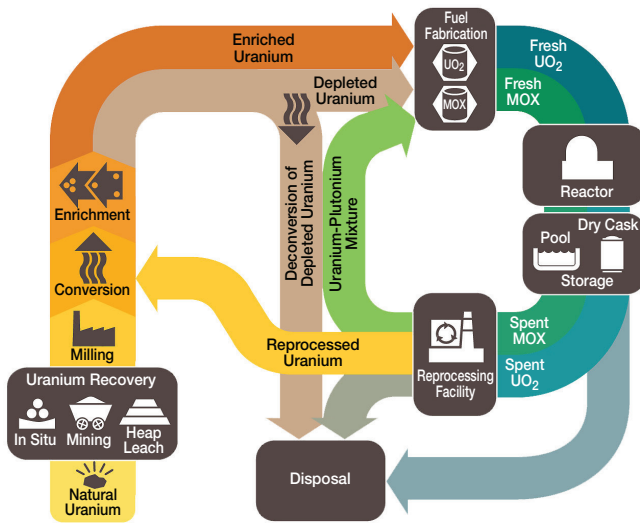
tissue is exposed to high levels of radiation, cells can be destroyed or damaged. Doctors can selectively expose cancerous cells (cells that are dividing uncontrollably) to radiation to either destroy or damage these cells.

Many of today's industrial processes also use nuclear materials. High-tech methods that ensure the quality of manufactured products often rely on radiation generated by radioisotopes. To determine whether a well drilled deep into the ground has the potential for producing oil, geologists use nuclear well-logging, a technique that employs radiation from a radioisotope inside the well, to detect the presence of different materials. Radioisotopes are also used to sterilize instruments; find flaws in critical steel parts and welds that go into automobiles and modern buildings; authenticate valuable works of art; and solve crimes by spotting trace elements of poison. Radioisotopes can also eliminate dust from film and compact discs and reduce static electricity (which may create a fire hazard) from can labels. In manufacturing, radiation can change the characteristics of materials, often giving them features that are highly desirable. For example, wood and plastic composites treated with gamma radiation resist abrasion and require low maintenance. As a result, they are used for some flooring in high-traffic areas of department stores, airports, hotels, and churches.

## WASTE DISPOSAL

During normal operations, a nuclear power plant generates both high-level radioactive waste, which consists of used fuel (usually called spent fuel), and low-level radioactive waste, which includes contaminated equipment, filters, maintenance materials, and resins used in purifying water for the reactor cooling system. Other users of radioactive materials also generate low-level waste.

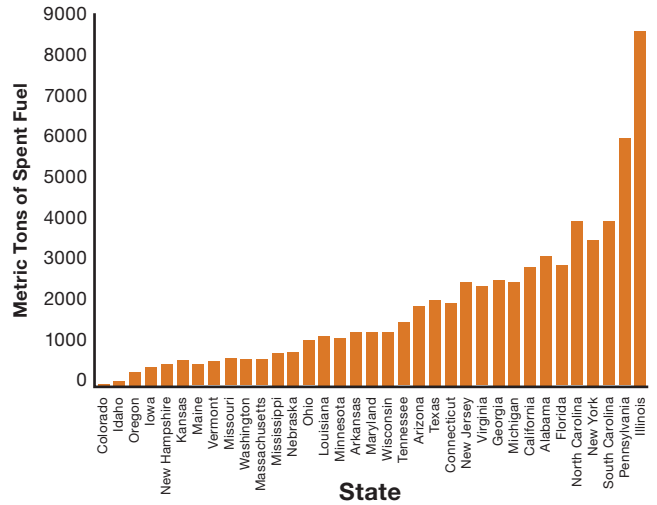
**Figure 5**  
The Nuclear Fuel Cycle



Nuclear power plants handle each type of radioactive waste differently. They must use special procedures in the handling of the spent fuel because it contains the highly radioactive fission byproducts created while the reactor was operating. Typically, the spent fuel from nuclear power plants is stored in water-filled pools at each reactor site or at a storage facility. The water in the spent fuel storage pool provides cooling and adequately shields and protects workers from the radiation. Nuclear power plants have also begun using dry casks to store spent fuel. These heavy metal or concrete casks rest on concrete pads adjacent to the reactor facility. The thick layers of concrete and steel in these casks provide additional shielding for workers and the public from radiation (see Figure 5).

Currently, most spent fuel in the United States remains stored at individual plants. Permanent disposal of spent fuel from nuclear power plants will require a disposal facility that can provide reasonable assurance that the waste will remain isolated for thousands of years (see Figure 6).

**Figure 6**  
Storage of Commercial Spent Fuel by State through 2011

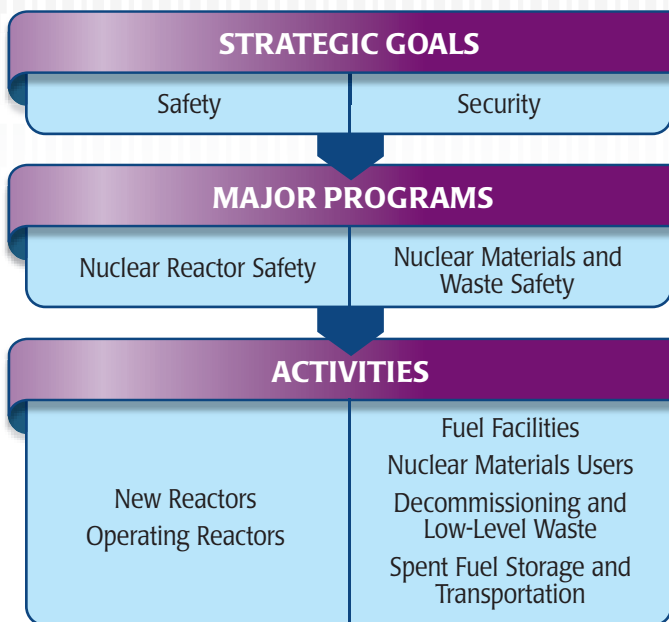


Idaho is holding used fuel from Three Mile Island 2 and the used Fuel Data are rounded up to the nearest 10 for CY 2011.  
Source: Gutherman Technical Services and Department of Energy  
Updated: April 12, 2012

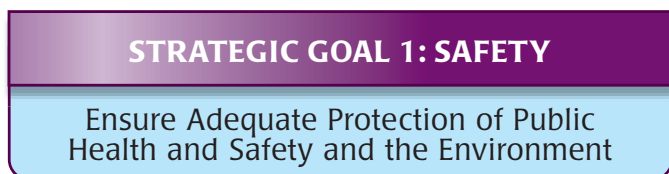
Licensees often store low-level waste onsite until its radioactivity has decayed and the waste can be disposed of as ordinary trash, or until amounts are large enough for shipment to a low-level waste disposal site in containers approved by the U.S. Department of Transportation. The NRC has developed a waste classification system for low-level radioactive waste based on its potential hazards, and has specified disposal and waste form requirements for each of the following general classes of waste: Class A, Class B, and Class C waste. Generally, Class A waste contains lower concentrations of radioactive material than Class B and Class C wastes. There are two low-level disposal facilities that accept a broad range of low-level wastes. They are located in Barnwell, SC, and Richland, WA.

## FY 2012 PERFORMANCE RESULTS

The NRC's Strategic Plan describes the agency's mission, goals, and strategies. The Strategic Plan can be found on the NRC Web site at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1614/v5/index.html>. The agency's two strategic goals are focused on Safety and Security. The Safety goal is to "Ensure adequate protection of public health and safety and the environment." The Security goal is to "Ensure adequate protection in the secure use and management of radioactive materials."



Safety is the primary goal of the NRC. The agency achieves this goal by ensuring that the performance of licensees is at or above acceptable safety levels. NRC safety programs work in conjunction with its licensees in a partnership. NRC licensees are responsible for designing, constructing, and operating nuclear facilities safely. The NRC is responsible for regulatory oversight of the licensees. The agency Safety goal activities are designed to achieve the following strategic outcomes:



**STRATEGIC OUTCOMES:**

- Prevent the occurrence of nuclear reactor accidents.
- Prevent the occurrence of inadvertent criticality events.
- Prevent the occurrence of acute radiation exposures resulting in fatalities.

- Prevent the occurrence of releases of radioactive materials that result in significant radiation exposures.
- Prevent the occurrence of releases of radioactive materials that cause significant adverse environmental impacts.

These strategic outcomes specify the conditions under which the safety goal can be considered to have been met.

**FY 2012 RESULTS**

In FY 2012, the NRC achieved all five of its Safety goal strategic outcomes. The NRC also uses six performance measures to determine whether it has met its Safety goal. The agency met all six performance measure targets in FY 2012 (see Table 1).

The first three performance measures focus on performance at individual nuclear power plants. Inspection results show that all of the nuclear power plants are operating safely. The fourth measure tracks the trends of several key indicators of nuclear power plant safety. This measure is the broadest measure of the safety of nuclear power plants, incorporating the performance results from all plants to determine industry average results. This measure shows that there were no statistically significant adverse trends in any of the indicators in FY 2012.

The last two safety performance measures track harmful radiation exposures to the public and occupational workers and radiation exposures that harm the environment. Neither of these two measures exceeded their targets in FY 2012.

The cost of achieving the agency's Safety goal in FY 2012 was \$975.8 million.



Table 1

**FY 2012 SAFETY GOAL PERFORMANCE MEASURES**

**1. Number of new conditions evaluated as red by the NRC's Reactor Oversight Process<sup>1</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤3	≤3	≤3	≤3	≤3	≤3
Actual:	0	0	0	0	1	1

<sup>1</sup>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 multi-unit 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 that are due 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 the Reactor Oversight Process (ROP) external Web page was updated to show the red indicator.

**2. Number of significant Accident Sequence Precursors of a nuclear reactor accident<sup>2</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>2</sup>Significant Accident Sequence Precursor (ASP) events have a conditional core damage probability (CCDP) or ΔCDP of > 1x 10<sup>-3</sup>. Such events have a 1/1000 (10<sup>-3</sup>) 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.

**3. Number of operating reactors with integrated performance that entered the multiple/repetitive degraded cornerstone column, or the unacceptable performance column of the Reactor Oversight Process Action Matrix, or the Inspection Manual Chapter 0350 process, with no performance leading to the initiation of an Accident Review Group<sup>3</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤4	≤4	≤3	≤3	≤3	≤3
Actual:	1	0	0	0	2	1

<sup>3</sup>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 of the Reactor Oversight Process Action Matrix 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. 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. Number of significant adverse trends in industry safety performance<sup>4</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤1	≤1	≤1	≤1	≤1	≤1
Actual:	0	0	0	0	0	0

<sup>4</sup>Considering all indicators qualified for use in reporting.

Table 1

**FY 2012 SAFETY GOAL PERFORMANCE MEASURES** *(continued)*

**5. Number of events with radiation exposures to the public and occupational workers that exceed Abnormal Occurrence Criterion I.A.3<sup>5</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Reactor Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0
Material Target:	≤3	≤2	≤2	≤2	≤2	≤2
Actual:	0	0	0	0	0	0
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>5</sup>Releases for which a 30-day report requirement under 10 CFR 20.2203(a)(3) is required.

**6. Number of radiological releases to the environment that exceed applicable regulatory limits<sup>5</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Reactor Target: <sup>6</sup>	≤3	0	0	0	0	0
Actual:	0	0	0	0	0	0
Material Target:	≤2	≤2	≤2	≤2	≤2	≤2
Actual:	0	0	0	0	0	0
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>6</sup>With no event exceeding Abnormal Occurrence (AO) Criterion I.B.1.

**SAFETY GOAL STRATEGIES**

The agency used the following safety strategies from its strategic plan to guide its activities and to achieve its Safety goal in FY 2012:

1. Develop, maintain, implement, and improve licensing and regulatory programs for existing and new reactors, fuel cycle facilities, materials users, transportation and management of spent fuel, uranium recovery, waste disposal, and decommissioning activities to ensure the adequate protection of public health and safety.
2. Oversee the safe and secure operation of existing facilities and uses of nuclear material.
3. Oversee the construction of new power reactors.
4. Conduct NRC safety and security programs and emergency preparedness in an integrated manner.
5. Implement focused research programs to anticipate and support resolution of safety issues and address new technologies.
6. Use sound science and state-of-the-art methods to establish, where appropriate, risk-informed and performance-based regulations.
7. Promote awareness of the importance of a strong safety culture and individual accountability of those engaged in regulated activities.
8. Use domestic and international operating experience to inform decision-making.
9. Oversee licensee safety performance through inspections, investigations, enforcement, and performance assessment activities.
10. Respond to events at NRC-licensed facilities and other events of national and international interest, including maintaining and enhancing the NRC's emergency incident response and communication capabilities.
11. Respond to future national policy decisions regarding high-level nuclear waste and spent nuclear fuel management strategies recommended or adopted as the Nation's policy, and assess issues associated with long-term storage of spent fuel and high-level waste.

### THE INDUSTRY TRENDS PROGRAM

In addition to its annual performance measures, the NRC measures the effectiveness of its Nuclear Reactor Safety program based on its Industry Trends program. The results of this program provide stakeholders with a long term view of the agency's performance. The NRC compiles data on overall safety performance using several industry-level performance indicators, a number of which are described below. These trends, which are derived through statistical analysis of the indicators, show significant improvement for safety performance of nuclear power plants over the long-term. An increase in an indicator from one year to the next does not necessarily affect the long-term statistical trend in a negative manner. Plant operating experience data have yielded a steady stream of improvements in the reliability of plant systems and components, plant operating procedures, training of power plant operators, and regulatory oversight. For ease of viewing, all of the charts in this section display data since 1993.

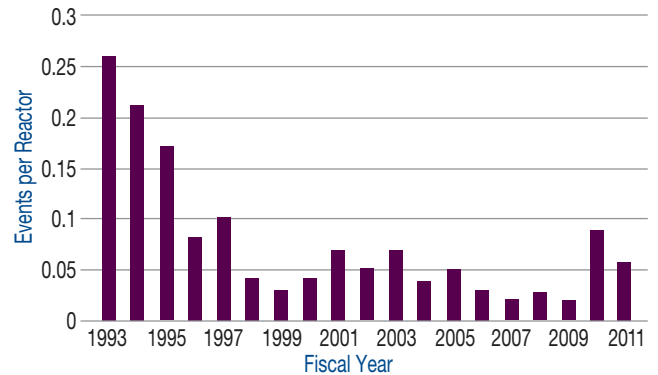
The industry safety indicators are derived through engineering and scientific analyses by the agency. Because of the time needed to complete the analyses, the industry trends to reflect the FY 2012 results will not be available until the spring of Calendar Year 2013. The performance indicator results are subject to minor variations as licensees submit revisions to the source data and may differ slightly from data reported in previous years as a result of refinements in data quality. The results of these analyses are reported annually to both the Commission and to Congress.

The latest analysis, "Fiscal Year 2011 Results of the Industry Trends Program for Operating Power Reactors," can be found on the NRC's public Web site: <http://pbadupws.nrc.gov/docs/ML1206/ML12065A340.pdf>.

### Significant Events

Significant events meet specific criteria such as degradation of important safety equipment. The agency reviews operating events and assesses their safety significance. The number of significant events has declined since 1993.

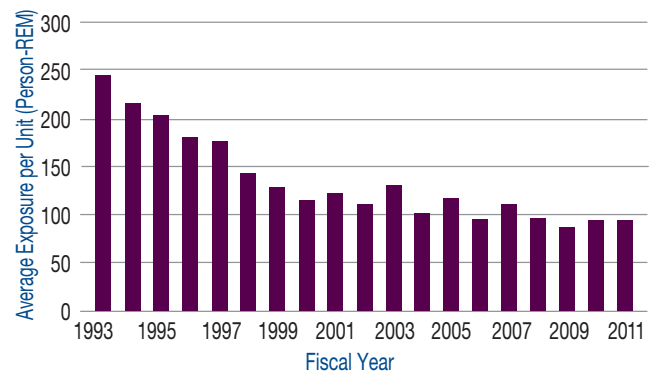
#### SIGNIFICANT EVENTS



### Radiation Exposure

The total (collective) radiation dose received by workers is an indication of the radiological challenges of maintaining and operating nuclear power plants. The trend shows a reduction in collective dose and demonstrates the effectiveness of the controls on radiation exposure implemented to meet these challenges.

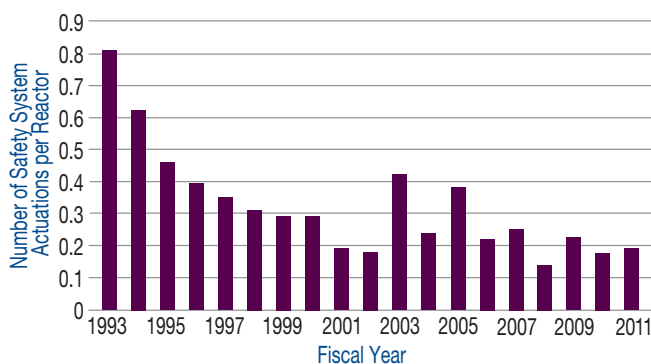
#### RADIATION EXPOSURE



### Safety System Actuations

Safety systems mitigate off-normal events, such as the widespread power blackout in August 2003, by providing reactor core cooling and water addition. Actuations of safety systems that are monitored include certain emergency core cooling and emergency electrical power systems. Actuations can occur as a result of “false alarms” (such as testing errors) or in response to actual events.

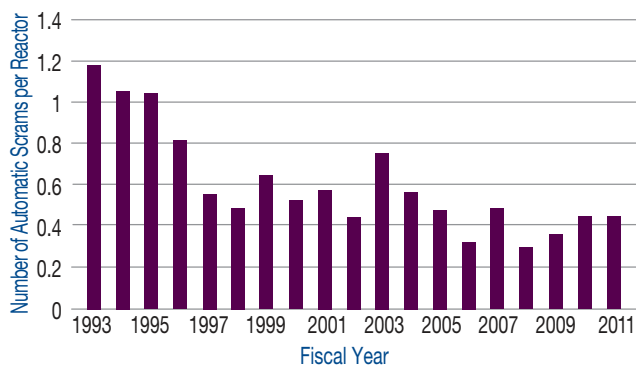
**SAFETY SYSTEM ACTUATIONS**



### Automatic Scrams

A scram is a basic reactor protection safety function that shuts down the reactor by inserting control rods into the reactor core. Scrams can result from events that range from relatively minor incidents to precursors of accidents. The massive power blackout in August 2003 accounts for most of the increase in FY 2003, but has not affected the long-term statistical trend for the number of scrams, which has been declining steadily.

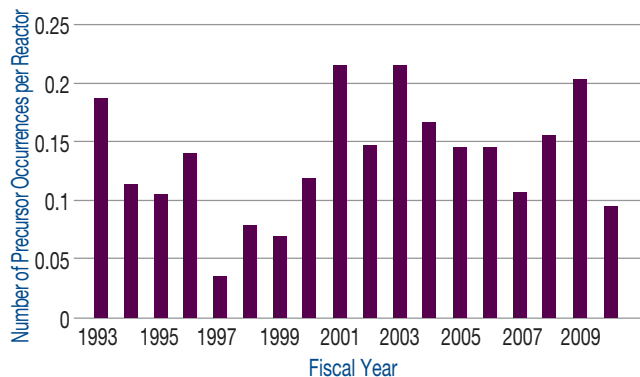
**AUTOMATIC SCRAMS**



### Precursor Occurrence Rate

A precursor event is an event that has a probability of greater than 1 in 1 million of leading to substantial damage to the reactor fuel. There is no statistically significant adverse trend in the occurrence rate of precursor events since 1993, the baseline year for the statistical analysis. In addition, no statistically significant trend is detected for all precursors during the FY 2001–2010 period. Due to the complexities associated with evaluating precursor events, the data always lag behind other indicators.

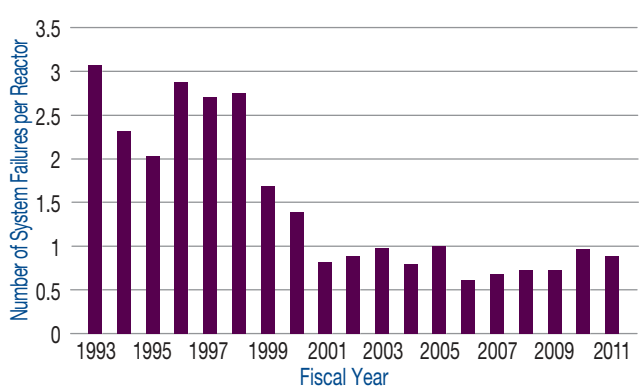
**PRECURSOR OCCURRENCE RATE**



### Safety System Failures

Safety system failures include any events or conditions that could prevent a safety system from fulfilling its safety function. The statistical trend for number of safety system failures across the industry has been declining.

**SAFETY SYSTEM FAILURES**



## FUKUSHIMA REGULATORY REVIEW

After the accident at Fukushima Dai-ichi, the Commission directed NRC staff to conduct a systematic and methodical review of NRC processes and regulations to determine whether the agency should make additional improvements to its regulatory system and to provide recommendations to the Commission for its policy direction. The NRC's Near-Term Task Force developed recommendations related to lessons learned from the Fukushima Dai-ichi event. Based upon this report, NRC staff prioritized the report's recommendations and provided this prioritization for Commission approval. A more complete discussion of the review and the subsequent actions taken by the NRC can be found in Chapter 2's Nuclear Safety section. Additional information can be found on the agency Web site <http://www.nrc.gov/reactors/operating/ops-experience/japan-info.html>

### STRATEGIC GOAL 2: SECURITY

#### Ensure Adequate Protection in the Secure Use and Management of Radioactive Materials

The NRC must remain vigilant in ensuring the security of nuclear facilities and materials in an elevated threat environment. The agency achieves its common defense and Security goal using licensing and oversight programs similar to those employed in achieving its Safety goal.

#### STRATEGIC OUTCOMES:

- Prevent instances where licensed radioactive materials are used domestically in a manner hostile to the security of the United States.
- Prevent unauthorized public disclosures of classified or Safeguards Information through quality measures.

These strategic outcomes specify the conditions under which the Security goal can be considered to have been met.

## FY 2012 RESULTS

In FY 2012, the NRC achieved its Security goal strategic outcomes. The NRC also uses five Security goal performance measures to determine whether the agency has met its Security goal. The agency met all five performance measure targets in FY 2012 (see Table 2).

The first performance measure tracks unrecovered losses or thefts of risk-significant radioactive sources. The measure ensures that those radioactive sources that the agency has determined to be risk-significant to the public health and safety are accounted for at all times. The ability to account for these sources is critical to secure the Nation from "dirty bomb" attacks or other means of radiation dispersal.

The second, third, and fourth performance measures evaluate the number of significant security events and incidents that occur at NRC-licensed facilities. These measures determine whether nuclear facilities maintain adequate protective forces to prevent theft or diversion of nuclear material or sabotage; whether systems in place at licensee plants accurately account for the type and amount of materials processed, utilized, or stored; and whether the facilities account for special nuclear material at all times with no losses of this material. There were no events that met the conditions for these measures in FY 2012.

The last security measure tracks significant unauthorized disclosures of classified and/or Safeguards Information (SGI) that may cause damage to national security or public safety. This measure focuses on whether classified information or SGI is stored and utilized in such a way as to prevent its disclosure to the public, terrorist organizations, other nations, or personnel without a need to know. Unauthorized disclosures can harm national security or compromise public health and safety. The measure also focuses on whether controls are in place to maintain and secure the various devices and systems (electronic or paper-based) which the agency and its licensees use to store, transmit, and utilize this information. There were no documented disclosures of this type of information during FY 2012.

The cost of achieving the agency's Security goal was \$76.3 million in FY 2012.

Table 2

**FY 2012 SECURITY GOAL PERFORMANCE MEASURES**

**1. Number of unrecovered losses or thefts of risk-significant<sup>7</sup> radioactive sources**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	1 <sup>8</sup>	0

<sup>7</sup> "Risk-significant" is defined as any unrecovered lost or abandoned sources that exceed the values listed in "Appendix P of 10 CFR Part 110–High Risk Radioactive Material, Category 2." Excluded from reporting under this criterion are those events involving sources that are lost or abandoned under the following conditions: (1) sources abandoned in accordance with the requirements of 10 CFR 39.77(c); (2) recovered sources with sufficient indication that doses in excess of the reporting thresholds specified in AO criterion I.A.1 and I.A.2 did not occur during the time the source was missing; (3) unrecoverable sources lost under such conditions that doses in excess of the reporting thresholds specified in AO criterion I.A.1 and I.A.2 were not known to have occurred; (4) other sources that are lost or abandoned and declared unrecoverable; (5) for which the agency has made a determination that the risk-significance of the source is low based upon the location (e.g., water depth) or physical characteristics (e.g., half life, housing) of the source and its surroundings; (6) where all reasonable efforts have been made to recover the source; and (7) it has been determined that the source is not recoverable and will not be considered a realistic safety or security risk under this measure. (This includes licensees under the Agreement States)

<sup>8</sup>There were no losses and one theft of radioactive nuclear material that the NRC considered to be risk significant during FY 2011.

**2. Number of substantiated<sup>9</sup> cases of 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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>9</sup>"Substantiated" means a situation where any indication of loss, theft, or unlawful diversion cannot be refuted following an investigation and requires further action on the part of the agency or other proper authorities.

<sup>10</sup>A formula quantity of special nuclear material is defined in 10 CFR 70.4.

<sup>11</sup>"Radiological sabotage" is defined in 10 CFR 73.2.

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

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

Table 2

**FY 2012 SECURITY GOAL PERFORMANCE MEASURES** *(continued)*

**4. Number of substantial breakdowns<sup>12</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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤1	≤1	≤1	≤1	≤1	≤1
Actual:	0	0	0	0	0	0

<sup>12</sup>A “substantial breakdown” is defined as a red finding in the security cornerstone of the Reactor Oversight Process, or any plant or facility determined to either have overall unacceptable performance, or 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.

**5. Number of significant unauthorized disclosures of classified and/or Safeguards Information<sup>13</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>13</sup>“Significant unauthorized disclosure” is defined as a disclosure that harms national security or public health and safety.

**SECURITY GOAL STRATEGIES**

The agency used the following security strategies from its Strategic Plan to guide its activities and achieve its security goal in FY 2012:

1. Conduct oversight of licensee security performance.
2. Use relevant intelligence information and security assessments to maintain realistic and effective security requirements and mitigation measures.
3. Share security information with appropriate stakeholders and international partners.
4. Control the handling and storage of sensitive security information and the communication of information to licensees and Federal, State, local and Tribal governments.
5. 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 governments.
6. Use risk-informed approaches to inform regulatory controls for security.
7. Maintain the programs for controlling the security of radioactive sources and strategic special nuclear material

commensurate with their risk, including actions required by the *Energy Policy Act of 2005*.

8. Promote U.S. national security interests and nuclear nonproliferation policy objectives for NRC-licensed imports and exports of byproduct source and special nuclear materials and nuclear equipment.
9. Manage the risk to information and systems to ensure the integrity of cyber security at regulated facilities.
10. Prevent instances of significant unauthorized public disclosures of classified or Safeguards Information.

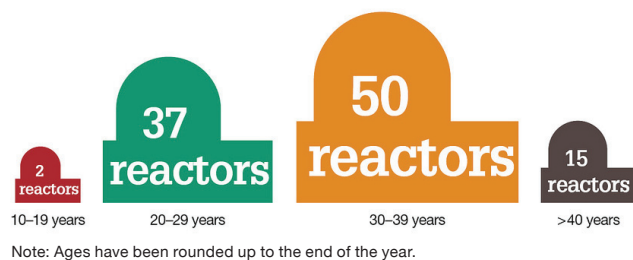
**FUTURE CHALLENGES**

The industry has experienced a substantial improvement in safety and security at nuclear power plants over the past 20 years as both the nuclear industry and the NRC have gained substantial experience in the operation and maintenance of nuclear power facilities. However, despite the excellent safety record of the industry, the agency cannot rest on its achievements. The key challenges that the agency faces as the regulator of nuclear materials are to ensure that the new generation of nuclear power plants are built and operated safely and to safely dispose of nuclear waste.

### Licensing a New Generation of Nuclear Power Plants

With increased concerns about the continued availability and cost of oil as well as concerns over the environmental damage caused by coal-burning electrical plants, the amount of electricity supplied by nuclear power is likely to increase substantially in the future. The NRC last issued a nuclear power plant construction permit in 1977. To date, the agency has received a total of 18 Combined License (COL) applications for sites across the country. The agency's primary challenge is to license new reactors to ensure that they will operate safely as they provide electricity required by the Nation for economic growth. Some of the proposed new reactors may include small modular reactors. In any case, before licensing any new nuclear reactor, the agency requires a detailed analysis of new reactor designs. This analysis includes a study of the reactor's vulnerability to accidents and security compromises. It also includes the development of inspection procedures, tests, analyses, and acceptable criteria for construction. The agency is also evaluating commercial gas centrifuge facilities that utilize new methods of enriching nuclear fuel for reactors.

Figure 7  
U.S. Commercial Nuclear Power Reactors—  
Years of Operation by the End of 2012



### Safe Disposal of High-Level Waste

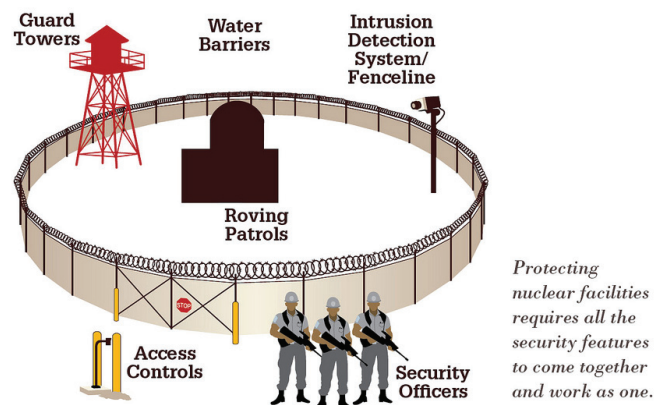
Current law specifies that high-level radioactive waste will be disposed of underground in a deep geologic repository. On January 29, 2010, President Obama directed the Secretary of Energy to establish the Blue Ribbon Commission (BRC) on America's Nuclear Future to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and recommend a new strategy. The BRC provided its final recommendations to the Secretary of Energy on January 26, 2012. Several of the BRC's recommendations are related to ongoing areas of NRC regulatory activities. The key

areas in this effort are the nuclear fuel cycle, spent fuel storage and transportation, and high-level waste disposal.

### Security at Nuclear Facilities

The security of nuclear materials is of paramount importance to the Nation. Nuclear facilities are among the most secure facilities in the Nation. The NRC, in concert with other Federal agencies, constantly monitors intelligence to determine the level of threat faced by nuclear facilities. The agency continues to improve the regulatory requirements to better ensure the security of nuclear materials and facilities. The threat faced by the Nation from those seeking to steal classified information has become more urgent in recent years. Nuclear facilities have implemented increased security measures, including "force-on-force" training exercises, to help ensure protection of this vital national infrastructure.

Figure 8  
Security Components



The agency has also focused on security concerns related to radioactive sources typically employed by radiation medicine and other non-power applications of nuclear technology. The sheer number of radioactive sources – numbering thousands in the United States alone – creates challenges in securing these sources. Moreover, these sources are widely spread geographically and used for a broad range of purposes. The agency will continue to evaluate ways to enhance its ability to account for these sources.

Finally, many nations around the world have demonstrated an interest in developing and expanding their use of peaceful applications of nuclear technology. The agency works across



a broad range of international organizations, such as the International Atomic Energy Agency and in bilateral activities, to provide assistance to these countries to put in place measures to focus attention on key security issues. As the world's largest nuclear regulatory authority, the NRC's experience places it in a strong position to take a leadership role in extending this type of assistance. The agency anticipates that its assistance to other countries will continue to promote the secure use of nuclear materials.

### DATA COMPLETENESS AND RELIABILITY

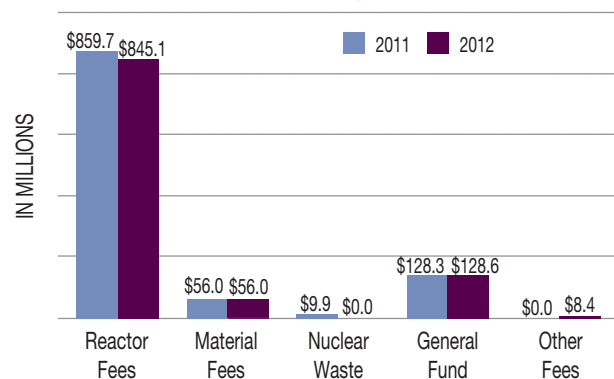
The NRC considers the data contained in this report to be complete, reliable, and relevant. The data are complete because the agency reports actual performance data for every performance goal and indicator in the report. In addition, all of the data are reported for each measure. The agency also considers the data in this report reliable and relevant, because they have been validated and verified. The report, "Verification and Validation of NRC's Performance Measures and Metrics," contains the processes the agency uses to collect, validate, and verify performance data in this report and can be found in Appendix III of the NRC's FY 2012 Congressional Budget Justification located on the NRC Web site <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1100/v27/>.

## FINANCIAL PERFORMANCE OVERVIEW

### SOURCES OF FUNDS

The NRC has no-year appropriations for Salaries and Expenses and the Office of the Inspector General, which are available for obligation until expended. Additionally, in FY 2012, the Office of the Inspector General received a two-year appropriation which is available for obligation until FY 2013. The NRC's new FY 2012 budget authority was \$1,038.1 million. Of this amount, \$1,027.2 million was for the Salary and Expenses appropriation and \$10.9 million was for the Office of the Inspector General appropriations (\$9.8 million for the no-year and \$1.1 million for the two-year appropriation). This represents a decrease in new budget authority of \$15.8 million compared to FY 2011 [\$5.9 million for the Salaries and Expenses appropriation, \$9.9 million for resources received from the U.S.

Figure 9  
SOURCES OF FUNDS (PROJECTED)



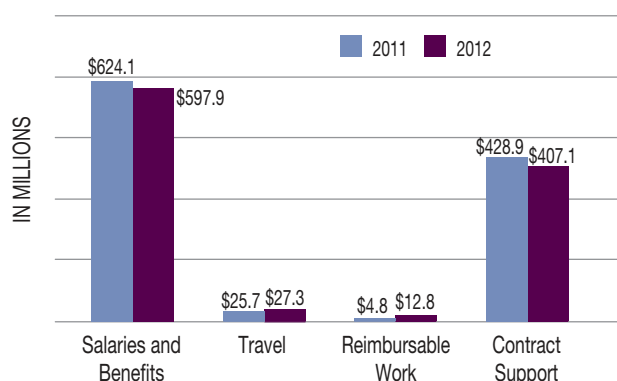
Department of Energy (DOE) included in the NRC's 2011 Salaries and Expenses appropriation derived from the Nuclear Waste Fund for NRC activities associated with the *Nuclear Waste Policy Act* (NWPA), as amended, and no change for the Office of the Inspector General appropriation] (see Figure 9). In addition, \$35.8 million from prior-year appropriations, \$12.8 million carried over from prior-year for reimbursable work, and \$11.0 million for new reimbursable work to be performed for other Federal agencies and commercial customers were available to obligate in FY 2012. The sum of all funds available to obligate for FY 2012 was \$1,097.7 million, which represents a decrease of \$34.2 million from the FY 2011 amount of \$1,131.9 million.

The *Omnibus Budget Reconciliation Act of 1990 (OBRA-90)*, as amended, requires the NRC to collect fees to offset approximately 90 percent of its new budget authority, less the amount appropriated to the NRC from the Nuclear Waste Fund, amounts appropriated for waste incidental to reprocessing and generic homeland security. The projected amount to be received from reactor and materials fees in FY 2012 was \$901.0 million, which is the net of fees to be recovered of \$909.5 million less estimated billing adjustments of \$8.5 million (\$2.3 million estimated unpaid current year invoices less \$10.8 million in estimated payments received in the current year for previous year invoices). The NRC collected \$894.4 million, which represents 98.3 percent of the requirement per OBRA-90 to recover approximately 90 percent (\$909.5 million for FY 2012) of its new budget authority, less amounts appropriated for waste incidental to reprocessing and generic homeland security.

### USES OF FUNDS BY FUNCTION

The NRC incurred obligations of \$1,045.1 million in FY 2012, which was a decrease of \$38.4 million over FY 2011 (see Figure 10). Approximately 57 percent of obligations were used for salaries and benefits. The remaining 43 percent was used to obtain technical assistance for the NRC's principal regulatory programs, to conduct confirmatory safety research, to cover operating expenses (e.g., building rentals, transportation, printing, security services, supplies, office automation, and training), to pay for staff travel, and to cover reimbursable work.

**Figure 10**  
**USES OF FUNDS BY FUNCTION**



The unobligated budget authority available at the end of FY 2012 was \$62.9 million, a \$14.4 million increase compared to the FY 2011 amount of \$48.5 million. Of the unobligated balance at the end of FY 2012, \$11.9 million was for reimbursable work and \$51.0 million was available to fund critical NRC needs in FY 2013. At the end of FY 2011, the unobligated balance included \$12.8 million for reimbursable work and \$35.7 million to fund critical NRC needs in FY 2012.

### AUDIT RESULTS

The NRC received an unqualified audit opinion on its FY 2012 financial statements and internal controls. The auditors found no instances of noncompliance or substantial noncompliance with laws and regulations during the FY 2012 audit.

A summary of the financial statement audit results is included in Chapter 4, "Other Accompanying Information," section of this report.

### LIMITATIONS ON THE FINANCIAL STATEMENTS

The principal statements have been prepared to report the financial position and results of operations of the NRC, pursuant to the requirements of 31 U.S.C. 3515 (b). While the statements have been prepared from the books and records of the NRC in accordance with Generally Accepted Accounting Principles (GAAP) for Federal entities and the formats prescribed by the Office of Management and Budget (OMB), the statements are in addition to the financial reports used to monitor and control budgetary resources, which are prepared from the same books and records. The statements should be read with the realization that they are for a component of the U.S. Government, a sovereign entity.

### FINANCIAL STATEMENT HIGHLIGHTS

The NRC's financial statements summarize the agency's financial activity and financial position. The financial statements, footnotes, and required supplementary information, appear in Chapter 3, "Financial Statements and Auditors' Report." The following is an analysis of the principal statements.

### ANALYSIS OF THE BALANCE SHEET

#### ASSET SUMMARY (In Millions)

As of September 30,	2012	2011
Fund Balance with Treasury	\$ 357.5	\$ 394.6
Accounts Receivable, Net	100.7	100.3
Property & Equipment, Net	100.0	46.5
Other	11.7	3.7
<b>Total Assets</b>	<b>\$ 569.9</b>	<b>\$ 545.1</b>

**Assets.** The NRC's total assets were \$569.9 million as of September 30, 2012, representing an increase of \$24.8 million from the same period of FY 2011. Changes in major categories include increases of \$53.5 million in Property and Equipment, \$.4 million in Accounts Receivable, Net, and \$8.0 million in Other Assets, offset by a decrease of \$37.1 million in the Fund Balance with Treasury.

The Fund Balance with Treasury was \$357.5 million as of September 30, 2012, which accounts for 63 percent of total assets. This account represents appropriated funds, license fee collections, and other funds maintained at the Treasury to pay for current liabilities and to finance authorized purchase commitments. The \$37.1 million decrease in the fund balance

is primarily the result of decreases of \$25.6 million in the beginning balance compared with the prior year, \$5.9 million in the appropriation received, and \$9.9 million for the Nuclear Waste Fund, offset by a \$2.8 million increase in the receipts for offsetting collections, representing reimbursements for work that the NRC performed and prior year refunds, and \$1.5 million in reduced disbursement activity. Fees collected, and then transferred to Treasury, decreased \$16.5 million from FY 2011, producing a net offsetting effect on the fund balance. (The revenue generated by fees assessed to licensees as required by law is sent to Treasury to offset approximately 90 percent of NRC's appropriations received during the year). Payments, which reduce the fund balance, had a net decrease of \$1.5 million and were comprised primarily of a decrease of \$26.2 million in salaries and benefits disbursements, offset by increases of \$23.8 million in general disbursements and \$.9 million in grant disbursements.

Accounts receivable consists of amounts that other Federal agencies and the public owe to the NRC. Accounts Receivable, Net, as of September 30, 2012, was \$100.7 million, which included an offsetting allowance for doubtful accounts of \$1.6 million. For FY 2011, the year-end Accounts Receivable, Net, balance was \$100.3 million, including an offsetting allowance for doubtful accounts of \$4.5 million.

*LIABILITIES SUMMARY (In Millions)*

As of September 30,	2012	2011
Accounts Payable	\$ 43.2	\$ 43.2
Federal Employee Benefits	7.2	7.2
Other Liabilities	74.2	79.2
Total Liabilities	\$ 124.6	\$ 129.6

**Liabilities.** Total liabilities were \$124.6 million as of September 30, 2012, representing a decrease of \$5.0 million from the FY 2011 year-end balance of \$129.6 million. Accounts Payable, Federal Employee Benefits and Other Liabilities remained basically the same as the prior year. For FY 2012, Other Liabilities include \$47.8 million in accrued annual leave, \$8.8 million in accrued funded salaries and benefits, \$8.2 million in grants payable, \$4.6 million in advances received by the NRC for services that will be provided, \$2.1 million in funded employee benefit contributions, \$1.9 million in accrued workers' compensation and \$.8 million in contract holdbacks, capital lease liability, and miscellaneous liabilities.

Total Liabilities include liabilities not covered by budgetary resources, which represent expenses recognized in the financial statements that will be paid from future appropriations. The liabilities not covered by budgetary resources were \$56.9 million for FY 2012 compared to \$59.0 million for FY 2011, a \$2.1 million decrease. For FY 2012, the liabilities not covered by budgetary resources represent 45 percent of total liabilities and include \$47.8 million in unfunded accrued annual leave that has been earned, but not yet taken, and \$1.9 million in accrued workers' compensation included in Other Liabilities, and \$7.2 million as an actuarial estimate of accrued future workers' compensation expenses included in Federal Employee Benefits.

*NET POSITION SUMMARY (In Millions)*

As of September 30,	2012	2011
Unexpended Appropriations	\$ 285.1	\$ 310.3
Cumulative Results of Operations	160.2	105.2
Total Net Position	\$ 445.3	\$ 415.5

**Net Position.** The difference between Total Assets and Total Liabilities, Net Position, was \$445.3 million as of September 30, 2012, which is an increase of \$29.8 million from the FY 2011 year-end balance. Net Position is comprised of two components: Unexpended Appropriations, the amount of spending authority that remains unused at the end of the year, and Cumulative Results of Operations, the cumulative excess of financing sources over expenses. Unexpended Appropriations were \$285.1 million at the end of FY 2012, a decrease of \$25.2 million from the prior fiscal year end. Cumulative Results of Operations increased by \$55.0 million from \$105.2 million in FY 2011 to \$160.2 million in FY 2012.

**ANALYSIS OF THE STATEMENT OF NET COST**

The Statement of Net Cost represents the gross cost of the NRC's two programs (Nuclear Reactor Safety and Security and Nuclear Materials Safety and Security) as identified in the NRC Annual Performance Plan, offset by earned revenue. The purpose of this statement links program performance to the cost of programs. The NRC's Net Cost of Operations for the year ended September 30, 2012, was \$147.8 million, representing a decrease of \$60.4 million over the FY 2011 net cost of \$208.2 million.

<i>NET COST OF OPERATIONS (In Millions)</i>		
<b>For the years ended September 30,</b>	<b>2012</b>	<b>2011</b>
Nuclear Reactor Safety and Security	\$ 8.4	\$ 70.8
Nuclear Materials and Waste Safety and Security	139.4	137.4
<b>Net Cost of Operations</b>	<b>\$ 147.8</b>	<b>\$ 208.2</b>

The NRC's total gross costs decreased \$44.8 million. Gross costs decreased \$33.5 million in the Nuclear Reactor Safety and Security program primarily due to decreases of \$28.0 million in allocated overhead costs and \$14.6 million in the New Reactors business line, offset by an increase of \$9.1 million in the Operating Reactors business line. The Nuclear Materials and Waste Safety and Security program's gross costs decreased \$11.3 million.

Total earned revenue as of September 30, 2012, was \$904.3 million, an increase of \$15.6 million from September 30, 2011.

Fees collected (earned primarily in FY 2012) and transferred to Treasury during FY 2012, was \$894.4 million compared to \$911.0 million for FY 2011. The NRC is required to collect approximately 90 percent of appropriations for NRC activities through fee billing. Fees for reactor and materials licensing and inspections are collected in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services under the *Atomic Energy Act of 1954*, as amended," and 10 CFR Part 171, "Annual Fees for Reactor Licenses and Fuel Cycle Licenses and Materials Licenses, Including Holders of Certificates of Compliance, Registrations, and Quality Assurance Program Approvals and Government Agencies Licensed by the NRC."

### ANALYSIS OF THE STATEMENT OF CHANGES IN NET POSITION

The Statement of Changes in Net Position reports the change in net position for the reporting period. Net position is affected by changes in its two components—Cumulative Results of Operations and Unexpended Appropriations. The increase in Net Position of \$29.8 million from FY 2011 to FY 2012 was due to an increase of \$55.0 million in Cumulative Results of Operations, offset by a decrease of \$25.2 million in Unexpended Appropriations.

The increase in Cumulative Results of Operations of \$55.0 million was primarily a result of an increase in financing sources of \$7.7 million and a reduction in the net cost of operations of \$60.4 million, offset by a decrease in the beginning balance of \$13.1 million. Financing sources primarily include imputed financing costs absorbed by others and appropriations used, reduced by the collection of fees assessed and the Nuclear Waste Fund expenses. Imputed finance costs decreased \$16.9 million because of costs recorded in FY 2011 of \$12.2 million for judgments and awards and \$4.7 million in costs for retirement and health benefits. Appropriations used increased \$34.5 million from the prior year primarily due to an increase in funds consumed of \$4.9 million, a reduction in the collection of fees assessed of \$16.5 million, and a reduction in Nuclear Waste Fund expenses of \$13.1 million.

A change in unexpended appropriations primarily results from appropriations received and adjustments (e.g., rescissions) being more, or less, than appropriations used during the fiscal year. In FY 2012, appropriations received of \$143.8 million consisted primarily of the NRC's total appropriation of \$1,038.1 million, reduced by \$894.4 million in fee collections returned to Treasury. Appropriations used in FY 2012 totaled \$169.1 million and consisted of \$1,064.8 million in funds used, reduced by the collection of \$894.3 million in fees assessed and \$1.4 million in Nuclear Waste Fund expenses.

### ANALYSIS OF THE STATEMENT OF BUDGETARY RESOURCES

The Statement of Budgetary Resources reports the source and status of budgetary resources at the end of the period. It presents the change in the obligated balance brought forward to the ending balance and the relationship between budget authority and budget outlays. For FY 2012, NRC had Total Budgetary Resources of \$1,108.0 million, \$24.0 million less than the \$1,132.0 million available for FY 2011. Changes in budgetary resources include decreases of \$15.8 million in the appropriation received during FY 2012 and \$7.6 million as a result of a change in spending authority from offsetting collections. The appropriation included decreases of \$3.3 million for Nuclear Reactor Safety and Security, \$12.7 million for Nuclear Materials and Waste Safety and Security, and no change for the Office of the Inspector General.

The Status of Budgetary Resources, which reflects the activity as of the end of the year for the NRC's budgetary resources, decreased \$24.0 million from the prior year. For FY 2012, the NRC incurred obligations of \$1,045.1 million, and had an unobligated balance of \$62.9 million at the fiscal year end, bringing the total to \$1,108.0 million in budgetary resources. This compares to FY 2011's incurred obligations of \$1,083.5 and an unobligated balance of \$48.5 million at the fiscal year end, totaling \$1,132.0 million.

The Change in Obligated Balance section of the Statement of Budgetary Resources reports the obligation change from the beginning of the year to the end of the year. The obligated balance at the end of FY 2012 was \$294.6 million compared to \$346.1 million at the end of the prior year, a \$51.5 million decrease. The change in year-end balances is due to decreases in the obligated balance at the start of the year, net, as adjusted, of \$29.3 million and the change in unpaid obligations of \$32.5 million, offset by a \$10.3 million increase in the change in uncollected customer payments from Federal sources.

Agency Outlays, Net, represents the gross outlays (funds disbursed during the year for current and prior year expenses), reduced by offsetting collections (primarily for reimbursable work), and distributed offsetting receipts (funds collected from licensees and returned to Treasury to offset the appropriation). For FY 2012, the NRC's outlays, net, were \$180.8 million compared to the FY 2011 outlays, net, of \$168.6 million, an increase of \$12.2 million. The increase was primarily due to a reduction of receipts to offset the outlays. In FY 2012, receipts for collection of fees assessed decreased by \$16.5 million, which was offset by an increase of \$2.8 million in receipts for offsetting collections. Gross outlays remained basically the same as the prior year with gross costs of \$1,086.9 million for FY 2012 compared to \$1,088.4 million for FY 2011. Major changes in the gross outlay categories include a decrease of \$26.2 million in salaries and benefits disbursements, offset by increases of \$23.8 million in general disbursements and \$.9 million in grant disbursements.

## MANAGEMENT ASSURANCES SYSTEMS, CONTROLS, AND LEGAL COMPLIANCE

This section provides information on NRC's compliance with the *Federal Managers' Financial Integrity Act of 1982* (Public Law 97-255), OMB Circular A-123, *Management's Responsibility*

*for Internal Control*, and the *Federal Financial Management Improvement Act of 1996*.

### FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT

The *Federal Managers' Financial Integrity Act of 1982* (Integrity Act) mandates that agencies establish internal control to provide reasonable assurance that the agency complies with applicable laws and regulations; safeguards assets against waste, loss, unauthorized use, or misappropriation; and properly accounts for and records revenues and expenditures. The Integrity Act encompasses program, operational, and administrative areas, as well as accounting and financial management. It also requires the Chairman to provide an assurance statement on the adequacy of internal controls and on the conformance of financial systems with Government-wide standards, shown below.

### INTERNAL CONTROL PROGRAM

Internal controls are the organization, policies, and procedures to help program and financial managers achieve results and safeguard the integrity of their programs. NRC managers are responsible for designing and implementing effective internal controls in their areas of responsibility. Each office director and regional administrator prepares an annual assurance certification that identifies any control weaknesses requiring the attention of the NRC Executive Committee on Internal Control (ECIC). These certifications are based on internal control activities such as risk assessments, as well as other activities such as Integrated Materials Performance Evaluation Program self-assessments, lessons learned oversight board activities, agency action review meetings, senior leadership meetings, business process improvement reviews, audits of financial statements, reviews of financial statements, Inspector General and U.S. Government Accountability Office audits and reports, and other information provided by the congressional committees of jurisdiction.

The ECIC consists of senior executives from the Office of the Chief Financial Officer and the Office of the Executive Director for Operations. The agency's General Counsel and Inspector General participate as advisors.

The ECIC met and reviewed the reasonable assurance certifications provided by the offices and regions. The ECIC then informed the Chairman as to whether the NRC had any internal control deficiencies serious enough to require reporting as a weakness or noncompliance.

The NRC's internal control program requires that internal control deficiencies be documented and reported in office and regional internal control plans and operating plans. The internal control plans provide for annual reporting, and the operating plan process provides for quarterly updates; together, both ensure that key issues receive senior management attention. Combined with the individual assurance statements discussed previously, the internal control information in these plans provides the framework for monitoring and improving the agency's internal control on an ongoing basis.

## FY 2012 INTEGRITY ACT RESULTS

The NRC evaluated its internal control systems for the fiscal year ending September 30, 2012. Based on this evaluation, the NRC is able to provide a statement of assurance that the internal controls and financial systems meet the objectives of the Integrity Act. The NRC has reasonable assurance that its internal controls are effective and that its financial management systems conform to Government-wide standards.

## OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-123, "MANAGEMENT'S RESPONSIBILITY FOR INTERNAL CONTROL"

### *Internal Control Over Financial Reporting (Appendix A)*

In FY 2006, the NRC implemented the requirements of the revised OMB Circular A-123 requirements, which defined and strengthened management's responsibility for internal control in Federal agencies. The revised circular included updated internal control standards. Appendix A requires Federal agencies to assess the effectiveness of internal controls over financial reporting and to prepare a separate annual statement of assurance as of June 30, 2012.



## U.S. NUCLEAR REGULATORY COMMISSION FISCAL YEAR 2012 FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT STATEMENT

The U.S. Nuclear Regulatory Commission (NRC) managers are responsible for establishing and maintaining effective internal control and financial management systems that meet the objectives of the *Federal Managers' Financial Integrity Act* (Integrity Act). The NRC conducted its assessment of internal control over programmatic operations in accordance with Office of Management and Budget (OMB) Circular A-123, *Management's Responsibility for Internal Control* (A-123) guidelines. Based on the results of this evaluation, NRC can provide reasonable assurance that its internal control over programmatic operations is in compliance with applicable laws and guidance, and no material weaknesses were found as of September 30, 2012.

In addition, NRC conducted its assessment of the effectiveness of internal control over financial reporting, which includes safeguarding of assets and compliance with applicable laws and regulations, in accordance with the requirements of Appendix A of A-123. Based on the results of the evaluation, NRC can provide reasonable assurance that its internal control over financial reporting as of June 30, 2012, was operating effectively, and no material weaknesses were found in the design or operation of the internal control over financial reporting.

The NRC can also provide reasonable assurance that its financial systems substantially comply with applicable Federal accounting standards as required by the *Federal Financial Management Improvement Act of 1996*.

A handwritten signature in black ink, appearing to read "Allison M. Macfarlane".

Allison M. Macfarlane  
Chairman  
U.S. Nuclear Regulatory Commission  
November 2, 2012

In FY 2007, the NRC adopted a 3-year rotational testing plan. The agency determined that three of the original nine key processes (financial reporting, revenue, and information technology) were significant enough to include in the testing each year of the 3-year cycle. The remaining six key processes were to be tested once in the 3-year cycle, two each year. In FY 2012, the NRC continued its assessment of internal control over financial reporting. The agency reevaluated its scope of financial reports, materiality values, risk assessments, key processes, and key controls. Based on the results of this evaluation, the NRC can provide reasonable assurance that its

internal control over financial reporting was operating effectively as of June 30, 2012, and that the evaluation found no material weaknesses in design or operation of the internal controls over financial reporting.

## *Requirements For Effective Measurement and Remediation of Improper Payments (Appendix C)*

In FY 2011, OMB revised Parts I and II to Appendix C of OMB Circular A-123. Appendix C, "Requirements for Effective Measurement and Remediation of Improper Payments," as amended, implemented the *Improper Payments Information Act of 2002* (IPIA) and the *Improper Payments Elimination and Reporting Act of 2010* (IPERA). The purpose of this guidance was to reduce improper payments, hold agencies accountable for reducing improper payments, and increase penalties for contractors that fail to timely disclose improper payments. The NRC complied with this guidance by incorporating improper payments testing into the FY 2011 Circular A-123 Appendix A assessment.

The FY 2011 testing yielded an estimated improper payment rate of 0.02 percent and an estimated improper payment amount of less than \$27,000. These results fall below the IPERA thresholds of 2.5 percent and \$10 million. Therefore, after discussions with OMB, it was determined that NRC would conduct this testing every 3 years, in accordance with the IPERA and OMB guidance.

## **FEDERAL FINANCIAL MANAGEMENT IMPROVEMENT ACT**

The *Federal Financial Management Improvement Act of 1996* (FFMIA) requires each agency to implement and maintain systems that comply substantially with (1) Federal financial system requirements, (2) applicable Federal accounting standards, and (3) the standard general ledger at the transaction level. FFMIA requires the Chairman to determine whether the agency's financial management system complies with FFMIA and to develop remediation plans for systems that do not comply.

## **FY 2012 FFMIA RESULTS**

As of September 30, 2012, the NRC evaluated its financial systems and found that they comply with applicable Federal

requirements and accounting standards required by FFMIA. In making this determination, the agency considered all available information, including the report from the ECIC on the effectiveness of internal control, Office of the Inspector General audit reports, and the result of the agency's financial management system reviews.

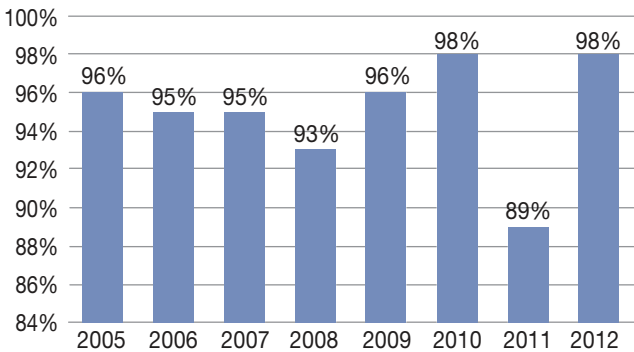
## **FINANCIAL MANAGEMENT SYSTEMS STRATEGIES**

The NRC continued to make substantial progress in modernizing its financial systems throughout FY 2012. The NRC enhanced system performance, data integrity, business processes, user expertise and reporting in the agency's Financial Accounting and Integrated Management Information System (FAIMIS) Core Financial System (CFS). On July 31, 2012, the NRC completed a FAIMIS CFS Re-hosting Initiative and successfully transferred hosting and customer Helpdesk support services for the FAIMIS CFS from the Department of Interior's National Business Center to CGI Federal's (CGI's) Phoenix Data Center (PDC). The entire initiative, which included standing up new hardware at the hosting facility, modifying all system interfaces, completing an extensive systems security evaluation, testing system functionality, verifying converted historical data, establishing a new secure communications protocol between the hosting site and NRC, and executing a formal Independent Verification and Validation process, was all completed in less than seven months. As a result of the FAIMIS Re-hosting Initiative, the NRC is hosted within a private cloud environment. In FY 2012, the agency also upgraded its Time and Labor (T&L) System. The new T&L system strengthened data security, eliminated electronic workflows and reduced yearly costs. The agency also added a Salary and Benefits Projection Tool to its Budget Formulation System (BFS). This BFS enhancement facilitates the analysis of employee compensation and benefits scenarios for future years and improves budget forecasting. Sustained emphasis on modern, Web-enabled technology, automated processes and extensive user support have improved the financial information available to the agency which has allowed for better informed decision making.

**PROMPT PAYMENT**

The *Prompt Payment Act of 1982*, as amended, requires Federal agencies to make timely payments to vendors for supplies and services, to pay interest penalties when payments are made after the due date, and to take cash discounts when they are economically justified. In FY 2012, the NRC paid 98 percent of the 10,183 invoices subject to the Prompt Act on time.

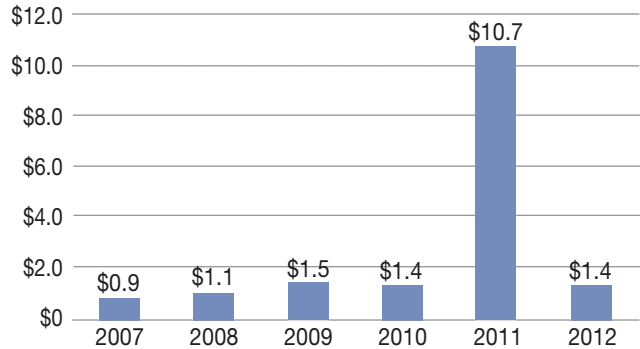
**Figure 11**  
**PAYMENT PERCENTAGE**



**DEBT COLLECTION**

The *Debt Collection Improvement Act of 1996* enhances the ability of the Federal Government to service and collect debts. The NRC's goal is to maintain the level of delinquent debt owed to the agency at year end to less than 1 percent of its annual billings. The agency met this goal. At the end of FY 2012, delinquent debt was \$1.4 million (non-Federal delinquent debt over 31 days old less installments) (see Figure 12). The agency was able to improve its referral to 99.8 percent of all eligible debt over 180 days delinquent to the U.S. Department of the Treasury for collection. In order to accurately reflect delinquent debt as well as all non-federal debt between 31-180 days, less installment loans, the numbers previously reported for fiscal years 2007-2011 have required adjustment. This success was due to an extensive clean-up effort resulting from the deployment of a new accounting system and process changes.

**Figure 12**  
**DELINQUENT DEBT (In Millions)**



**BIENNIAL REVIEW OF USER FEES**

The *Chief Financial Officers Act of 1990* requires agencies to conduct a biennial review of fees, royalties, rents, and other charges imposed by agencies, and to make revisions to cover program and administrative costs incurred. Each year, the NRC revises the hourly rates for license and inspection fees and adjusts the annual fees to meet the fee collection requirements of the *Omnibus Budget Reconciliation Act of 1990*, as amended. The most recent changes to the license, inspection, and annual fees are described in the *Federal Register* (77 FR 35809, June 15, 2012). There were no biennial reviews completed in FY 2012.

**INSPECTOR GENERAL ACT OF 1978**

In Chapter 4, "Other Accompanying Information," of this report is the "Inspector General's Assessment of the Most Serious Management and Performance Challenges facing NRC." The NRC has established and continues to maintain an excellent record in resolving and implementing Office of Inspector General (OIG) open audit recommendations, as well as data concerning disallowed costs determined through contract audits conducted by the Defense Contract Audit Agency.





# *Chapter 2*

## PROGRAM PERFORMANCE



*Watts Bar Nuclear Generating Station, Rhea County, TN.*

## MEASURING AND REPORTING

This chapter presents detailed information on the NRC's performance in achieving its mission during FY 2012. It describes the NRC's performance results and program achievements in accomplishing its two strategic goals of Safety and Security.

The NRC mission is to license and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure the adequate protection of public health and safety, promote the common defense and security, and to protect the environment. The agency's Safety goal is to ensure adequate protection of public health and safety and the environment. The agency achieves this goal by ensuring that the performance of licensees is at or above acceptable safety levels. The agency's Security goal is to ensure adequate protection in the secure use and management of radioactive materials. The NRC is vigilant in ensuring the security of nuclear facilities and materials. The agency achieves its Security goal using licensing and oversight programs for licensees similar to those employed in achieving its Safety goal.

The NRC's safety and security activities are carried out through two major programs: Nuclear Reactor Safety, consisting of Operating Reactors and New Reactors; and Nuclear Materials and Waste Safety, consisting of Fuel Facilities, Nuclear Material Users, Decommissioning and Low-Level Waste, and Spent Fuel Storage and Transportation.

The NRC's safety research program evaluates and resolves safety issues for nuclear power plants and other facilities and materials that the agency regulates. The agency conducts its research program to evaluate existing and potential safety issues; supply independent expertise, information, and technical judgments to support timely and realistic regulatory decisions; reduce uncertainties in risk assessments; and develop technical regulations and standards. When possible, the agency engages in cooperative research with other government agencies, the nuclear industry, universities, and international partners.

In addition, this chapter describes the agency's progress in achieving its Organizational Excellence Objectives of Openness, Effectiveness, and Operational Excellence as well as provides information on data sources, data quality, and completeness and reliability of performance data.

### STRATEGIC GOAL 1: SAFETY

Ensure Adequate Protection of Public Health and Safety and the Environment

### STRATEGIC OUTCOMES

The strategic outcomes specify the conditions under which an assessment can be made about whether the NRC has met its Safety goal. The NRC's Safety goal has five strategic outcomes that determine whether the agency has achieved its objective to ensure adequate protection of public health and safety and the environment:

- Prevent the occurrence of nuclear reactor accidents.
- Prevent the occurrence of inadvertent criticality events.
- Prevent the occurrence of acute radiation exposures resulting in fatalities.
- Prevent the occurrence of releases of radioactive materials that result in significant radiation exposures.
- Prevent the occurrence of releases of radioactive materials that cause significant adverse environmental impacts.

In FY 2012, the NRC achieved all of its Safety goal strategic outcomes.

### PERFORMANCE MEASURES

The NRC also uses annual performance measures to assess whether the agency met its Safety goal. Performance measures are aligned at a lower risk level than the strategic outcomes.

As a result, not fully achieving a performance measure may not cause harm to the public or environment. Missing a performance measure signals that safety levels may have deteriorated at the agency strategic planning level. If the NRC misses a performance measure, the agency will take corrective actions to bring the measure back into the target range. Table 3 below shows the agency's annual Safety performance measures and results of FY 2007 - 2012.

Table 3

**FY 2012 SAFETY GOAL PERFORMANCE MEASURES**

**1. Number of new conditions evaluated as red by the NRC’s Reactor Oversight Process<sup>1</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤3	≤3	≤3	≤3	≤3	≤3
Actual:	0	0	0	0	1	1

<sup>1</sup>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 multi-unit 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 that are due 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 the Reactor Oversight Process (ROP) external Web page was updated to show the red indicator.

**2. Number of significant Accident Sequence Precursors of a nuclear reactor accident<sup>2</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>2</sup>Significant Accident Sequence Precursor (ASP) events have a conditional core damage probability (CCDP) or ΔCDP of > 1x 10<sup>-3</sup>. Such events have a 1/1000 (10<sup>-3</sup>) 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.

**3. Number of operating reactors with integrated performance that entered the multiple/repetitive degraded cornerstone column, or the unacceptable performance column of the Reactor Oversight Process Action Matrix, or the Inspection Manual Chapter 0350 process, with no performance leading to the initiation of an Accident Review Group<sup>3</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤4	≤4	≤3	≤3	≤3	≤3
Actual:	1	0	0	0	2	1

<sup>3</sup>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 of the Reactor Oversight Action Matrix Process 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. 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. Number of significant adverse trends in industry safety performance<sup>4</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤1	≤1	≤1	≤1	≤1	≤1
Actual:	0	0	0	0	0	0

<sup>4</sup>Considering all indicators qualified for use in reporting.

Table 3

**FY 2012 SAFETY GOAL PERFORMANCE MEASURES** *(continued)*

**5. Number of events with radiation exposures to the public and occupational workers that exceed Abnormal Occurrence Criterion I.A.3<sup>5</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Reactor Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0
Material Target:	≤3	≤2	≤2	≤2	≤2	≤2
Actual:	0	0	0	0	0	0
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>5</sup>Releases for which a 30-day report requirement under 10 CFR 20.2203(a)(3) is required.

**6. Number of radiological releases to the environment that exceed applicable regulatory limits**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Reactor Target: <sup>6</sup>	≤3	0	0	0	0	0
Actual:	0	0	0	0	0	0
Material Target:	≤2	≤2	≤2	≤2	≤2	≤2
Actual:	0	0	0	0	0	0
Waste Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>6</sup>With no event exceeding AO Criterion 1.B.1.

**FY 2012 SAFETY PERFORMANCE MEASURES RESULTS**

**1. Reactor Oversight Process**

The NRC reactor inspection program monitors nuclear power plant performance in three areas: (1) reactor safety, (2) radiation safety, and (3) security. Analysis of plant performance is based on many performance indicators and inspection findings. Each finding is then sorted into one of four categories in order of increasing significance: green, white, yellow, or red. There was one red finding in FY 2012.

**2. Reactor Significant Precursors**

This statistical measure of risk determines the likelihood of an event adversely impacting safety. A significant precursor is an event that has a probability of 1 in 1,000 (or greater) of leading

to substantial damage to the reactor fuel. As of October 19, 2012, no significant precursors have been identified for FY 2012. However, the staff is currently analyzing the loss of offsite power event that occurred at Byron, Unit 2. The ASP analysis is currently ongoing and the event has the potential to have a conditional core damage probability (CCDP) greater than the significant precursor threshold (i.e., CCDP ≥ 1×10<sup>-3</sup>).

**3. Reactor Performance**

The conditions in this measure indicate whether the NRC finds significant performance issues in a plant during an inspection or based on performance indicators under the Reactor Oversight Process. If any of the conditions in this measure are met, the NRC will take action to ensure that plant safety is improved. The FY 2012 results showed an increase over recent years in 2011 and 2012, while the totals remain less than statistically significant. The NRC is confident that the regulatory actions

dictated by the Reactor Oversight Process action matrix are appropriate for these plants. The NRC continues to carefully monitor and assess the performance at these facilities.

### 4. Reactor Safety Trends

This measure tracks trends for several key indicators of industry safety performance. These indicators provide insights into major areas of reactor performance, including reactor safety, radiation safety, and emergency preparedness. Statistical analysis techniques are applied to each indicator to calculate long-term trends. These trends represent industry averages rather than individual plant performance. No statistically significant adverse trends have been identified in FY 2012.

### 5. Nuclear Material Radiation Exposures

This measure tracks the number of radiation exposures to the public and occupational workers that exceed Abnormal Occurrence (AO) Criterion I.A.3, which is defined as those events that produce unintended permanent functional damage to an organ or a physiological system, as determined by a physician. This measure tracks both nuclear reactors and other nuclear material users, such as hospitals and industrial users. There were no events identified that met AO Criterion 1.A.3 during FY 2012.

### 6. Nuclear Material Releases to the Environment

This measure indicates the effectiveness of the NRC's nuclear material environmental regulatory programs. Exceeding the applicable regulatory limits is defined as a release of radioactive material that causes a total effective radiation dose equivalent to individual members of the public greater than 0.1 roentgen equivalent man (rem) in a year, exclusive of dose contributions from background radiation. There were no nuclear material releases to the environment that exceeded regulatory limits in FY 2012.

## STRATEGIC GOAL 2: SECURITY

Ensure Adequate Protection in the Secure Use and Management of Radioactive Materials

### STRATEGIC OUTCOMES

The NRC has the following strategic outcomes associated with its goal to ensure the secure use and management of radioactive materials:

- Prevent any instances where licensed radioactive materials are used domestically in a manner hostile to the security of the United States.
- Prevent unauthorized public disclosures of classified or Safeguards Information through quality measures.

The strategic outcomes specify the conditions that must be met for the agency to achieve its Security goal. In FY 2012, the NRC achieved its Security goal strategic outcomes.

### PERFORMANCE MEASURES

The NRC also uses annual performance measures to assess whether the agency met its Security goal. Performance measures are aligned at a lower risk level than the strategic outcomes. As a result, not fully achieving a performance measure may not represent an adverse security impact on the public or environment. Missing a performance measure signals that security levels may have deteriorated at the agency strategic planning level. If the agency misses a performance measure, the agency will take corrective actions to bring the measure back into the target range. Table 4 shows the agency's annual Security performance measures and results of FY 2007-2012.

Table 4

**FY 2012 SECURITY GOAL PERFORMANCE MEASURES**

**1. Number of unrecovered losses or thefts of risk-significant<sup>7</sup> radioactive sources**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	1 <sup>8</sup>	0

<sup>7</sup>“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.” Excluded from reporting under this criterion are those events involving sources that are lost or abandoned under the following conditions: (1) sources abandoned in accordance with the requirements of 10 CFR 39.77(c); (2) recovered sources with sufficient indication that doses in excess of the reporting thresholds specified in AO criterion I.A.1 and I.A.2 did not occur during the time the source was missing; (3) unrecoverable sources lost under such conditions that doses in excess of the reporting thresholds specified in AO criterion I.A.1 and I.A.2 were not known to have occurred; (4) other sources that are lost or abandoned and declared unrecoverable for which the agency has made a determination that the risk-significance of the source is low based upon the location (e.g., water depth) or physical characteristics (e.g., half life, housing) of the source and its surroundings; (5) where all reasonable efforts have been made to recover the source; and (6) it has been determined that the source is not recoverable and will not be considered a realistic safety or security risk under this measure. (This includes licensees under the Agreement States)

<sup>8</sup>There were no losses and one theft of radioactive nuclear material that the NRC considered to be risk significant during FY 2011.

**2. Number of substantiated<sup>9</sup> cases of 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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>9</sup>“Substantiated” means a situation where any indication of loss, theft, or unlawful diversion cannot be refuted following an investigation and requires further action on the part of the agency or other proper authorities.

<sup>10</sup>A formula quantity of special nuclear material is defined in 10 CFR 70.4.

<sup>11</sup>“Radiological sabotage” is defined in 10 CFR 73.2.

**3. Number of substantiated losses of formula quantities of special nuclear material or substantiated inventory discrepancies of a formula quantity of special nuclear material that are judged to be caused by theft, diversion, or by substantial breakdown of the accountability system**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

Table 4

**FY 2012 SECURITY GOAL PERFORMANCE MEASURES** *(continued)*

**4. Number of substantial<sup>12</sup> 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**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	≤1	≤1	≤1	≤1	≤1	≤1
Actual:	0	0	0	0	0	0

<sup>12</sup>A “substantial breakdown” is defined as a red finding in the security cornerstone of the reactor oversight process, or any plant or facility determined to either have overall unacceptable performance, or 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.

**5. Number of significant unauthorized disclosures of classified and/or Safeguards Information<sup>13</sup>**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	0	0	0	0	0	0
Actual:	0	0	0	0	0	0

<sup>13</sup>“Significant unauthorized disclosure” is defined as a disclosure that harms national security or public health and safety.

**FY 2012 SECURITY PERFORMANCE MEASURES RESULTS**

**1. Unrecovered Losses or Thefts**

This measure tracks any loss or theft of radioactive nuclear sources that the NRC has determined to be of significant risk. The measure tracks the agency’s performance in ensuring the proper accounting for radioactive sources of significant risk that could be used for malicious purposes. There were no losses or thefts of radioactive nuclear material that the NRC determined to be risk-significant during FY 2012. This is an improvement over FY 2011, when one risk-significant source was lost.

**2. Thefts or Diversion**

This measure tracks whether NRC-licensed facilities maintain adequate protective capabilities to prevent theft or diversion of nuclear material or sabotage that could result in substantial harm to the public health and safety. No incidents of this nature took place during FY 2012.

**3. Loss or Inventory Discrepancy**

This measure tracks whether special nuclear material is accounted for and that losses of this material do not occur that could lead to the creation of an improvised nuclear device or other type of

nuclear device. The measure also tracks whether the systems in place at NRC-licensed facilities maintain accurate inventories of the special nuclear material that the facilities process, use, or store. In FY 2012, no losses of formula quantities of special nuclear material occurred.

**4. Substantial Breakdowns of Physical Security**

This measure tracks any breakdowns in access control, containment, or accountability systems that significantly weakened the protection against theft, diversion, or sabotage for nuclear materials the agency has determined to be of significant risk. No substantial breakdowns in physical security took place in FY 2012.

**5. Significant Unauthorized Disclosures**

This measure includes significant unauthorized disclosures of classified or Safeguards Information that causes damage to national security or public safety. This measure tracks whether information that can harm national security (classified information) or cause damage to the public health and safety (SGI) has been stored and used in such a way as to prevent its disclosure to the public, terrorist organizations, other nations, or personnel without a need to know. No incidents of this nature happened during FY 2012.



## NUCLEAR REACTOR SAFETY PROGRAMS

The NRC engages in a comprehensive regulatory program that oversees the activities of its licensees. The core of its regulatory program is its licensing, oversight, research, rulemaking, and international activities. Following is a description of the safety and security activities during FY 2012 that resulted in achievement of the Safety and Security goals, strategic outcomes, and performance measure targets for Operating Reactors and New Reactors activities.

The NRC's international responsibilities include: participation in activities that support U.S. Government compliance with international treaties and agreements; export and import licensing of nuclear facilities, equipment, and materials; programs of bilateral nuclear cooperation and assistance; and multinational nuclear safety organizations such as the International Atomic Energy Agency (IAEA) and the Organization for Economic Cooperation and Development's Nuclear Energy Agency (NEA). The agency is also the U.S. representative to the IAEA's Nuclear/Radiation, Transportation/Waste Safety Standards Committee and NEA's technical standing committees.

### OPERATING REACTORS

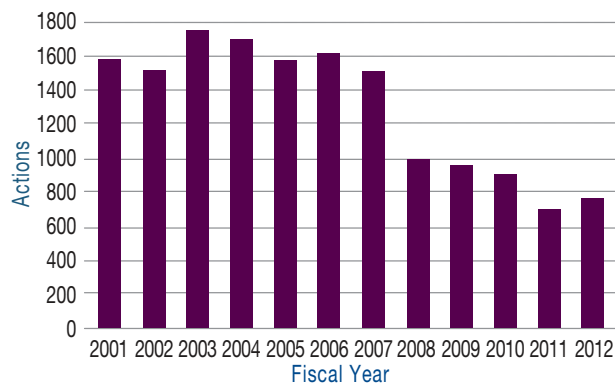
#### OPERATING REACTORS LICENSING

##### *Licensing Activity*

The agency's nuclear reactor licensing activity ensures that civilian nuclear power reactors and test and research reactors are operated in a manner that adequately protects public health and safety and the environment while safeguarding radioactive material used in nuclear reactors. Licenses establish specific technical and operating standards for individual licensees.

In FY 2012, the NRC completed 770 reactor licensing actions (see Figure 13). There has been a decrease in licensing actions since 2007 with the completion of the security enhancements in response to the terrorist attacks of September 11, 2001. With the implementation of these enhancements, the agency does not expect licensing action submittals for operating reactors to return to the FY 2001 – FY 2007 levels. The resources employed toward this effort have been shifted to the new reactor licensing activities.

Figure 13  
LICENSING ACTIONS COMPLETED



The NRC completed 96 percent of the licensing actions in the agency's inventory within one year of receipt and 100 percent within two years.

##### *Power Uprates*

The NRC also evaluates nuclear reactor power uprate applications, which allow licensees to safely increase the power output of their plants. The NRC review focuses on the potential impacts of the proposed power uprate on overall plant safety and confirms that plant operation at the increased power level is safe. The NRC approved five power uprates in FY 2012. The NRC has approved 146 power uprates to date, representing 20,470 Megawatt thermal (MWt) or 6,823 Megawatt electric (MWe) (the equivalent of about seven large nuclear power plants). Currently, 16 plant-specific power uprate applications are under review, which would add an additional 3,466 MWt or 1,155 MWe to the Nation's electrical grid.

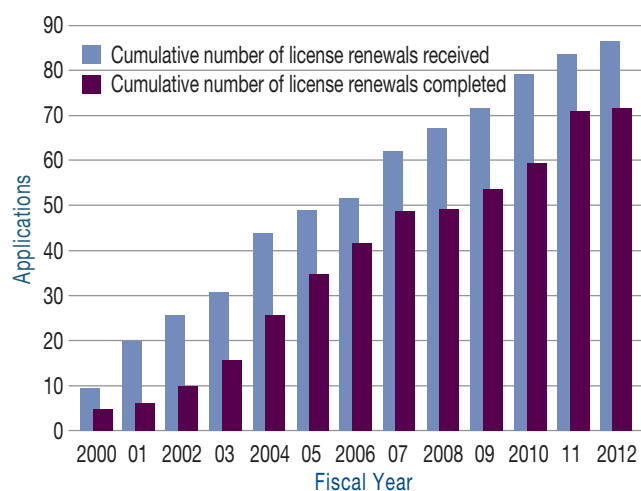
##### *License Renewal*

The NRC grants reactor operating licenses for 40 years, which can be renewed for additional 20-year periods. The review process for renewal applications is designed to assess whether a reactor can continue to be operated safely during the extended period. To renew a license, the utility must demonstrate that aging will not adversely affect passive, long-lived structures or components important to safety during the renewal period. Additionally, the agency assesses the potential impacts of the extended period of operation on the environment. Inspectors travel to the nuclear reactor facility to verify the information in the licensee renewal application and confirm

that aging management programs have been or are ready to be implemented. Following the safety review, the NRC prepares and makes available to the public a safety evaluation report.

The NRC has received applications to renew the licenses for 86 units at 53 sites since the license renewal program began in 2000 (see Figure 14). The agency has renewed licenses for 73 units at 44 sites during that time. The NRC is currently reviewing applications to renew the licenses for 13 units at nine sites. The agency expects that nearly all licensees of currently licensed units will eventually apply to renew their licenses.

**Figure 14**  
**LICENSE RENEWAL APPLICATIONS**



## OPERATING REACTORS OVERSIGHT

### *Nuclear Reactor Inspection*

The NRC provides continuous oversight of nuclear reactors through the Reactor Oversight Process (ROP) to verify that nuclear plants are operated safely and in accordance with the agency’s rules and regulations. The NRC performs a rigorous program of inspections at each plant and may perform supplemental inspections and take additional actions to ensure that the plants address significant safety issues. The NRC has at least two full-time resident inspectors at each nuclear power plant site to ensure that facilities are meeting NRC regulations. Inspectors from NRC regional offices and headquarters are also utilized in the inspection program. The NRC has full authority to take action to protect public health and safety, up to and including shutting the plant down. The NRC also conducts public meetings with licensees to discuss the results of the agency’s assessments of their safety performance.



*NRC inspection of a nuclear plant*

The NRC evaluates both inspection findings and performance indicators to assess the performance of each operating nuclear power plant. In FY 2011 and FY 2012, more than 99 percent of plant performance indicators were rated green, which is the highest safety rating. In addition, the industry trend indicators for nuclear plants as a whole showed no adverse trends. The results of NRC inspection findings for each plant are documented in inspection reports and are available on the NRC Web site: [http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/listofrpts\\_body.html](http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/listofrpts_body.html).

All of the Nation’s nuclear power plants operated safely. However, one plant remained in the multiple/repetitive degraded cornerstone column of the action matrix: Browns Ferry Unit 1. In addition, Fort Calhoun Station is currently under a special oversight process outside the normal performance assessment program.

Browns Ferry Unit 1 remains in the multiple/repetitive degraded cornerstone column of the action matrix since transitioning in the 1<sup>st</sup> quarter of FY 2011 because of one red finding involving the failure to establish adequate testing programs to ensure that motor-operated valves remain capable of performing their safety functions. Because their testing program was inadequate, the licensee failed to detect a valve failure that rendered one loop of the low pressure coolant injection system incapable of fulfilling its safety function. Additional inspections at Browns Ferry are ongoing.

The NRC enhanced its regulatory oversight of Fort Calhoun Station in the 1<sup>st</sup> quarter of FY 2012 to address several performance issues that were identified during an extended

shutdown of the plant. Fort Calhoun Station initially shut down for a scheduled refueling outage in April 2011, but that outage was subsequently extended to address longstanding technical issues, as well as issues associated with the Missouri River flooding that affected the plant from June through September 2011. Because the identified performance issues will require additional attention, oversight of Fort Calhoun will be in accordance with the guidance in Inspection Manual Chapter 0350, “Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns,” rather than the normal assessment program.

The NRC modified its regulatory inspection plan within the Reactor Oversight Process at both San Onofre Nuclear Generating Station and Crystal River Nuclear Generating Plant due to extended shutdowns to address technical issues. The NRC has continued to monitor and inspect both Crystal River and San Onofre in accordance with NRC Inspection Manual Chapter 0351, “Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Significant Performance Problems.”

San Onofre Nuclear Generating Station, Units 2 and 3, are currently in an extended shutdown to address unusual degradation of tubes in recently installed steam generators. On January 31, 2012, a small steam generator tube leak was detected in Unit 3 after approximately one year of operation with its replacement steam generators. Subsequent steam generator testing identified significant and unexpected tube wear in both steam generators, and eight tubes in one Unit 3 steam generator that had failed to maintain structural integrity requirements. Unit 2, which was already shutdown in a refueling outage after operating with its new steam generators for 21 months, was undergoing required steam generator tube inspections at the time of the tube failure in Unit 3. Subsequent tube inspections in Unit 2 revealed higher than expected wear. On October 3, 2012, Southern California Edison informed NRC of their readiness to restart Unit 2 in response to the NRC Confirmatory Action Letter issued on March 27, 2012. The NRC is currently assessing Southern California Edison’s response.

Crystal River Nuclear Generating Plant, Unit 3, is currently in an extended shutdown status to address delamination of the containment building concrete. On October 2, 2009, while

creating the opening for steam generator replacement, workers discovered an unexpected crack, or separation, about 10 inches from the outer surface of the concrete wall. The steel liner is intact and undamaged. The degraded condition of the concrete wall did not represent an immediate safety concern because the plant was shut down. The damaged wall section was repaired in 2010 but further damage has since been noted. The reactor remains in a defueled condition, with all fuel stored in the spent fuel pool.

The NRC assesses the ROP on an annual basis. The calendar year 2011 ROP self-assessment confirmed that the agency’s ROP met its goal of conducting an objective, risk-informed, and predictable regulatory process that focuses NRC and licensee resources on aspects of plant performance that have the greatest impact on safe plant operations. That ROP self-assessment report is available on the NRC Web site: <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/2012/2012-0055scy.pdf>. More information on reactor inspection is also available on the NRC Web site: <http://www.nrc.gov/reactors/operating/oversight.html>.

### *Investigations and Enforcement*

The NRC will not permit licensees to continue to conduct licensed activities if they cannot achieve and maintain adequate levels of safety. During FY 2012, the NRC opened 110 investigations of potential wrongdoing involving Operating Reactors. The agency issued 44 escalated enforcement actions, some of which involved a civil penalty. Of these, two involved civil penalties totaling \$140,000 in proposed fines. Escalated enforcement actions include all notices of violation (NOV) categorized at severity level of I, II, or III; those NOVs associated with a white, yellow or red finding as categorized by the Reactor Oversight Process; and all enforcement related orders. These actions were assessed to operating reactor licensees, their contractors, or individuals. Allegations of reactor-related wrongdoing are referred to the Office of Investigations for appropriate action.

### *Fukushima Regulatory Review*

After the accident at Fukushima Dai-ichi, the Commission directed NRC staff to conduct a systematic and methodical review of NRC processes and regulations to determine whether the agency should make additional improvements to its

regulatory system, and to provide recommendations to the Commission for its policy direction. The NRC's Near-Term Task Force developed recommendations related to lessons learned from the Fukushima Dai-ichi event and published its report on July 12, 2011. Following the issuance of this report, the NRC staff prioritized the report's recommendations and provided this prioritization for Commission approval in two Commission papers dated September 9 and October 3, 2011. The Commission approved the NRC staff's prioritization by Staff Requirement Memorandums dated October 18 (SECY-11-0124) and December 15, 2011 (SECY-11-0137).

Several of the recommendations were deemed necessary for the staff to address without unnecessary delay. They included: flooding and seismic walkdowns and reevaluations, mitigating strategies for beyond design basis events, reliable hardened vents for Mark I and II containments, enhanced spent fuel pool instrumentation, and emergency preparedness regulatory actions. NRC staff initiated work to take regulatory action within one year of the Fukushima Dai-ichi event. On March 12, 2012, the agency transmitted three orders and a request for information to all reactor licensees to address the aforementioned issues. In May 2012, staff issued implementation guidance related to the seismic and flooding walkdowns and emergency preparedness issues addressed in the agency's request for information. In August 2012, staff issued implementation guidance to enable U.S. nuclear power plants to achieve compliance with each of the orders related to the implementation of mitigating strategies for beyond design basis events, installation of reliable hardened vents for Mark I and II containments, and addition of enhanced spent fuel pool instrumentation. Agency staff developed this guidance through engagement of stakeholders in a series of public meetings on each of the orders and request for information.

On July 13, 2012, staff provided the Commission with their plans for continued evaluation of longer-term activities associated with the lessons learned from the Fukushima Dai-ichi event. The plans are intended to provide a roadmap for what actions or studies the agency should complete to be able to make an informed decision to either pursue further regulatory action, or to conclude that the current regulatory approach is sufficient, for each item.

### OPERATING REACTORS RULEMAKING

Effective in December 2011, the NRC changed its emergency preparedness regulations to enhance emergency preparedness requirements. Among the changes in the rule are limitations on the duties of a plant's onsite emergency responders to ensure they are not overburdened during an emergency event and requirements to incorporate hostile-action-based scenarios in the drills and exercise programs. In addition, the new rule requires nuclear power plant licensees to update their evacuation time estimates after every U.S. Census or when changes in population would increase the estimate by either 25 percent or 30 minutes, whichever is less (see also Operating Reactors Event Response section of this report).

The NRC published in the *Federal Register* a final rule with correcting amendments involving American Society of Mechanical Engineers (ASME) Codes and New and Revised ASME Code Cases. The final rule for enhancements to emergency preparedness (EP) regulations was published in the *Federal Register* by the NRC, to amend certain EP requirements governing domestic licensing of production and utilization facilities. This final rule codifies certain voluntary protective measures contained in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," and generically applicable requirements similar to those previously imposed by Commission orders. The NRC published, in the *Federal Register*, a final rule to amend its regulations to require non-power reactor (NPR) licensees to obtain fingerprint-based criminal history records checks before granting any individual unescorted access to their facilities. This action complies with the requirements of Section 652 of the *Energy Policy Act of 2005* (EPA), which amended Section 149 of the *Atomic Energy Act of 1954*, as amended (AEA), to require fingerprinting and a Federal Bureau of Investigation (FBI) identification and criminal history record checks of individuals permitted unescorted access to a utilization facility. Further, the NRC released the regulatory basis and preliminary proposed rule language for the proposed rule regarding work hour controls for Quality Control / Quality Verification personnel at nuclear power plants.

The NRC also undertook two regulatory actions, in the form of Advance Notices of Proposed Rulemaking (ANPR), stemming

from the NRC's lessons-learned efforts associated with the March 2011 Fukushima Dai-ichi Nuclear Power Plant accident in Japan. The first ANPR began the process of considering amendments to agency regulations addressing a condition known as station blackout (SBO). SBO involves the loss of all onsite and offsite alternating current power at a nuclear power plant. The ANPR sought public comment on specific questions and issues with respect to possible revisions to agency requirements for addressing SBO conditions and to develop new SBO requirements and the supporting regulatory basis. The second ANPR began the process of potentially amending NRC regulations to strengthen and integrate onsite emergency response capabilities. Specifically, the agency sought public comment on questions and issues regarding possible revision of the NRC's requirements for onsite emergency response capabilities, and development of both new requirements and the supporting regulatory basis.

### OPERATING REACTORS RESEARCH

The NRC research program addressed key areas that support the agency's safety mission. Some of the more important issues addressed include: verification and validation of fire safety models; evaluation of material degradation of reactor system and pressure boundary components, especially as it relates to license renewal periods; material degradation research on decommissioning facilities focused on long-term performance of concrete and soil materials used as barriers; evaluation of digital systems to analyze failure modes; research on hazards from natural events, including seismic hazard issues, flooding, and tsunami events; advanced reactor research; development of advanced tools for probabilistic risk assessment activities that support risk-informed regulatory decision-making; severe reactor accident consequence analyses; and maintaining the NRC's Generic Issues Program.

#### *Fire Safety*

The NRC has continued conducting collaborative research to develop state-of-the-art methods, data, and tools in support of regulatory activities related to fire protection and fire risk analyses. This collaborative research has included participation from the Electric Power Research Institute (EPRI), the National Institute of Standards and Technology (NIST), Sandia and Brookhaven National Laboratories, and the University of Maryland. The NRC and EPRI continue to provide training on

NUREG/CR 6850, "EPRI/NRC-RES Fire PRA Methodology for Nuclear Power Facilities." This research has been the basis for NRC's advancement of risk-informed, performance-based fire protection requirements for facilities regulated by the agency. In FY 2012, key fire research included: hot shorting testing on direct current (DC) circuits and select fire testing of grouped electrical cables to better understand their heat release rate and flame spread characteristics, performance of metal and polymeric O-ring seals used in spent fuel shipping casks in beyond-design basis temperature excursions, and the effects of smoke on electrical equipment.

#### *Radiation Protection Research*

The ongoing radiation protection research program seeks to serve as an agency wide resource for technical and regulatory health physics information including development of implementation tools for state-of-the-art techniques in radiation protection and for recommendations on health physics policy. This research supports the agency in the areas of radiation protection, dose assessment, and assessment of human health effects for reactor licensing, emergency preparedness, and nuclear security activities.

#### *Materials Degradation*

The NRC continues to research materials degradation issues for currently licensed reactors and waste and decommissioning facilities. The purpose of this research is to identify susceptible materials and assess component-specific degradation mechanisms in existing reactors and waste and decommissioning facilities to ensure continued safe operation. The agency is also performing research on reactor internals to determine the effects of neutron fluence and thermal effects on the physical properties of reactor internal materials. The long-term performance of concrete and soil materials that are used to contain or restrict the movement of radioactive contaminants has been the research focus for decommissioning facilities. Cooperative work with the Department of Energy (DOE) and NIST has been particularly effective in improving the understanding of degradation mechanisms in concrete, and work with the U.S. Geological Survey (USGS) has proved invaluable in addressing degradation in covers on waste disposal sites. NRC, DOE and NIST are participants in the Cement Barriers Partnership, a five-year program being carried out under an Memorandum of Understanding (MOU) to which the three agencies are parties. The NRC contributed the results of a small research program at

NIST while DOE contributed substantial efforts at Savannah River National Laboratory and funded other work through commercial contracts. The MOU is up for consideration of renewal in 2013. The work mentioned with USGS refers to an interagency agreement with the USGS program at the University of Wisconsin. The primary work on clay covers, which challenged the assumptions used in early regulatory reviews, was completed in FY 2010. Current work is focused on erosion control for covers and is nearing completion. Work with NIST on alkali-silicate reaction was begun in FY 2012 as a scoping study and will be expanded in FY 2013 to develop an understanding of the effect of this degradation mechanism on long-term performance of concrete structures at nuclear power plants. The agency is also conducting research into potential technical issues, such as alkali-silica reaction in concrete that may challenge continued operation of existing commercial nuclear power plants in potential subsequent license renewal periods.

### *Digital Instrumentation and Control*

The NRC's research supports the licensing of new digital instrumentation and control systems intended for use in retrofits to operating reactors and for use in new and next-generation reactors. The agency is actively engaged in ongoing research involving identifying digital system failure modes and assessing digital system safety. New research projects will support development of regulatory review tools for diagnostic and prognostic applications, for review of automated software development tools, and for the potential application of the evidence-argument-claim structure (variously known as an assurance case or safety case) to systematize the safety evaluation of a complex digital instrumentation and control system.

### *Probabilistic Risk Assessment*

The NRC continues to research the development of advanced models, methods, and tools for probabilistic risk assessment (PRA) activities that support risk-informed regulatory decision-making. Specific examples include the application of dynamic simulation methods, improved calculational approaches for PRA software, and characterization of key sources of uncertainty in PRAs. The agency continues to maintain and update the Standardized Plant Analysis Risk (SPAR) models and the Systems Analysis Program for Hands-On Integrated Reliability Evaluations (SAPHIRE) computer code in support of the agency's risk-informed programs such as the accident sequence precursor program, incident investigation program,

and the significance determination process. The agency is also investigating methods to incorporate new digital instrumentation and control systems (hardware and software) into nuclear power plant risk assessments. In FY 2012, the NRC initiated a four-year project to develop a new site PRA study that will estimate the consequences of severe accidents for all modes of operation, all significant hazard categories, multi-unit considerations, and radiological sources beyond the reactor cores (e.g., spent fuel pool and dry cask storage).

### *Natural Hazards Research*

The NRC is researching seismic hazard issues to support the siting of new reactors and the evaluation of the seismic safety of existing nuclear facilities. In cooperation with academic institutions, other Federal and State agencies, and industry, the NRC is conducting a program to develop ground motion propagation and earthquake source zone models. The occurrence of recent earthquakes and the acquisition of a variety of new types of data have resulted in the need to develop new and updated seismic source and ground motion models. This is especially true in the central and eastern U.S. where the majority of the operating reactors are located and the level of previously existing data is the least robust. For example, due to the paucity of existing empirical ground motion data in this portion of the U.S., the addition of a relatively small number of recordings can lead to significant changes in existing ground motion models. Advanced work is needed to incorporate new data and improve the confidence in the new models so that they can be used in the safety evaluation of nuclear facilities.

The NRC is also conducting a study of potential tsunami sources and the resulting potential hazards to NRC-regulated facilities in collaboration with the U.S. Geological Survey and the National Oceanographic and Atmospheric Administration. The agency is using the results of this research to inform licensing decisions and update risk assessments.

The agency is also conducting research on flooding events, including estimating the severity of natural events such as coastal storm surge from hurricanes, local inland flooding from extreme precipitation events or combinations of precipitation, dam break, and/or seasonal snow melt. The NRC is contracting with the U.S. Army Corps of Engineers and the Department of Interior's Bureau of Reclamation to update databases and guidance documents that are more than 30 years old to support the use of the latest analytical techniques. The Corps of Engineers is

focused on the estimation of storm surge for the Gulf of Mexico and South Florida, which benefited from initiatives in their own agency's programs. The NRC has also placed a contract with the Engineer Research and Development Center, Corps of Engineers, to provide the technical basis for updating guidance on the design and evaluation of flood protection features for nuclear power plants. The agency is also updating information for selected areas of the country covered by the National Weather Service's Hydrometeorological Report 51 (HMR 51) for maximum precipitation events in the eastern U.S., where most new plants are planned. The NRC has placed a contract with the Bureau of Reclamation to provide information and analytical techniques that can be used to develop regional precipitation frequency estimates based on more recent storm information than used in the HMRs.

### *State-of-the-Art Reactor Consequence Analysis*

Through the State-of-the-Art Reactor Consequence Analyses (SOARCA) project, the NRC has developed an updated body of knowledge on the realistic outcomes of selected important severe reactor accidents for two pilot plants, Peach Bottom and Surry. The project combined up-to-date information about the plants' layouts and operations with local population data and emergency preparedness plans. This information was analyzed using state-of-the-art computer codes that incorporate decades of research into severe reactor accidents. Most of the modeling work for the SOARCA project has been conducted at Sandia National Laboratory. DOE has been kept in the loop throughout the SOARCA project, and also continues to benefit from the knowledge gained in this effort for their Fukushima forensic analysis. DOE and NRC continue to coordinate their modeling and simulation development efforts to avoid duplication and benefit from each others' work. However, DOE is working with industry on operational issues, and NRC, as a regulator, needs to maintain an independent analysis capability.

The NRC sought public comments on the SOARCA draft report in early 2012 and held three meetings to discuss the project with members of the public. The main findings of the SOARCA project fall into three basic areas: how a reactor accident progresses; how existing systems and emergency measures can affect an accident's outcome; and how an accident would affect the public's health. The project's results include: (1) existing resources and procedures when effectively implemented can stop an accident, slow it down or reduce its impact before it can affect public health; (2) even if accidents proceed without

effective intervention, they take much longer to happen and release much less radioactive material than earlier analyses suggested; and (3) the analyzed accidents would cause essentially zero immediate deaths and only a very, very small increase in an individual's risk of a long-term cancer death relative to the average risk of cancer death for an individual in the U.S. from all causes. The agency issued the SOARCA Report (NUREG-1935) and supporting NUREG/CR-7110 Volume I, "Peach Bottom Integrated Analysis," and Volume 2, "Surry Integrated Analysis," and NUREG/BR-0359, "Modeling Potential Reactor Accident Consequences in FY 2012.

### *Human Reliability Analysis Research*

The NRC continues to develop state-of-the-art human reliability analysis (HRA) methods and models. For methods analysis, the agency has performed method benchmarking in both international and domestic studies. In addition, to develop a data basis for the HRA methods, the agency initiated a cooperative data collection activity and developed a data collection methodology/database. The agency is currently piloting this data collection methodology at an NRC-licensed facility and soliciting collaboration with U.S. and international partners. Incorporating the lessons learned from the benchmarking and data collection activities and a fire HRA completed in 2012, the agency is developing a new HRA method for agency use.

### *Generic Issues Program*

The NRC's Generic Issues Program enables the public and NRC staff to raise issues with significant generic safety or security implications to ensure that those potential safety and security issues are considered through an effective, collaborative, and open process, and that pertinent information is disseminated. The NRC's Generic Issues Program complies with Section 210, "Unresolved Safety Issues (USIs)," of the *Energy Reorganization Act of 1974*, as amended through Public Law 95-209, which required the NRC to "develop a plan providing for specification and analysis of unresolved safety issues relating to nuclear reactors." Agency staff has processed 29 generic issues since a 2007 revision of the process for handling them. The improved process has resulted in more effective and timely implementation of regulatory actions toward resolution. In FY 2012 the NRC concluded that safety issues associated with Generic Issue 186, "Potential Risk and Consequences of Heavy Load Drops in Nuclear Power Plants," were addressed and closed this issue.

### OPERATING REACTORS INTERNATIONAL ACTIVITIES

In August 2012, the NRC participated in the Second Extraordinary Meeting of the Convention on Nuclear Safety (CNS), which was held at the International Atomic Energy Agency (IAEA) in Vienna, Austria. The objective was to review and discuss lessons learned from the accident at Fukushima Dai-ichi. Over 600 people participated in the meeting, representing 64 of the 75 contracting parties to the Convention. There were six topic areas pertaining to Fukushima discussed during working sessions. The importance of sharing lessons learned from the Fukushima Dai-ichi accident was stressed during the closing session of the meeting, which was open to the public and members of the media.

New arrangements of cooperation and assistance were signed with the regulatory bodies in India, Russia, Thailand, and Turkey, and the nuclear research organization in Germany. Existing arrangements were renewed with the regulatory bodies of Armenia, Bulgaria, Canada, Hungary, Mexico, and Switzerland.

The agency continues an active program for bilateral cooperation and assistance. For example, in the area of cooperation, the agency continued bilateral technical exchanges with China on the regulatory aspects for the first-of-a-kind design, construction, and future initial operation of the Westinghouse Advanced Passive 1000 (AP 1000) nuclear power plants in China.

The staff continues to benefit from frequent dialogue with its counterparts in a multinational context, including exchanges of information, best practices, and global lessons learned. The NRC also benefits from participation in the IAEA standards development process, which enables the staff to influence international guidance and consider improvements in the domestic regulatory regime.

Representatives from a variety of NRC offices participate in IAEA safety standards committees, the IAEA Commission on Safety Standards (CSS), the Nuclear Energy Agency (NEA) Steering Committee, NEA technical committees and associated working groups, and numerous ongoing NEA research activities and IAEA safety, and security and safeguards activities. The staff works closely to promote a complementary relationship between the activities of each organization and discourage duplication.

The staff continues to be successful in influencing the content of IAEA safety and security documents as well as the IAEA's approach to document development. Consistent with NRC's regulations and operating practices, the staff has supported a strong safety/security interface at the IAEA, including a comprehensive process for document development with a rigorous and effective review by senior international technical experts. NRC staff participates in approximately 100 IAEA meetings each year on a variety of technical topics.

The NRC continued its expansion of engagement on establishing a basic regulatory infrastructure needed for oversight of nuclear power programs with additional countries in Africa, Europe, the Middle East, and Southeast Asia. The NRC also strongly supports the IAEA's peer review services, having hosted both an Integrated Regulatory Review Service (IRRS) mission and numerous Operational Safety Review Team (OSART) missions in the United States and providing senior experts to participate in missions in other countries. The most recent U.S. OSART was held at the Seabrook Station in New Hampshire in June 2011 with a follow-up mission planned for FY 2013, and the NRC has recently submitted a letter to IAEA formally requesting an IRRS follow-up mission in the U.S. in FY 2014.

Following the Fukushima accident, the NRC has collaborated closely with other U.S. Government agencies in support of the IAEA's Action Plan for Nuclear Safety. The staff has participated in each of the topical International Experts Meetings that IAEA has organized under the Plan. The NRC has also supported other U.S. Government agencies in making commitments in support of the IAEA at a ministerial level.

The NRC continues to benefit from its work at the NEA and holds leadership positions in a number of NEA committees and working groups. The NEA's membership is comprised of countries with mature nuclear programs and regulatory organizations, which facilitates beneficial dialogue on detailed technical topics. The NEA's research activities enable multiple countries to benefit from research conducted in a single location, which promotes cooperation and efficient use of limited resources. Some of the most significant work is done with the Halden Reactor Project, a program of research covering a broad range of areas including fuels, materials, digital systems, human factors, and human reliability. The Halden Facility is a diverse center of excellence, unique in the nuclear arena.



### OPERATING REACTORS EVENT RESPONSE

The NRC's emergency preparedness and incident response activities ensure that adequate measures can and will be taken to mitigate plant events, to minimize possible radiation doses to members of the public, and to ensure that the agency can respond effectively to events at licensee sites.

The NRC was actively involved in several exercises in FY 2012. The agency participated in the national level exercise series (NLE 12), the annual continuity of operations exercise (Eagle Horizon 12) for Federal executive branch departments and agencies, and in several exercises with licensed facilities and affected States as a part of the NRC's ongoing response readiness program.

The Commission published a new rule requiring enhancements in emergency preparedness (EP) at nuclear power plants in late 2011 (<http://www.gpo.gov/fdsys/pkg/FR-2011-11-23/pdf/2011-29735.pdf>). This represents the first major EP rulemaking in 30 years. To support effective implementation of this new rule, staff issued licensing guidance, inspection procedures and associated enforcement guidance. In addition, staff collaborated with the Federal Emergency Management Agency (FEMA), in conducting five public forums around the country to provide licensees, state, local, and Tribal emergency planning personnel with information on implementation of the emergency preparedness rule changes and associated NRC and FEMA emergency preparedness guidance changes.

In April 2012, NRC and FEMA commenced a multi-year initiative to revise NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," one of the key guidance documents for developing and evaluating onsite and offsite emergency plans for nuclear power plants, and State and local governments. In order to solicit extensive stakeholder involvement throughout the revision process, two public meetings were held in August and September 2012 to obtain stakeholder input on emergency planning guidance topics and issues that should be addressed in the revised document.

Consistent with its policy to provide States with potassium iodide as requested, the NRC worked with States to replenish potassium iodide supplies to be used as a supplement to public protective actions within the 10-mile emergency planning zones around nuclear power plants.

The NRC completed its modernization of the Emergency Response Data System, which transmits real-time information from nuclear power plants to the NRC and State operations centers during declared emergencies. The modernization of this system enhances cyber security and reliability and includes improvements to the user interface.

### OPERATING REACTOR SECURITY

The NRC conducts a robust security inspection program within the security cornerstone of the agency's Reactor Oversight Process. The security cornerstone focuses on five key attributes of licensee performance: access authorization, access control, physical protection systems, material control and accounting, and response to contingency events. Through the results obtained from all oversight activities, including baseline security inspections and performance indicators, the agency determines whether licensees comply with NRC requirements and can provide high assurance of adequate protection against the design-basis threat for radiological sabotage. There were no substantial breakdowns of physical security at any commercial nuclear power plant.

The NRC regularly carries out force-on-force inspections at commercial operating nuclear power plants as part of its comprehensive security program. The agency uses these inspections to evaluate the effectiveness of security programs to prevent radiological sabotage. The agency conducts force-on-force inspections at least once every three years at each commercial nuclear power plant. Force-on-force inspections assess the ability of nuclear facilities to defend against the applicable design basis threat, which characterizes the adversary and against which licensees must design appropriate defenses, such as physical protection systems and response strategies. A force-on-force inspection includes tabletop drills and simulated combat between a mock commando-type adversary force and the site security force. During the attack, the adversary force attempts to reach and simulate damaging key safety systems and components at a nuclear power plant. During FY 2012, the agency completed 24 force-on-force inspections at nuclear power plants and one force-on-force re-inspection at a nuclear power plant.

The NRC continued to assess and address enhancements of current practices for granting unescorted access at nuclear power plants. The agency's activities included: facilitation of industry interactions with Federal agencies regarding suspicious activity

reporting to be incorporated in Nuclear Energy Institute, (NEI) 03-04, “Guideline for Plant Access Training,” installation of terminals at its headquarters for direct access to the industry’s information sharing database, and formalization of office procedures for screening information contained in the personnel access database system.

The NRC continued the enhancement of fitness-for-duty (FFD) policy and technical support of FFD-related rulemaking, licensing, and oversight of drug and alcohol requirements for all commercial power reactor and Category I fuel cycle licensees, and other groups (such as new reactor construction entities and contractor/vendors). A proposed rulemaking to lower drug cutoff levels and to test for designer-type drugs was coordinated with external stakeholders and will be presented for internal reviews and approval. Further, the staff completed a study on behavior observation programs implemented by organizations not affiliated with the commercial nuclear industry to analyze other factors and practices for potential inclusion in guidance.

### *Integrated and Coordinated Security Activities*

The NRC has working relationships with the Federal Bureau of Investigation (FBI), Department of Homeland Security (DHS), Nuclear Energy Institute (NEI), power reactor licensees, and Federal, State, and local law enforcement agencies to create integrated approaches to security within the nuclear sector. Together with its partners in the FBI, DHS, NEI, and industry, the NRC is working to develop a sustainable approach to integrated response activities that provides opportunities for law enforcement to plan and validate an effective tactical response to power reactors during a hostile-action based event. Integrated response activities for two power reactor sites were initiated in FY 2012 and will be completed FY 2013.

The NRC participated in many other nuclear sector activities under the National Infrastructure Protection Plan framework, and DHS’s partnership model under the Government Coordinating Council and Critical Infrastructure Partnership Advisory Council. The agency also contributed to national-level policy documents and initiatives such as the National Critical Infrastructure Prioritization Program, National Risk Estimate, and a draft Presidential Policy Directive.

### *Cyber Security*

In March 2009, the NRC issued Title 10 of the *Code of Federal Regulations* (10 CFR) 73.54, “Protection of Digital Computer and Communication Systems and Networks.” The cyber security rule applies to all operating power reactors and new reactor applicants. Licensees and applicants are required to provide high assurance that nuclear power plant safety, security, and emergency preparedness functions are adequately protected from cyber attacks up to and including the design-basis threat. The experience gained in developing this rule and its associated framework provides an approach for developing similar cyber security requirements for other categories of licensees. The NRC has developed a roadmap that reflects a graded approach to developing cyber security requirements commensurate with the inherent nuclear safety and security risks associated with each type of licensee and facility. Additionally, this roadmap aligns with the current NRC Strategic Plan, which states that the NRC will manage the risk to information and systems to ensure the integrity of cyber security at regulated facilities.

All operating reactor licensees submitted cyber security plans (CSP) to the NRC for review and approval by the required November 2009 date. The reviews for operating reactors are complete.

In October 2010, the Commission determined, as a matter of policy, that the NRC’s cyber security rule, 10 CFR 73.54, should be interpreted to include structures, systems, and components in the balance of plant that have a nexus to radiological health and safety at NRC-licensed nuclear power plants. In late 2010, leading into 2011, the agency developed a Standard Review Plan (SRP) to add consistency to the evaluation of licensee-submitted cyber security plans and implementation schedules. Using the SRP, the staff has approved cyber security plans for all commercial nuclear reactor licensees and has established cyber security program implementation milestones, which licensees must meet. The NRC staff has drafted guidance to licensees explaining how program implementation will be inspected in the form of a temporary instruction (TI) and is also developing a process to determine the significance of any inspection findings. The NRC plans to issue the TI in November 2012, the Significance Determination Process (SDP) in December 2012, and will conduct workshops with licensees prior to inspecting

program implementation. In early calendar year 2013, the NRC plans to begin inspecting cyber security program implementation at commercial nuclear power plants consistent with situations that require licensees to meet program implementation milestones.

### NEW REACTORS

The NRC reviews applications for new reactor facilities submitted by prospective licensees and issues standard design certifications, early site permits (ESPs), limited work authorizations, construction permits, operating licenses, and combined licenses, when appropriate. At present, the agency anticipates that these activities will involve new light-water reactor facilities in a variety of projected locations throughout the United States.

The NRC recently began an extensive inspection and licensing effort associated with the reactivation of the Tennessee Valley Authority's (TVA) Watts Bar Unit 2 Nuclear Power Plant. The agency issued a construction permit for this unit in 1973; however, construction was suspended in 1985. Watts Bar Unit 1 received a full power operating license in early 1996, and is presently the last power reactor to be licensed in the U.S. In August 2007, TVA informed NRC of its plan to resume construction of Watts Bar Unit 2. In FY 2011, the NRC continued its review of the operating license application, which TVA updated in March 2009, and assigned dedicated resident inspectors to monitor TVA's construction activities. The NRC is continuing its safety, environmental, physical security, and emergency preparedness reviews. The current schedule calls for the NRC to complete its review efforts in 2014.

### NEW REACTORS LICENSING

#### *New Reactor Design Certification*

The NRC issued two design certification (DC) amendments and continued reviewing three DC applications. By issuing a DC, the NRC approves a nuclear power plant design independent of an application to construct or operate a plant. A DC is valid for 15 years from the date of issuance, but can be renewed for an additional 10 to 15 years.

The agency issued DC amendments for the AP 1000 and for the Advanced Boiling-Water Reactor (ABWR). The purpose of the AP 1000 was to replace some combined license (COL)

information items and design acceptance criteria with specific design information, address the requirements in 10 CFR 50.150 (the Commission's aircraft impact rule), incorporate design improvements, and increase standardization of the design. The purpose of the ABWR amendment was to address the requirements in the Commission's aircraft impact rule. The NRC continued reviewing DCs for the General Electric Economic Simplified Boiling-Water Reactor Design, the AREVA Evolutionary Power Reactor, and Mitsubishi's U.S. Advanced Pressurized-Water Reactor. The NRC began reviewing two design certification renewals for the ABWR.

#### *Early Site Permits*

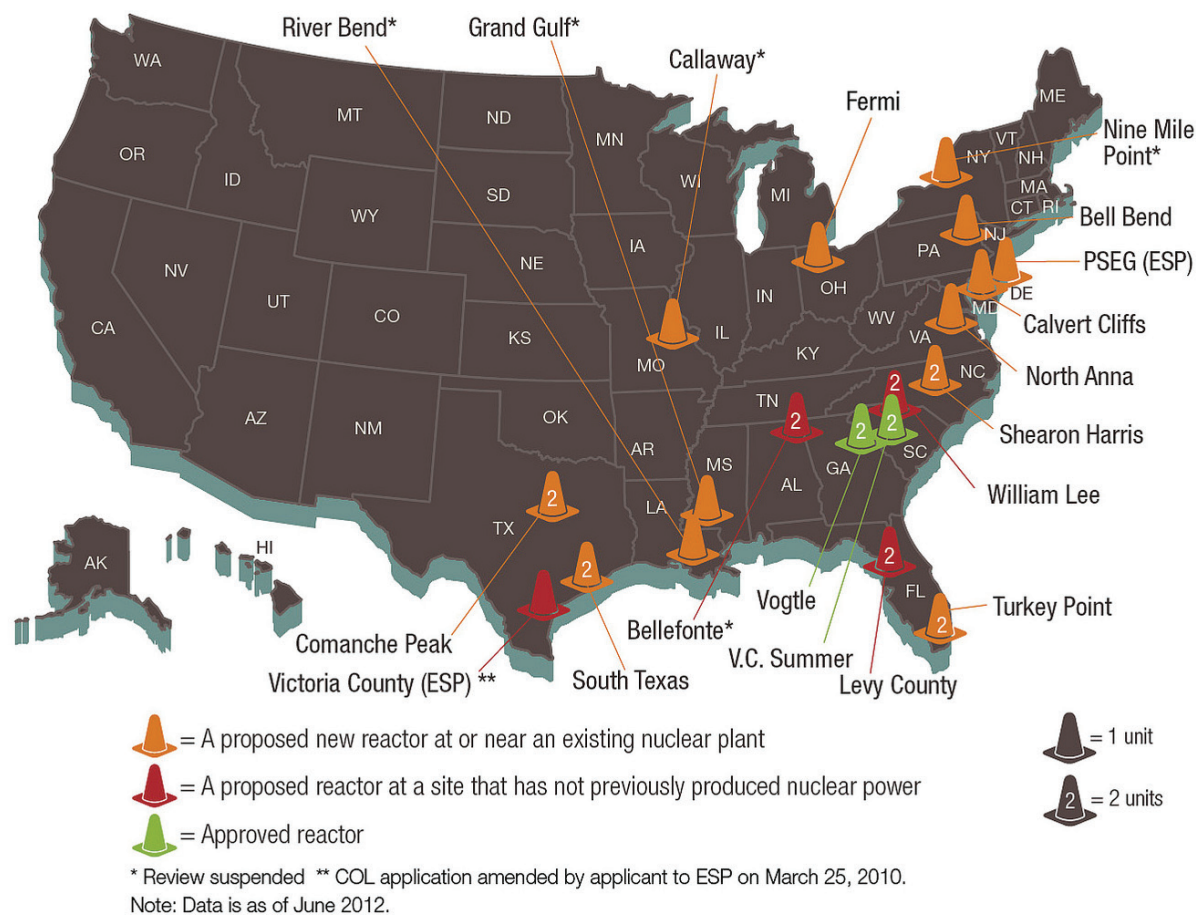
The NRC approves the site for a nuclear facility by issuing an ESP. ESPs are valid for 10 to 20 years and can be renewed for an additional 10 to 20 years. The agency review of an ESP application addresses site safety issues, environmental protection issues, and plans for coping with emergencies, independent of the review of a specific nuclear plant design.

The NRC continued its safety and environmental reviews of two ESP applications that were submitted in FY 2010. Specifically, the Victoria County Station ESP application submitted by Exelon Nuclear Texas Holdings, LLC, for a site located in Victoria County, TX, and the PSEG Power, LLC application, for a site adjacent to the Salem and Hope Creek Generating Stations now in operation in Lower Alloways Creek, Salem County, NJ. The NRC initiated pre-licensing activities for the Blue Castle ESP application expected in FY 2013. On August 28, 2012, Exelon Nuclear Texas Holdings, LLC, requested that its Victoria County Station ESP application be withdrawn. In its letter to the NRC, and in an August 28, 2012, press release, Exelon indicated that it based the decision to withdraw the Victoria County ESP application on a reassessment of the economic viability of new nuclear power plant construction in the merchant generation market, as well as other factors contributing to an unfavorable economic outlook.

#### *Combined License*

A COL authorizes construction and operation of a nuclear power plant. The application for a COL must contain essentially the same information required in applications for a construction permit and an operating license. The application must also describe the Inspections, Tests, Analyses, and Acceptance Criteria

**Figure 15**  
**Locations of New Nuclear Power Reactors Applications**



(ITAAC) that are necessary to ensure that the plant has been properly constructed and will operate safely.

The NRC review of COL applications ensures that the proposed new reactor designs and planned operations will be in accordance with NRC regulations for safety, security, and the environment. In FY 2012, the NRC issued the first-ever COLs for Vogtle Electric Generating Plant Units 3 and 4 and Virgil C. Summer Nuclear Station Units 2 and 3, along with limited work authorizations for Plant Vogtle. To date, the agency has docketed 16 other COL applications that have been filed by the nuclear power industry for sites across the country. Ten of the sixteen applications are being actively reviewed. In response to applicant requests, the agency has suspended the reviews of the other six applications: Grand Gulf, Callaway, Nine Mile Point, River

Bend, and Bellefonte. One of these applicants submitted an ESP application for a site located in Victoria County, TX, as noted above, and requested that the Victoria County Station COL be withdrawn after the acceptance of the ESP application. The agency did not receive any new COL applications in FY 2012. In FY 2012, the NRC completed the environmental review of the Levy County COL application through the issuance of the final environmental impact statement (FEIS).

The NRC continued to enhance the regulatory framework for COLs to clarify requirements for licensees. The agency issued the following two Interim Staff Guidance (ISG) documents for COLs: (1) ISG-22, "Impact of Construction (under a Combined License) of New Nuclear Power Plant Units on Operating Units at Multi-Unit Sites," (issued final); and (2) ISG-25,

“Changes During Construction Under Title 10 of the Code of Federal Regulations Part 52,” (issued for use and comment). The agency also issued the following five Standard Review Plan (SRP) Section Updates: (1) SRP 8.1, “Electric Power – Introduction,” (issued final); (2) Branch Technical Position (BTP) 8-8, “Onsite Emergency Diesel Generator and Offsite Power Sources Allowed Outage Time Extensions,” (issued final); (3) SRP 19.1, “Determining the Technical Adequacy of Probable Risk Assessment Results for Risk-Informed Activities” (issued final); (4) BTP 7-19, “Guidance for Evaluation of Diversity and Defense-in-Depth in Digital Computer-Based Instrumentation and Control Systems,” (issued final); and (5) SRP 19.5, “Adequacy of Design Features and Functional Capabilities Identified and Described for Withstanding Aircraft Impacts” (issued draft for comment).

### *Advanced Reactors*

The NRC continued to see growing commercial interest in the development and deployment of small modular reactors (SMRs). The NRC continued its efforts to prepare for the future reviews of SMR design and licensing applications. These preparation efforts include pre-application activities with vendors, development of the regulatory framework to support reviews of these new designs, and extensive outreach to external stakeholders.

The NRC held 30 pre-application meetings with SMR vendors to discuss technical topics associated with these designs. The NRC also conducted reviews of both technical and topical reports submitted by SMR vendors. The NRC expects that these activities will continue as vendors move closer to finalizing and submitting SMR applications for review.

The NRC made significant progress towards developing the regulatory framework to support SMR reviews. During this fiscal year, the NRC issued papers outlining approaches to resolve policy issues facing SMRs: (1) [SECY- 11-0184](#), “Security Regulatory Framework for Certifying, Approving, and Licensing Small Modular Nuclear Reactors,” dated December 29, 2011; (2) [SECY- 11-0181](#), “Decommissioning Funding Assurance for Small Modular Nuclear Reactors,” dated December 22, 2011; (3) [SECY-11-0178](#), “Insurance and Liability Regulatory Requirements for Small Modular Reactor Facilities,” dated December 22, 2011; (4) [SECY- 11-0156](#), “Feasibility of Including Risk Information in Categorizing Structures, Systems,

and Components as Safety-Related or Nonsafety Related,” dated November 2, 2011; and (5) [SECY- 11- 0152](#), “Development of an Emergency Planning and Preparedness Framework for Small Modular Reactors,” dated October 28, 2011. The NRC will continue its efforts to support timely resolution of these issues. The NRC has also made significant progress in the development of review guidance for the Babcock and Wilcox (B&W) mPower design. This review guidance is design specific, incorporates lessons learned from large, light-water reactor reviews, and incorporates risk insights to ensure effective and efficient reviews.

Consistent with the Department of Energy’s (DOE’s) decision not to proceed with phase 2 design activities for the Next Generation Nuclear Plant (NGNP), the NRC is no longer preparing for the future review of a high temperature gas-cooled reactor under this program. Instead, the NRC has been coordinating with the DOE on the resolution of some of the technical and policy issues identified under the NGNP project for generic applicability to other non-light-water reactor technologies.

In August 2012, the NRC provided a report to Congress (<http://www.nrc.gov/reading-rm/doc-collections/congress-docs/correspondence/2012/frelinghuysen-08-22-2012.pdf>) discussing the staff’s overall strategy for preparing to review advanced reactor designs. The report addresses licensing applications anticipated over the next two decades, as well as potential licensing activity beyond that time. It focuses on the licensing of nuclear reactor facilities for commercial use and illustrates regulatory challenges that may occur if various advanced reactor initiatives evolve into licensing applications.

### **NEW REACTORS OVERSIGHT**

The NRC has in place the structure and procedures required to conduct new reactor construction oversight for plants licensed under 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants,” and has begun executing construction inspection activities for Plant Vogtle Units 3 and 4 and V. C. Summer Units 2 and 3. The process for oversight of new reactor construction has been documented in Inspection Manual Chapters (IMCs) and inspection procedures. The staff has issued all necessary inspection procedures, drafted inspection plans and generic inspection schedules, and developed information technology (IT) systems to capture inspection results and track ITAAC closure. The agency continues to make significant

progress in the development and improvement of programs and procedures to support the inspection of activities occurring later in construction. These include procedures required for inspection of licensee operational readiness. These remaining procedures are in development and will be completed in time to support the inspection requirements for those applicants with the earliest construction schedules.

The NRC continues to refine its approach to ITAAC closure and maintenance of closed ITAAC submittals. The agency held several public workshops to solicit input and exchange views related to ITAAC completion, closure documentation, and ITAAC maintenance. Supported by the discussions in these workshops, the NRC staff has developed and issued Regulatory Guide (RG) 1.215, “Guidance for ITAAC Closure Under 10 CFR Part 52.” This RG endorses the industry guidance for ITAAC closure as documented in NEI 08-01, “Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52.”

NRC Region II in Atlanta, GA has established and staffed resident inspector’s offices at both the Plant Vogtle and V. C. Summer construction sites. Each office now has a construction senior resident inspector and two construction resident inspectors. In addition, the region sends construction inspectors from Region II to inspect construction activities at the sites. Both Plant Vogtle and V. C. Summer are fully engaged in construction activity. This year, Plant Vogtle Units 3 and 4 and V. C. Summer Units 2 and 3 construction activities were primarily focused on the construction of the nuclear island and the fabrication of primary containment and structural modules. The agency commenced inspections of licensee activities related to ITAAC including inspection of the licensees’ quality assurance programs, welding, security, and civil engineering activities.

Starting in January 2011, the NRC transitioned to an annual performance review cycle. The agency completed the first annual end-of cycle review that covered construction activities from January through December of 2011. The results of the construction assessment program were also discussed at the Agency Action Review Meeting on June 1, 2012. Plant performance for Plant Vogtle Units 3 and 4 for both review periods were within established parameters based on all inspection findings being categorized at Severity Level IV or

minor violations. The construction assessment process was initiated for Summer Units 2 and 3 in March 2012 with the issuance of the COL.

The NRC maintains a regular schedule of vendor inspections and an active program of international cooperation to support increased fabrication activities domestically and internationally in response to new reactor construction plans. The agency conducts these inspections to ensure the effective implementation of quality assurance program requirements imposed on vendors by NRC applicants and licensees. This fiscal year, inspection activities were mostly focused on type-testing and equipment qualification testing facilities to inspect AP 1000 technology development and construction activities of which the NRC completed 26 inspections.

Additionally, international cooperative efforts have included technical discussions with foreign regulatory counterparts, sharing vendor experience and other information with other countries, NRC inspector rotations to facilities under construction in other countries, and participation in the Multinational Design Evaluation Program (MDEP) and Committee on Nuclear Regulatory Activities Working Group on the Regulation of New Reactors. Exchanges such as these have provided key insights into each country’s methods of oversight and have enabled the agency to build a foundation of trust and a rapport for communicating and sharing key information and findings.

### NEW REACTORS RULEMAKING

The Commission affirmed the Westinghouse AP 1000 DC amendment final rule on December 22, 2011, and it became effective on December 30, 2011. In addition, the ABWR Aircraft Impact Assessment DC amendment became effective on January 17, 2012.

The NRC also developed a rulemaking to amend the regulations related to the verification of nuclear power plant construction activities through ITAAC under a COL. The new provisions in the amended rule require a licensee to report new information materially altering the basis for determining that inspections, tests, or analyses were performed as required or that acceptance criteria were met, and to notify the NRC of completion of all ITAAC activities. The final rule and Revision 1 of RG 1.215

(Draft Regulatory Guide 1.250), “Guidance for ITAAC Closure under 10 CFR Part 52,” was published.

### NEW REACTORS RESEARCH

Over the past several years, the NRC has focused its advanced reactor regulatory research efforts on high-temperature gas-cooled reactors (HTGRs) and, to a lesser extent, on SMRs that are categorized as integral pressurized-water reactors (iPWRs). Research on HTGRs included a focus on DOE’s congressionally-mandated NGNP program. Because only a few HTGRs have been licensed and operated, and none in the past two decades, the NGNP research was focused on developing a knowledge base that would support a potential NRC licensing review. DOE’s decision in 2011 to not proceed with phase 2 design activities related to NGNP licensing has resulted in redirection of NRC resources. A few nearly complete NGNP-related research projects are being completed, and the remainder of the planned NGNP research has been terminated. Research related to iPWR concepts continues, with a focus on closing knowledge gaps to support potential NRC licensing reviews of specific reactor designs.

### NEW REACTORS INTERNATIONAL ACTIVITIES

The NRC continues to support the development and implementation of programs to leverage the knowledge and resources within the international regulatory community in the licensing of new reactor designs. The agency continued its leadership role in the MDEP, through which regulatory authorities in 11 countries share expertise and resources in reviewing new reactor designs. The program consists of three issue-specific and three design-specific working groups. The NEA serves as technical secretariat for MDEP. The Digital Instrumentation and Controls Working Group, led by the United States, drafted common positions in digital instrumentation and controls system design. The Vendor Inspection Cooperation Working Group conducted several parallel inspections that involved more than one regulator and the Codes and Standards Working Group is completing a project to compare the pressure boundary codes of five member countries. The design-specific working groups, based on the Westinghouse AP 1000 and the AREVA Evolutionary Power Reactor designs, also established sub-working groups. Two additional design specific working groups are in the process of

being formed for the Veda-Vodyanoi Energetichesky Reaktor and APR-1400 designs. The Policy Group, which is the governing body of the program, modified the MDEP terms of reference to establish a process for additional countries to join. The revised terms of reference provide for two new types of membership, associate members and an MDEP candidate.

### NEW REACTORS SECURITY

New reactor applicants submit their cyber security plans (CSP) on a timeline that is consistent with their overall licensing application schedule. To date, at least one CSP for each of the five new reactor design centers (a design center is established for each new reactor design to facilitate the large volume of new reactors) have been received and reviewed by staff.

## NUCLEAR MATERIALS AND WASTE SAFETY PROGRAMS

The following sections describe the safety and security programs the NRC undertook during FY 2012 that resulted in achievement of its Safety and Security goals for Fuel Facilities, Nuclear Material Users, Spent Fuel Storage and Transportation, and Decommissioning and Low-Level Waste activities.

### FUEL FACILITIES

#### FUEL FACILITIES LICENSING

The NRC licenses and inspects all commercial nuclear fuel facilities that process and fabricate uranium concentrates into the reactor fuel that powers the Nation’s nuclear reactors. Licensing activities include detailed health, safety, safeguards, and environmental licensing reviews of licensee programs, procedures, operations, and facilities to ensure safe and secure operations.

During FY 2012, 111 fuel facility licensing actions were completed. The agency completed the review for the AREVA Enrichment Services license application for the Eagle Rock Enrichment Facility. The agency found the record sufficient and the staff review adequate to support the 10 CFR 30, 40 and 70 findings for license approval. The mandatory hearing for the FEIS was held in July 2011 in Idaho Falls, ID, and the license was issued to AREVA in October 2011.



*Fuel rod fabrication*

The agency completed the review for the General Electric-Hitachi license application for the Wilmington, NC laser enrichment facility, and issued the Safety Evaluation Report (SER) and FEIS in February 2012. The NRC staff concluded that the license application provides an adequate basis for safety and safeguards and that the operations from the proposed activities will not pose an undue risk to worker or public health and safety. The staff conducted a public meeting in May 2012, in Wilmington to discuss its findings in the FEIS and SER. The mandatory hearing was held in July 2012 in Rockville, MD. The Atomic Safety and Licensing Board (ASLB) issued its decision in September 2012, authorizing the NRC staff to issue the

appropriate licenses if all necessary findings have been made. The agency issued the license in September 2012.

In December 2010, the agency issued the final SER for the license application by Shaw AREVA MOX Services, LLC, to possess and use radioactive material at the mixed-oxide fuel fabrication facility at the DOE's Savannah River Site near Aiken, SC. The licensing hearing was held in March 2012. The ASLB made a ruling in June 2012. In that ruling the ASLB determined that additional information is needed from the applicant before the disposition of the contentions can be made.

A byproduct of uranium enrichment is depleted (i.e., reduced in the uranium-235 isotope) uranium hexafluoride. In May 2012, the agency issued the SER for the license application by International Isotopes Fluorine Products (IIFP) to construct and operate a facility to convert depleted uranium hexafluoride into an oxide form for ultimate disposal and to recover the fluorine for other commercial applications. The SER for IIFP was completed in May 2012 as [NUREG-2116](#). The FEIS was completed as [NUREG-2113](#) in August 2012, and the license was issued in October 2012.

### FUEL FACILITIES OVERSIGHT

The NRC's fuel cycle oversight process consists of both planned and reactive inspections with enforcement and periodic assessments based on the findings of these inspections. During FY 2012, 318 fuel facility inspection modules were completed. The agency has full authority to take action to protect public health and safety, up to and including shutting down the facility.

During an inspection of the Honeywell Metropolis Works facility, the inspectors identified concerns about the adequacy of the licensee's emergency response plan, required by 10 CFR Part 40.31. Specifically, the inspectors identified that the uranium hexafluoride ( $UF_6$ ) and hydrogen fluoride (HF) source terms used in the licensee's emergency response plan were potentially non-conservative. In response to the inspection, the licensee has conducted an initial analysis and concluded that changes to the emergency plan or facility modifications may be needed and has agreed to remain shut down until this concern has been adequately addressed.



### *Investigation and Enforcement*

The NRC will not permit licensees to conduct licensed activities if they cannot achieve and maintain adequate levels of safety and security. The agency assesses compliance, undertakes enforcement actions, and investigates potential willful violations. For fuel facilities, the agency has opened 11 investigations of potential willful wrong-doing and six escalated enforcement actions.

### FUEL FACILITIES RULEMAKING

In response to sustained industry interest in reprocessing spent nuclear fuel, the NRC continued to work on developing a technical basis for rulemaking to establish the regulatory framework for licensing a reprocessing facility. In FY 2009, the agency completed a review to identify and prioritize gaps in the existing regulations. During FY 2012, the agency continued to define the technical basis needed to support the development of proposed regulations to resolve the identified gaps and establish an effective and efficient regulatory framework. In August 2012, the Commission directed the staff to provide an assessment of activities associated with reprocessing and its recommendations regarding the need for continued efforts toward a rulemaking.

A proposed rule and draft guidance to require an Integrated Safety Analysis (ISA) for certain Part 40 facilities was published in the *Federal Register* on May 17, 2011. A public comment period ended in September 2011 and the staff considered public comments for the proposed Draft Final Rule. The Draft Final Rule is currently with the Commission for consideration.

### FUEL FACILITIES SECURITY

NRC personnel participated in Quadripartite Working Group and DOE meetings on the protection of sensitive information associated with the Louisiana Energy Services and AREVA enrichment facilities. The agency also developed a draft technical basis for a 10 CFR Part 73, rulemaking that focuses on fuel cycle facility security and considers material attractiveness and domestic and international stakeholder views. A proposed draft rulemaking is scheduled to be published for comment in FY 2014.

The NRC continued its efforts to monitor and inspect classified information security programs for uranium enrichment vendors and mixed-oxide facilities, including

readiness reviews at multiple fuel cycle facilities. These reviews included evaluation of physical and information system security at these sites, licensee contractors performing classified work, and foreign ownership, control, or influence considerations in support of the facility clearance.

The NRC regularly carries out force-on-force inspections at Category I fuel facilities as part of its comprehensive security program. The agency uses these inspections to evaluate the effectiveness of security programs to prevent theft or diversion of Category I material. The agency conducts force-on-force inspections at least once every three years at each Category I fuel facility. A force-on-force inspection includes tabletop drills and simulated combat between a mock commando-type adversary force and the site security force. During the mock attack, the adversary force attempts to reach and simulate stealing material at a Category I fuel facility. The agency completed one force-on-force inspection at a Category I fuel facility during FY 2012.

### NUCLEAR MATERIALS USERS

The NRC licenses and inspects the commercial use of nuclear material for industrial, medical, and academic purposes. Commercial uses of nuclear materials include medical diagnosis and therapy, medical and biological research, academic training and research, industrial gauging and nondestructive testing, production of radiopharmaceuticals, and fabrication of commercial products (such as smoke detectors) and other radioactive sealed sources and devices. The agency currently regulates about 2,900 specific licensees for the use of radioactive materials. Under NRC's Agreement State program, 37 States have assumed regulatory responsibility over approximately 18,900 licenses for the industrial, medical, and other users of nuclear materials in their States. The agency reviews the Agreement State programs as well as certain NRC licensing and inspection programs through the integrated materials performance evaluation program.

Detailed health and safety reviews of license applications, as well as inspections of licensee procedures, operations, and facilities, provide reasonable assurance of safe operations and the production of safe products. The NRC routinely inspects nuclear material licensees to ensure that they are using nuclear materials safely, maintaining accountability of those materials, and protecting public health and safety. The agency also analyzes

operational experience from NRC and Agreement State licensees and regularly evaluates the safety significance of events reported by licensees and Agreement States.

### NUCLEAR MATERIALS USERS LICENSING AND OVERSIGHT

The NRC completed 2,070 materials licensing actions and 890 routine health and safety inspections. The agency maintained its high standards with timely reviews of nuclear material license renewals and sealed-source and device designs. The agency completed 97 percent of new application and license amendment reviews within 90 days of receipt and 97 percent of license renewal and sealed-source and device design reviews within 180 days of receipt.

#### *Investigations and Enforcement*

During FY 2012, the agency opened 29 investigations of potential wrongdoing involving the use of nuclear materials.

### NUCLEAR MATERIALS USERS RULEMAKING

The NRC continued to amend its regulations that govern the licensing and distribution of byproduct materials aimed at making regulations clearer, more risk-informed, and up-to-date. An agency working group continued development of a proposed rule on 10 CFR Part 35. The rule will address: modifying preceptor attestation requirements; extending grandfathering to certified individuals that were named in Part 35 prior to October 25, 2005; naming associate or assistant radiation safety officers on an NRC medical-use license; and a likely change in the definition of a medical event, including revised reporting and notifications of medical events for permanent implant brachytherapy. The proposed rule is expected to be published in FY 2013 for public comment.

The Commission also approved a final rulemaking to amend regulations to establish requirements for the use of Category 1 and 2 quantities of radioactive material. Agency staff also provided a final rule to the Commission on general license provisions for source material.

The NRC also continued public outreach on possible changes to the radiation protection regulations in 10 CFR Part 20 that would increase alignment with international radiation protection recommendations. The staff provided the Commission with recommendations on the direction to pursue for a series of

technical issues. Among the recommendations was that the Commission approve the staff continuing to expend resources to develop a detailed regulatory basis for proposed rulemaking.

### NUCLEAR MATERIALS USERS INTERNATIONAL ACTIVITIES

The NRC issued final rules updating 10 CFR Part 110, "Export and Import of Nuclear Equipment and Material," to reflect the nuclear non-proliferation policy of the Executive Branch regarding U.S. Government obligations to the IAEA and to remove Oman from the list of restricted destinations.

The NRC completed reviews for, and issued as appropriate, 100 import/export licensing actions, three reviews of Executive Branch proposed subsequent arrangements, and 27 reviews of Executive Branch Proposed Part 810 approvals. The NRC participated in seven U.S. interagency bilateral physical protection visits to support export licensing. The NRC's import/export licensing reviews ensure that nuclear equipment and material are transferred to authorized parties consistent with applicable U.S. law and international obligations.

The NRC continued the program of assistance to the countries of Latin America and the former Soviet Union for regulatory controls over radioactive materials, including the establishment or enhancement of national source registries and review of national legislation. The NRC also began expansion of source-related assistance to countries of the Middle East. In January 2012, the NRC funded a second 9-month-long post-graduate program for radiation protection officers in Panama.

The NRC conducted workshops on the Physical Protection of Radioactive Sources in the Dominican Republic and in Tunisia for the Arab Atomic Energy Agency (regional workshop for 11 Arab countries). A workshop in Uruguay is planned in early FY 2013.

The NRC is engaged both domestically and internationally in efforts to enhance nuclear safety and security through the regulatory oversight of radioactive sources. The agency participated in numerous meetings of technical and legal experts on the IAEA's Code of Conduct for the Safety and Security of Radioactive Sources, both to ensure that its implementing guidance is clear and accurate and to encourage Member States that have not yet made a political commitment to implement the Code to do so. The agency also worked with other U.S.

Government agencies, such as the Department of State, Department of Energy, Department of Commerce, the National Security Council Staff, and the IAEA to develop international security guidance documents for radioactive sources.

### *International Security*

Two years ago, the President of the United States convened the first-ever Heads of State International Nuclear Security Summit. The objective of this Summit was to focus on how to better safeguard weapons-grade plutonium and uranium to prevent nuclear terrorism. A second Summit was held in Seoul, Republic of Korea on March 26 and 27, 2012. In support of U.S. Government commitments for the Seoul Summit and its policy of strengthening security over nuclear materials worldwide, the NRC will host an “International Regulators Conference on Nuclear Security” scheduled for December 4-6, 2012. This conference will discuss a range of activities relevant to enhancing regulatory approaches to security at civilian facilities and will share best practices among senior-level representatives from other Federal agencies, licensees, international counterparts, and NRC managers and staff.

The agency provided bilateral assistance associated with the export or import of Category 1 and Category 2 radioactive materials as defined by the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. The NRC continued its significant participation in implementing portions of the Code, as well as its participation in IAEA committees that are the nuclear security series fundamentals, recommendations, and guidance documents.

One of the most notable accomplishments was publication of INFCIRC/225, Revision 5, “Nuclear Security Recommendations on Physical Protection of Nuclear Materials and Nuclear Facilities.” After nearly five years of discussions with international partners, the agency’s involvement in these committees enhances security and public safety and contributes to international and domestic regulatory consistency. The NRC participated in the IAEA Nuclear Security Guidance Committee. The agency also participated, as part of a U.S. interagency team, in a number of visits to other countries in an effort to ensure that U.S.-origin nuclear material is receiving adequate physical protection in accordance with bilateral agreements. The NRC is finalizing a rulemaking change to its regulations pertaining to the export and import of nuclear materials and equipment. The rule change is

necessary to reflect the nuclear, non-proliferation policy of the Executive Branch, including U.S. Government obligations to the IAEA and its publication of INFCIRC/225/Revision 5.

### **NUCLEAR MATERIALS USERS SECURITY**

In collaboration with the Department of Homeland Security (DHS), DOE, and other Federal, State, and local agencies, the NRC continued to assess the potential use of risk-significant sources in radiological dispersal devices and to coordinate efforts to enhance radioactive source protection and security. The NRC also worked with Agreement States to implement requirements for licensees that enhance the security and control of risk-significant radioactive material, including development of an inspection program to verify the implementation of these measures.

The NRC staff participated in activities related to the Government Coordinating Council, which enables interagency and cross-jurisdictional coordination on critical infrastructure and key resources, including transportation and material security. The agency also participated in trilateral meetings with DHS and the DOE National Nuclear Security Administration to enable coordination among the participants on issues related to radioactive material security.

The NRC also implemented the National Source Tracking Rule, which requires licensees to report information on the possession of IAEA Category 1 and 2 radioactive sources (i.e., nationally tracked sources). The rule requires NRC and Agreement State licensees to report transactions involving the manufacture, transfer, receipt, disassembly, and disposal of nationally tracked sources. In FY 2012, licensees completed the second annual inventory reconciliation of their nationally tracked sources.

The National Source Tracking System, and the future Web-based Licensing System and License Verification System are key components of a comprehensive program for the security and control of radioactive material. The NRC is integrating all three systems into a common system environment and architecture to form an integrated source management system that will include information on all U.S. licensees and over 70,000 risk-significant radioactive sources possessed by approximately 1,400 licensees. The integrated system will provide licensees, regulators, and Federal agencies with an additional round-the-clock means of determining the legitimacy of individuals possessing or seeking

to obtain radioactive material to ensure that the materials are obtained only in authorized amounts by legitimate users.

### SPENT FUEL STORAGE AND TRANSPORTATION

The NRC ensures that spent nuclear fuel is safely stored and transported. The agency conducts licensing and certification reviews to ensure that spent fuel storage facility and cask designs and domestic and international shipments of spent fuel and other risk-significant radioactive materials are safe and secure and comply with agency regulations.

Shipments of radioactive materials are safely and securely transported each year within the United States. Several Federal agencies share responsibility for regulating the safety and security of those shipments. The NRC closely coordinates its transportation-related activities with those of the U.S. Department of Transportation and, as appropriate, DOE. The agency inspects vendors, fabricators, and licensees using transport packages, spent fuel storage casks, and interim storage of spent fuel both at and away from reactor sites to help ensure the safety and security of spent fuel storage and transportation.

### SPENT FUEL STORAGE AND TRANSPORTATION LICENSING AND OVERSIGHT

The NRC completed 52 transport package design and 17 storage cask and facility license reviews. The review of transportation and interim storage licensing requests ensures that shipments are made in NRC-approved packages that meet rigorous performance requirements and verifies that spent fuel is safely stored, thereby enabling continued reactor and decommissioning operations. The agency also conducted 19 inspections of activities related to radioactive material package certificate holders, spent fuel storage cask certificate holders, and inspections at independent spent fuel storage facilities to ensure that casks are being designed, fabricated, and used according to approved safety requirements.

### SPENT FUEL STORAGE AND TRANSPORTATION RULEMAKING

The agency developed a plan for integrating spent nuclear fuel regulatory activities to more effectively address the regulatory and licensing aspects of extended storage and transportation

(i.e., greater than 120 years), reprocessing, and disposal of spent nuclear fuel and high-level waste. The purpose of the plan is to ensure that the regulation of the back end of the fuel cycle accomplishes safety, security, and environmental protection in an efficient and effective manner and that decisions made about one component or area of this system adequately consider other components or areas (i.e., treating spent fuel and high-level waste regulation as a system of interrelated activities). By coordinating the approach for regulation of spent nuclear fuel or high-level waste storage, potential reprocessing, transportation, and disposal, the agency can improve the efficiency and effectiveness of NRC regulatory processes and provide stability and predictability for stakeholders in a dynamic environment.

The Commission approved a final rule amending the security requirements for irradiated fuel in transit in 10 CFR Part 73. This rule establishes generically applicable security requirements similar to the requirements currently imposed by NRC Order EA-02-109, "Issuance of Order for Interim Safeguards and Security Compensatory Measures for the Transportation of Spent Nuclear Fuel Greater than 100 Grams." This rule also establishes acceptable performance standards and objectives for the protection of spent nuclear fuel shipments from theft, diversion, or radiological sabotage. Additionally, this rule addresses, in part, a 1999 petition for rulemaking from the State of Nevada (PRM-73-10) that requested that the NRC strengthen its regulations governing the security of spent nuclear fuel shipments against malevolent acts.

The NRC amended its regulations governing packaging and transportation of radioactive material and physical protection of plants and materials. The amendments require licensees to provide advance notification to participating Federally recognized Tribal governments regarding shipments of irradiated reactor fuel and certain nuclear wastes for any shipments that passes within or across their reservations. The rule extends relief from fingerprinting requirements required for access to SGI to Tribal officials, his or her designee, and Tribal law enforcement. The participating Tribal government is required to protect the shipment information as SGI.

The NRC also began a comprehensive review of the spent fuel storage and transportation regulatory programs to evaluate their adequacy for ensuring safe and secure storage of spent

fuel for extended periods beyond 120 years, including research to enhance the regulatory framework in support of extended periods of storage.

On September 6, 2012, in response to a court decision vacating the NRC's 2010 Waste Confidence Decision, the Commission directed the staff to proceed with the development of a generic EIS to support an updated Waste Confidence Decision and temporary storage rule. Because of the high priority of the issue, the Commission directed the staff to publish a final rule and EIS within 24 months.

### SPENT FUEL STORAGE AND TRANSPORTATION RESEARCH

The NRC provided resources to continue research on technical issues associated with very long-term dry spent fuel storage, such as concrete degradation, weld corrosion, impacts of high-burn up and mixed oxide fuels, climate change impacts on cask performance, transportability of fuel after long term storage and the need for an improved hazards assessment, including the potential impact of long-term storage on eventual disposal. The agency continues research efforts to address the safe long-term storage of spent nuclear fuel. The technical bases for extended storage and transportation are being strengthened to ensure environmental effects and material property changes do not affect the safety of licensed dry cask storage systems.

### SPENT FUEL STORAGE AND TRANSPORTATION INTERNATIONAL ACTIVITIES

In May 2012, the NRC was on the U.S. Government delegation to the Review Meeting of Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. In May 2012, the NRC also supported the U.S. Government delegation to the Preparatory Committee for the Nuclear Non-Proliferation Treaty.

Throughout the year, NRC staff coordinates with international counterparts on various regulatory issues. Some of the major international activities involve the IAEA and NEA. Staff actively participate in the Transport Safety Standards Committee (TRANSSC), consultancies for the IAEA, and various technical meetings. Staff also contributes to the NEA, the Expert Group on Nuclear Criticality Safety.

### SPENT FUEL AND TRANSPORTATION SECURITY

The NRC completed its core security inspection program at NRC-licensed materials and waste facilities and fuel cycle facilities. It also completed six site visits to review licensee implementation of the Independent Spent Fuel Storage Installation (ISFSI) Security Orders. The staff completed inspection activities to support timely commencement of initial general-licensed ISFSI operations at Nine Mile Point, D.C. Cook, Perry, and the LaCrosse decommissioned boiling water reactor. Activities included inspecting the dry run activities, implementation of security orders, and the initial loading, as well as issuing confirmation that security orders have been adequately implemented prior to the loading campaign. These inspections and reviews spanned two years of activities for each site.

The NRC continued its efforts to mitigate the potential risk of terrorist threats through enhanced security and controls for the use, storage, and transportation of risk significant byproduct material and spent nuclear fuel.

The NRC continued security rulemaking activities to enhance its security requirements for licensees. The agency also engaged in reviewing stakeholder comments from a draft technical basis for ISFSI Security Rulemaking. The NRC anticipates that these technical bases will support a decision on whether to commence rulemaking activities in these areas during FY 2014.

### DECOMMISSIONING AND LOW-LEVEL WASTE

Decommissioning removes radioactive contamination from buildings, equipment, ground water, and soil, achieving levels that permit the release of the property while protecting the public. The NRC terminates the licenses for decommissioned facilities after the licensees demonstrate that the residual onsite radioactivity is within regulatory limits and sufficiently low to protect the health and safety of the public and the environment. Completion of decommissioning, environmental, and performance assessment activities ensures that residual radioactivity does not pose an unacceptable risk to the public.

### DECOMMISSIONING AND LOW-LEVEL WASTE LICENSING AND OVERSIGHT

The NRC has completed decommissioning at 21 materials sites and nine power or research reactors for a total of 30 sites since 2006. In FY 2012, the agency oversaw license termination or closure activities at approximately three complex nuclear sites; including one material site and two research and test reactors. Additionally, the NRC published a final rule amending its regulations to improve decommissioning planning and thereby reducing the likelihood that a current operating facility will become a legacy site without means to fully decommission. The agency continued its activities at military sites with Radium-226 and Army sites with depleted uranium contamination from military munitions. The agency continued its emphasis on the oversight of decommissioned legacy uranium recovery sites and began several initiatives to improve the program, including updating guidance and enhancing communication with DOE, States, Native American Tribes, and stakeholders.



*Low-level waste storage*

The NRC conducts regulatory activities to help ensure the safe management and disposal of low-level radioactive waste generated by radioactive material users, nuclear power plants, and other NRC licensees. The agency performed monitoring visits and issued reports for the DOE's Savannah River Site Saltstone facility and the Idaho National Laboratory. In addition, the agency also conducted outreach with stakeholders and licensees

on issues related to issuing guidance on how to classify waste for disposal and potential draft rule language for a proposed change to 10 CFR Part 61 for site evaluation prior to receiving either long-lived or blended wastes.

### *Uranium Recovery*

The NRC conducts regulatory oversight at eight operational uranium recovery sites and reviews and approves, if regulations are met, the applications for new, restarting, or expansion of uranium recovery facilities. The agency had seven applications for new, restarting, or expanding uranium recovery facilities, and two license renewal applications in-house. The agency worked on seven of those applications, as two of the applications were withdrawn. These reviews included both safety and environmental reviews.

### LOW-LEVEL WASTE INTERNATIONAL ACTIVITIES

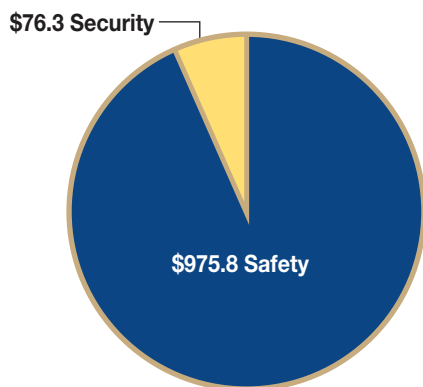
The NRC held the third in a series of uranium recovery workshops for international counterparts through its international assistance program activities in Tanzania. Regulatory bodies from 16 African countries were represented. The focus of the workshop was to assist countries that are initiating or restarting uranium recovery regulatory programs. The overall goal of the workshop was to provide information on regulatory development, licensing, regulatory oversight, and prevention of legacy sites when uranium production ceases.

The NRC also participated in a uranium safety and security workshop in Namibia that was organized and supported by the Departments of State and Energy, the IAEA, and the European Commission.

### COSTING TO GOALS

The NRC is working to improve its cost management capabilities to better align its costs with desired outcomes. This year's Performance and Accountability Report presents the full cost of achieving the Safety and Security goals for the agency's programs, Nuclear Reactor Safety and Security and Nuclear Materials Safety and Security. The cost of achieving the agency's Safety goal was \$975.8 million and the cost of achieving the agency's Security goal was \$76.3 million (see Figure 16).

**Figure 16**  
**NRC SAFETY AND SECURITY COSTS**  
*(in millions)*



## ORGANIZATIONAL EXCELLENCE OBJECTIVES

The NRC has three Organizational Excellence objectives: Openness, Effectiveness, and Operational Excellence. These objectives are critical components to carrying out the agency’s regulatory mandate to serve the American people.

The NRC received its eleventh consecutive Certificate of Excellence in Accountability Reporting from the Association of Government Accountants (AGA) for its FY 2011 Performance and Accountability Report.

### OPENNESS

The Openness objective explicitly recognizes that the public must be informed about, and have a reasonable opportunity to participate in the NRC’s regulatory processes. The NRC is firmly committed to transparency, participation, and collaboration as key principles governing the agency’s relationship with the public and other stakeholders. The agency has demonstrated its commitment to these openness principles through its long-standing efforts to keep stakeholders informed and involved in the NRC’s regulatory process.

The agency completed implementation of all initiatives presented in the agency’s Open Government Plan published in FY 2010 and available on the NRC Web site: <http://www.NRC.gov/public-involve/open.html>. In April 2012 the agency published an addendum to its Open Government Plan outlining how its

commitment to openness will be continued in 2012 and 2013.

This addendum is available on the NRC Web site:

<http://pbadupws.nrc.gov/docs/ML1207/ML12073A302.pdf>.

In developing the Plan addendum, the agency hosted a Webinar to solicit stakeholder input about activities to include in our forward planning. The focus of our addendum to the original Open Government Plan on the use of mobile technology aligns well with the President’s initiative on Building a 21<sup>st</sup> Century Platform to Better Serve the American People that was issued on May 23, 2012.

The NRC continued to expand its use of social media as a vehicle to communicate with stakeholders. In cooperation with the American Nuclear Society and Physicians for Social Responsibility, the agency hosted two Webinar sessions for bloggers to interact with the agency’s Chairman.

The NRC also highlighted its Open Government Plan at the annual Regulatory Information Conference (RIC) held on March 13–15, 2012, and attended by more than 3,000 participants from 34 countries. At the RIC, NRC gave a presentation, entitled “Public Affairs – Sharing information through Social Media,” that illustrated how our Open Government program continues to enhance the agency’s commitment to transparency and integrates public participation and collaboration into our regulatory activities. As part of the Mobile NRC initiative, Quick Response (QR) codes are used on event materials to provide mobile device users with enhanced access to RIC materials.

The NRC’s statistics on the use of social media initiatives (blog, Twitter, YouTube, Flickr, LinkedIn) has also received a high level of interest from stakeholders. For example, the agency posted 135 blog entries, approved 703 comments, and attracted 112,155 visits. The NRC counted 2,533 Twitter followers, and has sent 537 “tweets.” The NRC also posted 52 video/audio clips to YouTube, has 124 regular subscribers, and counted 15,886 visits. In addition, the NRC has count 2,366 LinkedIn followers of 60 NRC staff.

In addition to the progress the agency has made through the use of social media, the NRC has continued to improve its *Freedom of Information Act* (FOIA) processes and stakeholder satisfaction with NRC’s public Web site. The NRC was one

of five agencies recognized by the U.S. Department of Justice for exemplary efforts in implementing the Attorney General's FOIA Guidelines. Also, since we redesigned our public Web site in April 2011, our survey scores for overall site satisfaction, content, look-and-feel, information access, search effectiveness, and online transparency have continued to improve, as reported using the American Customer Satisfaction Index (ACSI). In fact, our scores consistently exceed those of other regulatory agencies and the Federal Government as a whole. As a result of these improvements, the agency's public Web site was recognized as "a gold mine of information" in FY 2012 by the Bulletin of the Atomic Scientists.

### NUCLEAR REACTOR SAFETY

#### *Operating Reactors*

As an agency, the NRC uses multiple vehicles to ensure that the public is informed and is able to participate in the regulatory process. These include public meetings, workshops, and online resources. The NRC held several public meetings concerning significant topics to ensure openness, transparency, and participation in the regulatory process. These topics include Fukushima lessons learned implementation, steam generator tube degradation at San Onofre Nuclear Generating Station, implementation of National Fire Protection Association Standard 805 (NFPA-805), Medical Isotope Production, and Pressurized-water reactor sump performance.

The NRC also leveraged public input in the areas of reactor oversight and safety culture. The agency continued to hold monthly public meetings to discuss the Reactor Oversight Process. Participants discussed suggestions for improvement, questions, and program implementation issues. In addition, the NRC also held several workshops to define common language for safety culture at nuclear power plants.

The NRC has continued to leverage Web-based vehicles to inform the public. The NRC Web site provides stakeholders an outstanding resource to learn about nuclear power plant licensing and oversight. Here, stakeholders can acquire information regarding the agency's licensing and oversight processes. In addition, they can view the schedules and progress the agency is making toward high-profile licensing actions, such as power uprates and license renewals. This information

is located at: <http://www.nrc.gov/reactors/operating/licensing.html>. Furthermore, stakeholders can go to: <http://www.nrc.gov/reactors/operating/oversight.html> to learn more about existing regulations and to view inspection reports relating to the Reactor Oversight Program.

#### *New Reactors*

The NRC maintains project status and schedules for new reactor licensing activities monthly, making them available on the NRC Web site: <http://www.NRC.gov/reactors/new-reactors.html>. The NRC Web site receives approximately 50,000 hits per month for information on new reactor licensing activities.

The NRC held numerous public meetings on new reactor activities in FY 2012. These meetings engaged stakeholders in the regulatory process and provided information on public participation in the environmental review process. The agency actively solicited comments on the scope of environmental impact statements, and provided information on lessons learned about locating sites and environmental reviews.

The NRC staff also conducted numerous public meetings to provide a forum for stakeholders to participate in and comment on staff proposals for ITAAC closure, ITAAC maintenance, and other construction inspection program issues. The agency also hosted the 3rd NRC Workshop on Vendor Oversight for New Reactor Construction. This workshop was widely attended and included discussions on issues such as 10 CFR Part 21 "Reporting of Defects and Noncompliance" rulemaking; counterfeit, fraudulent or suspect items; safety conscious work environment as it applies to nuclear vendors; commercial grade dedication; and, supplier oversight. The workshop was attended by approximately 550 persons, representing companies and organizations from 15 countries. The agency continued its efforts to remain transparent and engage its stakeholders in its advanced reactor activities. In addition to hosting public meetings with vendors, the agency also conducted public workshops on SMR policy and technical issues. The agency issued several draft guidance documents for public comment.

### NUCLEAR MATERIALS AND WASTE SAFETY

The NRC continued its active participation in many meetings to inform the public of its activities. Agency representatives attended meetings for the Institute of Nuclear Materials



Management Spent Fuel Seminar, regional meetings of the council of State Governments, and the NEI Used Fuel Management Conference on radioactive material transportation and spent fuel storage matters. The Spent Fuel Storage and Transportation Regulatory Conference, organized by NRC, was held for the second consecutive year. This conference gives stakeholders an opportunity to interface with NRC on a broad range of regulatory issues.

In its continuing efforts to reach out to stakeholders, the NRC conducted its seventh annual Fuel Cycle Information Exchange Conference in June 2012. The Fuel Cycle Information Exchange provides an opportunity for NRC staff, industry representatives, licensees, and other public stakeholders, both domestic and international, to openly discuss regulatory issues of mutual interest, as they relate to key sectors of the nuclear fuel cycle, including: licensing, certification, and inspection of nuclear fuel facilities for uranium conversion and enrichment; nuclear fuel fabrication; and deconversion of depleted uranium tails.

### *Materials*

The NRC participated in several public and professional meetings through presentations on security issues including cyber security, source security, and the NRC requirements in the new 10 CFR Part 37. The NRC has used its blog, a YouTube video, and NRC press releases to disseminate information on security of radioactive materials to the public. The NRC delivered a safety culture presentation to over 300 U.S. Army safety managers and staff. The NRC notified the 566 Federally Recognized Indian Tribes of the new requirements for informing the Tribes of transportation of certain radioactive material. The NRC finalized a protocol, “NRC Standard Protocol for State and Tribal Outreach on Unintended Releases of Radioactive Material.” The protocol was posted to the NRC public Web site in December 2011. The NRC hosted the National State Liaison Officers Conference in Rockville, MD in November 2011.

### *Decommissioning and Low-Level Waste*

The agency held 26 technical meetings with decommissioning licensees, uranium recovery facility applicants and licensees, and low-level waste stakeholders that were open to the public. The agency also engaged in outreach and consultation with Native American Tribes as part of efforts to fulfill the agency’s Section 106 responsibilities under the *National Historic Preservation Act*

(NHPA). During FY 2012, the agency consulted with State Historic Preservation Officers, Tribal Historic Preservation Officers, appropriate Tribes, and other consulting organizations to identify historic properties, including those that are of religious and cultural significance to the Tribes, to assess and resolve any adverse effects to those sites as part of the agency’s review of uranium recovery license applications.

## EFFECTIVENESS

The drive to improve performance in government, coupled with increasing demands on the NRC’s resources, requires the agency to become more effective, efficient, and timely in its regulatory activities. The NRC’s effectiveness initiatives sharpen the agency’s focus on safety and security and ensure that its available resources are optimally directed toward accomplishing the agency’s mission. The agency continued implementation of the changes identified in a 2011 comprehensive review of NRC overhead functions (e.g., administrative services, human capital, financial management including contract management, information management (IM), and IT) to identify effective, efficient, and cost conscious business solutions and eliminate duplicative processes and functions.

## NUCLEAR REACTOR SAFETY

### *Operating Reactors*

In October 2011, the Commission issued Staff Requirements Memorandum (SRM), [SECY-11-0032](#), “Consideration of the Cumulative Effects of Regulation (CER) in the Rulemaking Process.” This SRM directs the staff to propose process improvements intended to enhance the existing rulemaking framework to take in consideration the impacts of other regulatory actions. The staff’s proposal on CER was provided to the Commission in October 2012.

### *New Reactors*

The NRC reorganized the Office of New Reactors to better align its resources to address future challenges of changing workload, increased focus on streamlining corporate functions, and reduced resources. The reorganization aligns business functions to gain efficiency and agility, affords increased focus on the resolution of key technical and policy issues for advanced reactors without reducing focus on the licensing of large light-water reactors, and allows the oversight group to concentrate solely on construction and inspection activities.

### NUCLEAR MATERIALS AND WASTE SAFETY

The agency developed a plan for integrating spent nuclear fuel regulatory activities to more effectively address the regulatory and licensing aspects of extended storage and transportation (i.e., greater than 120 years), reprocessing, and disposal of spent nuclear fuel and high-level waste. The purpose of the plan is to ensure that the regulation of the back end of the fuel cycle accomplishes safety, security, and environmental protection in an efficient and effective manner and that decisions made about one component or area of this system adequately consider other components or areas (i.e., treating spent fuel and high-level waste regulation as a system of interrelated activities). By coordinating the approach for regulation of spent nuclear fuel or high-level waste storage, potential reprocessing, transportation, and disposal, the agency can improve the effectiveness and efficiency of NRC regulatory processes and provide stability and predictability for stakeholders in a dynamic environment.

The NRC proceeded with the revisions to the Consolidated Guidance Series (NUREG-1556) to address incorporation of security issues and update licensing practices that will enhance the materials licensing review process. The NRC published two volumes for public comment and has 12 other volumes in various stages of revision.

The agency held lessons-learned meetings with stakeholders and Tribal representatives regarding the safety and environmental license review process. Those meetings were held to identify improvements to make the review process more effective in the future for the agency, applicants, stakeholders, and Tribes. Regarding Tribal interactions, the agency engaged in outreach and consultations with Native American Tribes as part of efforts to fulfill Section 106 responsibilities under the NHPA. As part of agency's safety reviews for uranium recovery facilities, the staff issued draft licenses to Cameco (Crow Butte license renewal), Uranium One (Willow Creek license renewal, and Powertech (Dewey-Burdock new ISR license). The staff also held 24 publicly noticed meetings, including two pre-submission audits for AUC, LLC (Reno Creek new ISR license application) and Titan Uranium (new heap leach license application), and held safety lessons-learned meetings with stakeholders and Tribal representatives regarding license review process. Finally, the staff issued a Regulatory Issue Summary (RIS) that allows licensed

uranium recovery facilities to accept ion exchange resins from non-uranium recovery facilities, such as water treatment plants and mine dewatering without the need for a license amendment. This RIS removes a regulatory hurdle to recycling ion exchange resins and recovering the uranium instead of disposing of it at a licensed disposal facility.

The NRC is also proceeding with the development of a fuel cycle oversight process that is more risk-informed and performance-based.

### OPERATIONAL EXCELLENCE

This objective focuses on the activities related to financial management, management of human capital, infrastructure management, and IT and IM.

#### FINANCIAL MANAGEMENT

The NRC continued to make substantial progress in modernizing its financial systems throughout FY 2012. The NRC enhanced system performance, data integrity, business processes, user expertise and reporting in the agency's Financial Accounting and Integrated Management Information System (FAIMIS) Core Financial System (CFS). On July 31, 2012, the NRC completed a FAIMIS CFS Re-hosting Initiative and successfully transferred hosting and customer Helpdesk support services for the FAIMIS CFS from the Department of Interior's National Business Center to CGI Federal's Phoenix Data Center. As a result of the FAIMIS Re-hosting Initiative, the NRC is hosted within a private cloud environment. In FY 2012, the agency also upgraded its Human Resource Management System (HRMS). The new T&L system strengthened data security, eliminated electronic workflows and reduced yearly costs. The NRC also added a Salary and Benefits Projection Application to its Budget Formulation System (BFS). This BFS enhancement facilitates the analysis of employee compensation and benefits scenarios for future years and improves budget forecasting. A sustained emphasis on modern, Web-enabled technology, automated processes and extensive user support has improved the financial information available to NRC which has allowed for better informed decision making.

On June 15, 2012, the NRC issued a final rule in the *Federal Register* amending the licensing, inspection, and annual fees charged to its applicants and licensees. The amendments are

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necessary to implement the *Omnibus Budget Reconciliation Act of 1990* (OBRA-90), as amended, which requires the NRC to recover through fees approximately 90 percent of its budget authority in FY 2012, not including amounts appropriated for Waste Incidental to Reprocessing (WIR) and amounts appropriated for generic homeland security activities. Based on the *Consolidated Appropriations Act of 2012*, the NRC's required fee recovery amount is based on the FY 2012 new budget authority of \$1,038.1 million. After accounting for billing adjustments, the total amount to be billed as fees to licensees is \$901 million. The NRC Fee Recovery Schedules for FY 2012 are located at <http://www.gpo.gov/fdsys/pkg/FR-2012-06-15/pdf/2012-14589.pdf>.

In FY 2012, the NRC continued its excellence in financial reporting. For the ninth consecutive year, an independent auditor has rendered an unqualified opinion on the NRC financial statements. The auditor also rendered an unqualified opinion for the fifth consecutive year on the agency's internal control, concluding that the NRC had no material weaknesses.

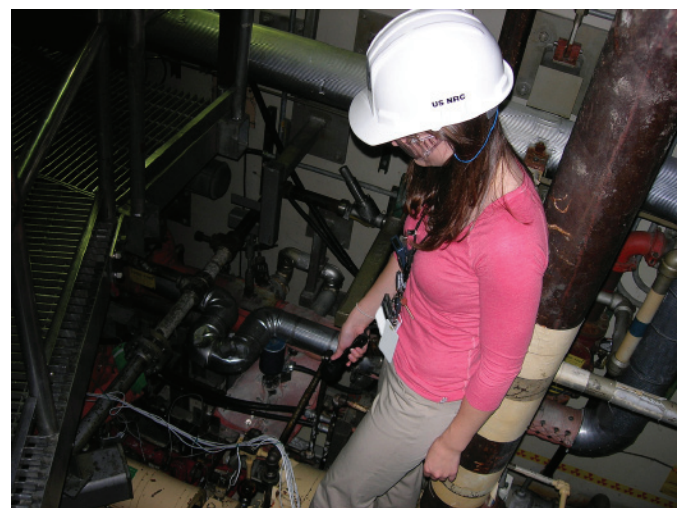
The NRC continued to make progress in implementing a 21st Century Strategic Acquisition Program, an integrated financial and acquisition planning, execution and reporting methodology based upon business process improvements through the implementation of leading practices and system modernization. The approach is based upon enterprise spending management and strategic sourcing principles that have a proven track record of success in industry and Federal agencies. In FY 2012, the agency's second spend analysis was completed, and five additional Portfolio Councils were established to use the data to identify new enterprise-wide contracts to more efficiently and cost effectively buy goods and services. The agency also conducted a thorough planning assessment to determine the most cost-effective approach to implement an acquisition system that will be integrated with the agency's CFS. In June 2012, the agency selected a share service provider to implement the Strategic Acquisition System (STAQS). The agency will deploy STAQS in FY 2014.

### MANAGEMENT OF HUMAN CAPITAL

For several years, the NRC experienced tremendous growth resulting from an increased interest in nuclear power. As the agency moves toward the future, staff levels have stabilized and it is projected to remain stable over the next several years. In

response, the agency is adjusting its human capital strategies to ensure an approach that focuses on the mission of protecting public health and safety while remaining mindful of staffing needs.

The NRC's human capital approach supports increasing mandates within a no-growth budget environment. The agency's strategy is to transform workforce centers by reducing inefficiencies and overhead and by centralizing and streamlining processes. The agency's viewing work in a context of budgeted priorities and strategically focusing on not only replacing employees who depart, but also fine-tuning available skills sets to meet future mission needs while still emphasizing Government-wide programs such as hiring of the disabled, employment of veterans, enhancing diversity management, and supporting the agency's Comprehensive Diversity Management Plan. Some specific activities include ensuring NRC vacancies are marketed to veterans, people with disabilities, and women and under-represented minorities through advertising in publications and on Web sites which target these populations; conducting campus recruitment activities at Minority Serving Institutions; and partnering with a number of organizations including the Society of Women Engineers, the Society of Hispanic Professional Engineers, and the Student Veterans Association. Some specific activities include ensuring NRC vacancies are marketed to veterans, people with disabilities, and women and under-represented minorities through advertising in publications and on Web sites, which target these populations; conducting campus recruitment activities at Minority Serving Institutions; and



*NRC inspector on site*

partnering with a number of organizations, including the Society of Women Engineers, the Society of Hispanic Professional Engineers, and the Student Veterans Association. As part of the process, individual offices develop detailed plans for efficiencies and consolidation; develop a detailed approach and framework for the staff transition aspects of the plan, including transitioning affected employees to newly defined positions; and develop a communication plan, including employee meetings, frequently asked questions (FAQs), and career counseling.

Over the past 18 months, the NRC has used a variety of methods and measures to manage hiring. These methods refined the hiring process and helped control full-time equivalent (FTE) utilization. During the first three quarters of FY 2012, these hiring controls resulted in the attainment of FTE targets that has allowed the NRC to expand entry-level hiring for engineers and scientists. The agency has worked to institutionalize a workforce planning process using a mission critical occupation framework that will ensure the agency has the appropriate number of staff with the right skills, competencies, and experience to ensure successful job performance and realization of organizational objectives. The agency continues to model a recruitment program that attracts a diverse group of candidates and continues to recruit externally as appropriate. The agency continues to focus on ensuring that the current workforce stays engaged and motivated amidst agency restructuring efforts and within an environment of limited budgets and increased scrutiny of Federal employees. With limited external hiring the agency is maximizing internal movement and ensuring staff has access to the training they will need to enter new areas of business.

Another way the NRC is ensuring that critical skills and competencies are available in the future is by adapting our training and development programs to meet the changing needs of the agency staff and changes in technology. The agency continues to focus on a competency-based approach to training, ensuring a line-of-sight alignment between employees' learning experiences and the agency's mission. Training and development programs are designed to shorten the time to competency. The agency's learning and development programs continue to evolve to support the needs of the next generation of regulatory experts. For instance, the agency has continued the successful development of new reactor simulators and technical training courses to coincide with the building of a new generation of

nuclear reactors. The agency has also completed and expanded the pilot use of paperless technical subject matter classroom training using Windows-based tablet personal computers as replacements for paper manuals and has implemented the use of selected training courses through new enterprise-wide contracts. By using these approaches, the agency ensures effectiveness of training with the added benefits of a reduction in costs and schedule convenience for the learner.

The NRC recognizes the need to capture and maintain the knowledge and skills of senior staff and management as they become eligible for retirement. The agency maintains a knowledge management program to support effective approaches to knowledge collection, transfer, and use. This program includes strategic hiring and training to fill knowledge gaps, establishing an IT infrastructure to facilitate knowledge transfer, and fostering a culture of knowledge transfer and retention.

The NRC continues to be one of the best places to work in the Federal Government according to Federal Human Capital Survey results. The agency excels in areas such as matching employees' skills to the agency's mission, strategic management, effective leadership, performance-based advancements, training and development, support for diversity, and work-life balance. The agency realizes that the successful accomplishment of its mission depends on the talent and commitment of its employees and the agency continues to strive to create a workplace rich in work-life balance where employees are engaged in meaningful and challenging work.

### INFRASTRUCTURE MANAGEMENT

Substantial progress was made on the construction of a new NRC Headquarters building that will house approximately 1,350 NRC employees and contractors. On June 29, 2012, the developer, LCOR, received notice of substantial completion and certificate of Use and Occupancy from Montgomery County, MD for the Three White Flint North Base Building. This is a significant milestone and the first step in receiving approval for full building occupancy. The developer has also received Use and Occupancy certification for floors two through eight. These seven floors have been turned over to the Government as part of the phased building turn over. Construction is scheduled to be completed by the end of 2012.



*Three White Flint North*

### ***NRC White Flint Complex Building/Facility Improvements and Efficiencies***

In support of Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance,” the NRC installed additional upgrades to the energy management system in the White Flint Complex, including variable frequency drives on the chillers, replaced two cooling towers, and new light-emitting diode (LED) lighting in the elevator lobbies. All of these projects resulted in a reduction of electrical consumption. The cooling tower replacement also resulted in a reduction in water consumption. In addition, for the third consecutive year, the NRC was recognized for outstanding achievement in recycling by Montgomery County, MD.

### **INFORMATION TECHNOLOGY AND INFORMATION MANAGEMENT**

The NRC continued to identify opportunities to improve program performance and information availability through the use of IT solutions. Progress continued in several major focus areas to achieve Operational Excellence through more effective IM, effective IT infrastructure, and continuous customer service improvements.

Effective strategic IT business solutions ensures a rationalized and secure portfolio that helps achieve the agency’s mission and strategic outcomes. Accomplishments in this area included: 1) designing and implementing a new IT/IM governance structure to improve how the agency as a whole plans, implements, monitors, and delivers its IT/IM activities. The new structure

reflects NRC’s increased governance maturity and aligns IT/IM efforts across the agency to avoid system duplication and better use of resources; 2) publishing the FY2012 IT/IM Roadmap to help communicate agency IT/IM priorities and to serve as a planning tool for IT/IM investment decisions; and 3) identifying nine functional IT/IM areas for consolidation to the Office of Information Services (OIS) as part of the agency’s streamlining efforts. This effort further streamlines business support services and reduces duplication across the agency.

Effective information management ensures needed information is available to the staff and the public to support predictable regulatory programs and policies. It also allows the NRC to meet its Openness objective related to informing and involving stakeholders in the regulatory process by providing timely access to authoritative agency information. Accomplishments in this area included: 1) improving the efficiency of the agency’s FOIA program through the use of e-mail de-duplication software; 2) modernizing the NRC’s public document publishing technologies to ensure timely and accurate dissemination of information to the agency’s public Web site; 3) deploying Internet Protocol Version 6 to the agency’s public Web site, ensuring world-wide compatibility; 4) consolidating the agency’s Web publishing services to ensure effective and timely delivery of information to staff and stakeholders; 5) completing the migration of the agency’s legacy forms management system to a new Portable Document Format (PDF)-based system; 6) continuing personal interactions with stakeholders through the Public Document Room where stakeholders can work directly with a person to retrieve information; and 7) providing key information dissemination by issuing timely public meeting notices, FOIA responses, and documents made publicly available through the Agencywide Documents Access and Management System (ADAMS).

Effective IT infrastructure ensures that the NRC has a reliable and responsive technology foundation to support business needs and agency operations. Accomplishments in this area included: 1) expanding tools and services for the “Work from Anywhere” strategy to support staff mobility, such as providing Wi-Fi capability for both mobile desktops and domestic loaner laptops; 2) planning near-term implementation of the Bring Your Own Device (BYOD) service offering, which supports staff

mobility by providing agency staff with secure, remote access to agency email, calendar, and contact data on personally owned mobile devices (e.g., tablets and smart phones); 3) reducing IT system and operational cyber security risks to make the NRC IT environment more secure; 4) integrating new digital certificates that decrease user burden by requiring less frequent renewal and improve security for remote network access; 5) deploying Personal Identity Verification card readers to increase secured access to the NRC network; 6) completing the key elements of the Trusted Internet Connection (TIC) transition, providing additional data security and increased monitoring of data coming into and leaving the agency; 7) receiving formal approval to operate for several major infrastructure systems, including the Data Center Services system, which provides cost and support efficiencies by serving as an overarching system to consolidate many NRC applications into a single boundary; and 8) virtualizing over 100 physical servers, reducing agency equipment costs, and decreasing the agency's energy footprint.

Efficiency in delivering IT/IM services is also a key component of the agency's Operational Excellence Objective. The award of enterprise-wide contracts for IT support services and maintenance and operations and the implementation of a central environment for application testing greatly enhanced the procurement of IT/IM services and will result in cost efficiencies and cost savings. OIS base lined all IT/IM services and identified service levels for business partner awareness. OIS has designed an approach and is developing cost models for key IT/IM services to ensure cost-effective service delivery. Efficiencies were also achieved through decommissioning and retiring inactive systems. This fiscal year over 346 inactive systems were decommissioned, retired, and removed from the agency's working system inventory. This number represents approximately 93 percent of all existing inactive systems.

### PROGRAM EVALUATIONS

The NRC conducted several program evaluations of its regulatory operations. The evaluations were conducted for both the nuclear reactor and the nuclear materials programs.

### OPERATOR LICENSING PROGRAM

Before the NRC licenses an individual to operate or supervise the controls of a commercial nuclear power reactor, the applicant must complete extensive training and pass rigorous examinations.

Once licensed, operators and senior operators must comply with a number of requirements to maintain and renew their licenses. An agency review team evaluated the operator licensing programs of two regions for their overall effectiveness and adherence to the guidance contained in NUREG-1021, Revision 9, Supplement 1, "Operator Licensing Examination Standards for Power Reactors," issued in October 2007, and other policy documents. The operator licensing programs are broken down into seven functional areas that are rated as either "satisfactory," or "needs improvement." In FY 2011, the review team found the operator licensing programs in the two regions to be in accordance with the examination standards and assessed all areas as satisfactory. The review team also commended the regions' efforts in the area of resource utilization. Based upon operator training and mock scenario examinations conducted during FY 2012, it was determined that only minor changes would be needed to NUREG-1021.

### REACTOR OVERSIGHT PROGRAM

The NRC completed a self-assessment of the Reactor Oversight Process in April 2012. The report, "Reactor Oversight Process Self-Assessment for Calendar Year 2011" ([SECY-12-0055](#)), is available on the NRC Web site. The results of the calendar year 2011 self-assessment indicated that the Reactor Oversight Process met its program goals and achieved its intended outcomes. The Reactor Oversight Process was found to be objective, risk-informed, understandable, and predictable, and it met the agency goals of ensuring safety, openness, and effectiveness. The agency maintained its focus on stakeholder involvement and continued to improve the Reactor Oversight Process. The agency implemented improvements to address issues that were raised internally, recommended by independent reviews, and obtained from internal and external stakeholder feedback.

The NRC inspection and assessment program independently verified that nuclear power plants were operated safely and securely. The assessment program was revised to incorporate lessons learned from implementation of the safety culture enhancements and continued to ensure that the staff and licensees acted as necessary to address identified performance issues. The agency continues to improve the performance indicator program to ensure that the performance indicators are meaningful inputs to the Reactor Oversight Process, and it

actively solicits input from internal and external stakeholders to further improve the Reactor Oversight Process based on stakeholder feedback and lessons learned.

### INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM REVIEWS OF NRC REGIONAL OFFICES

The NRC evaluates its own regional materials programs and Agreement State radiation control programs using performance indicators to ensure that public health and safety is adequately protected. The agency conducted one regional evaluation during FY 2012. The agency, with the assistance of the Agreement States, completed nine Integrated Materials Performance Evaluation Program reviews to determine the adequacy and compatibility of the programs in the evaluated Agreement States.

### BUDGET FORMULATION BUSINESS PROCESS IMPROVEMENT

The NRC completed a business process improvement (BPI) review of the agency's internal budget formulation process with the objective to streamline and simplify the budget information being developed. The BPI focused on determining the correct level of detail to be sent to the Commission, thereby reducing confusion and excessive requests for additional information. Further, the BPI helped to mitigate overlap and redundant effort in the agency's budget formulation process and clarified roles and responsibilities as aligned to the process.

### DATA SOURCES, DATA QUALITY, AND DATA SECURITY

The NRC's data collection and analysis methods are driven largely by the regulatory mandate that Congress entrusted to the agency. Specifically, the NRC's mission is to regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, protect the environment, and promote the common defense and security. In undertaking this mission, the agency oversees nuclear power plants, nonpower reactors, nuclear fuel facilities, interim spent fuel storage, radioactive material transportation, disposal of nuclear waste, and the industrial and medical uses of nuclear materials.

As part of the NRC's regulatory requirement under 10 CFR 20.2206, several NRC-regulated industries are required to submit occupational radiation exposure reports to the Radiation Exposure Information and Reporting System (REIRS) database. The agency analyzes these reports to ensure that licensees comply with the annual occupational dose limit of 50 mSv (5 rem). The agency uses the data in the following ways: (1) as a metric in the agency's Reactor Oversight Process to evaluate the effectiveness of licensee programs used to maintain occupational radiation doses as low as reasonably achievable and for inspection planning; (2) to assist in the evaluation of the radiological risk associated with certain categories of NRC-licensed activities and for comparative analysis of radiation protection performance; (3) to provide occupational radiation exposure history reports to individuals exposed to radiation or radioactive material at NRC-licensed facilities; and (4) to provide facts for responding to Congressional and administration inquiries and to questions from the public regarding occupational radiation exposures at NRC-licensed facilities. The agency publishes NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities," annually. NUREG-0713 Volume 32 for calendar year 2010 was issued in May 2012. It is available on the agency's Web site: <http://pbadupws.NRC.gov/docs/ml1108/ml110820543.pdf>.

Section 208 of the *Energy Reorganization Act of 1974*, as amended, requires the NRC to inform Congress of incidents or events that the Commission determines to be significant from the standpoint of public health and safety. The agency developed the Abnormal Occurrence criteria to comply with the legislative intent of the *Energy Reorganization Act of 1974* to determine which events should be considered significant. Based on these criteria, the agency prepares an annual, "Report to Congress on Abnormal Occurrences," (NUREG-0090). One important characteristic of this report is that the data presented normally originate from external sources, such as Agreement States and NRC licensees. NUREG-0090 Volume 34 for FY 2011, issued in May 2012, is available on the agency's Web site: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0090/v34>.

The NRC finds these data sources credible because (1) agency regulations require Agreement States, licensees, and other external sources to report the necessary information, (2) the

NRC maintains an aggressive inspection program that, among other activities, includes auditing licensee programs and evaluating Agreement State programs to ensure that they are reporting the necessary information as required by the agency's regulations, and (3) the NRC has established procedures for inspecting and evaluating licensees. The agency employs multiple database systems to support this process, including the licensee event report Search System, the Accident Sequence Precursor database, the Nuclear Materials Events Database, and the REIRS. In addition, non-sensitive reports submitted by Agreement States and NRC licensees are available to the public through ADAMS, accessible through the agency's Web site <http://www.NRC.gov/reading-rm/adams.html>.

The NRC verifies the reliability and technical accuracy of event information reported to the agency. The agency periodically inspects licensees and reviews Agreement State programs. In addition, NRC Headquarters, the regional offices, and Agreement States hold periodic conference calls to discuss event information. Events identified as meeting the Abnormal Occurrence Criteria are validated and verified before being reported to Congress.

Additionally, the NRC is an active participant in [data.gov](http://data.gov), a Federal Web site designed to increase public access to high-value, machine-readable datasets generated by the Executive Branch. The NRC published its first dataset in October 2009, and in response to the Open Government directive published three additional datasets in January 2010, and as of the end of FY 2012, a total of 30 datasets have been published. The NRC will continue to encourage public feedback on its high-value information, and consistent with agency policy and guidance provided by [data.gov](http://data.gov), will continue to add new datasets to its high-value dataset publication plan.

### INFORMATION SECURITY

The NRC's information security program (1) protects NRC and licensee information and information systems from unauthorized access, use, disclosure, disruption, modification, or destruction, (2) protects electronic control functions from unauthorized access or manipulation, and (3) ensures that adequate controls for protecting security-related information are used in the

conduct of NRC business. The NRC information security program includes measures to accomplish the following:

- (1) Ensure that information security requirements, standards, and guidance are clear, concise, appropriate, and able to mitigate the potential adverse effects if sensitive information is compromised;
- (2) Ensure that security controls for information owned by or under the control of the NRC are consistent with established information security controls, operating as intended, and having the desired impact, and that similar controls for licensees regulated by the NRC are in compliance with NRC information security regulations;
- (3) Ensure that suspected or actual information security violations are evaluated and appropriate sanctions are considered;
- (4) Ensure that the NRC has made sufficient preparations for information security-related emergencies and incidents; and
- (5) Ensure that internal information security program components complement each other and are periodically evaluated and improved.

### PERFORMANCE DATA COMPLETENESS AND RELIABILITY

In order to manage for results, it is essential that the NRC assess the completeness and reliability of its performance data. Comparisons of actual performance with the projected levels are possible only if the data used to measure performance are complete and reliable. Consequently, the *Reports Consolidation Act of 2000* requires the NRC Chairman to assess the completeness and reliability of the performance data used in this report. The process for ensuring that the data are complete and reliable requires offices to complete a template for submission to the Chief Financial Officer for every performance measure certifying the data submitted have been approved by the applicable office director. The report "Verification and Validation of NRC's Performance Measures and Metrics" contains the processes the agency uses to collect, validate, and verify performance data. This report can be found in Appendix III of the NRC's FY 2012 Congressional Budget Justification located on the NRC Web site <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1100/v27/>.



### DATA COMPLETENESS

The NRC considers data complete if the agency reports actual performance data for every performance goal and indicator in the annual plan. Actual performance data include all data that are available when the agency sends its report to the President and Congress. The agency has reported actual data for every strategic and performance goal measure. In addition, all of the data are reported for each measure. As a result, the data presented in this report meet the requirements for data completeness.

### DATA RELIABILITY

The NRC considers data reliable when agency managers and decision-makers use the data in carrying out their responsibilities. The data presented in this report meet this requirement for data reliability because NRC managers and senior leaders regularly use the reported data in the course of their duties.





# *Chapter 3*

## FINANCIAL STATEMENTS AND AUDITORS' REPORT





## A MESSAGE FROM THE CHIEF FINANCIAL OFFICER

I am pleased to present the financial statements for the U.S. Nuclear Regulatory Commission (NRC) Fiscal Year (FY) 2012 Performance and Accountability Report. For the ninth consecutive year, an independent auditor has rendered an unqualified opinion on the NRC financial statements. The auditor has also rendered an unqualified opinion on our internal controls concluding that the NRC had no reportable conditions or significant deficiencies.

In FY 2012, the NRC continued to implement our financial system modernization plan. At the beginning of the fiscal year, we installed a new Time and Labor System, which enhanced the user-friendliness of the system, as well as, cost reporting and analytical capabilities for management of agency payroll, which represents approximately 60 percent of the agency's budget. We also successfully re-hosted the core financial system to a private cloud environment, resulting in significant cost savings. The agency also enhanced our Budget Formulation and eTravel Systems to improve their capabilities and streamline agency processes.

The NRC effectively used these capabilities to improve its financial internal controls and overall performance during FY 2012. The agency successfully collected licensee fees on its recoverable budget as prescribed by law and reduced its delinquent debt. Our enhanced oversight of budget execution resulted in better payroll management and prompt contract payments, resulting in a reduction of unexpended funds at the end of the year by \$30 million from FY 2011.

In FY 2013, the NRC will continue our financial management and system modernization enhancements to better utilize Government resources. We plan to expedite our transition to the new Government-wide eTravel System to enhance travel support at reduced costs. Also in FY 2013, the agency will implement a new framework for assessing its programmatic internal controls based upon Federal best practices. At the beginning of FY 2014, the agency will transition to a new acquisition system that will seamlessly interface with the core financial system through a common financial database. When complete, this enhancement will significantly improve the management and quality control of agency spending data.

The NRC is committed to ensuring the safety and security of the Nation's civilian use of nuclear materials in the most effective and efficient manner. The regulation of the Nation's nuclear industry during this period of fiscal challenges and change requires rigorous stewardship of limited taxpayer resources and demands superior financial performance. I am proud of the agency's progress made during the past year to promote sound business practices in the conduct of our regulatory mission and am confident that we will continue to make future improvements.

A handwritten signature in dark ink that reads "J.E. Dyer". The signature is written in a cursive, professional style.

J.E. Dyer  
Chief Financial Officer  
November 14, 2012

## PRINCIPAL STATEMENTS

### BALANCE SHEET

(In Thousands)

As of September 30,	2012	2011
<b>Assets</b>		
Intragovernmental		
Fund balance with Treasury (Note 2)	\$ 357,529	\$ 394,580
Accounts receivable (Note 3)	7,660	8,287
Other-Advances and prepayments	11,736	3,681
Total intragovernmental	376,925	406,548
Accounts receivable, net (Note 3)	92,946	92,009
Property and equipment, net (Note 4)	99,982	46,542
Other	14	41
<b>Total Assets</b>	<b>\$ 569,867</b>	<b>\$ 545,140</b>
<b>Liabilities</b>		
Intragovernmental		
Accounts payable	\$ 16,900	\$ 13,554
Other (Note 5)	3,896	4,010
Total intragovernmental	20,796	17,564
Accounts payable	26,272	29,648
Federal employee benefits (Note 6)	7,224	7,245
Other (Note 5)	70,301	75,158
<b>Total Liabilities</b>	<b>124,593</b>	<b>129,615</b>
<b>Net Position</b>		
Unexpended appropriations	285,080	310,332
Cumulative results of operations (Note 8)	160,194	105,193
<b>Total Net Position</b>	<b>445,274</b>	<b>415,525</b>
<b>Total Liabilities and Net Position</b>	<b>\$ 569,867</b>	<b>\$ 545,140</b>

The accompanying notes to the principal statements are an integral part of this statement.

STATEMENT OF NET COST

(In Thousands)

For the years ended September 30,	2012	2011
<b>Nuclear Reactor Safety and Security</b>		
Gross costs	\$ 824,091	\$ 857,569
Less: Earned revenue	(815,701)	(786,741)
Total Net Cost of Nuclear Reactor Safety and Security (Note 9)	8,390	70,828
<b>Nuclear Materials and Waste Safety and Security</b>		
Gross costs	228,000	239,350
Less: Earned revenue	(88,630)	(101,919)
Total Net Cost of Nuclear Materials and Waste Safety and Security (Note 9)	139,370	137,431
<b>Net Cost of Operations</b>	<b>\$ 147,760</b>	<b>\$ 208,259</b>

The accompanying notes to the principal statements are an integral part of this statement.

STATEMENT OF CHANGES IN NET POSITION

(In Thousands)

For the years ended September 30,	2012	2011
<b>Cumulative Results of Operations</b>		
Beginning Balance	\$ 105,193	\$ 118,312
Budgetary Financing Sources		
Appropriations used (Note 11)	169,056	134,626
Non-exchange revenue (Note 11)	697	270
Transfers-in/out without reimbursement	-	9,980
Other Financing Sources		
Imputed financing from costs absorbed by others (Note 11)	33,705	50,534
Other	(697)	(270)
Total Financing Sources	202,761	195,140
<b>Net Cost of Operations</b>	<b>(147,760)</b>	<b>(208,259)</b>
<b>Net Change</b>	<b>55,001</b>	<b>(13,119)</b>
<b>Cumulative Results of Operations</b>	<b>\$ 160,194</b>	<b>\$ 105,193</b>
<b>Unexpended Appropriations</b>		
Beginning Balance	\$ 310,332	\$ 311,869
Budgetary Financing Sources		
Appropriations received	143,804	133,346
Other adjustments	-	(257)
Appropriations used (Note 11)	(169,056)	(134,626)
Total Budgetary Financing Sources	(25,252)	(1,537)
<b>Total Unexpended Appropriations</b>	<b>285,080</b>	<b>310,332</b>
<b>Net Position</b>	<b>\$ 445,274</b>	<b>\$ 415,525</b>

The accompanying notes to the principal statements are an integral part of this statement.



STATEMENT OF BUDGETARY RESOURCES

(In Thousands)

For the years ended September 30,	2012	2011
<b>Budgetary Resources</b>		
Unobligated balance brought forward, October 1	\$ 48,510	\$ 44,699
Recoveries of prior year unpaid obligations Actual	14,428	18,841
Unobligated balance from prior year budget authority, net	62,938	63,540
Budget authority		
Appropriations	1,038,204	1,053,962
Spending authority from offsetting collections	6,914	14,493
<b>Total Budgetary Resources</b>	<b>\$ 1,108,056</b>	<b>\$ 1,131,995</b>
<b>Status of Budgetary Resources</b>		
Obligations incurred (Note 12)	\$ 1,045,152	\$ 1,083,485
Unobligated balance, end of year		
Apportioned	50,977	28,853
Exempt from apportionment	10,497	9,892
Unapportioned	1,430	9,765
Total unobligated balance, end of year	62,904	48,510
<b>Total Status of Budgetary Resources</b>	<b>\$ 1,108,056</b>	<b>\$ 1,131,995</b>
<b>Change in Obligated Balance</b>		
Unpaid obligations brought forward, October 1	\$ 359,402	\$ 383,154
Uncollected customer payments from Federal sources, brought forward, October 1	(13,333)	(7,773)
Obligated balance, start of year (net), as adjusted	346,069	375,381
Obligations incurred (Note 12)	1,045,152	1,083,485
Outlays, gross	(1,086,872)	(1,088,396)
Recoveries of prior year unpaid obligations	(14,428)	(18,841)
Change in unpaid obligations	(56,148)	(23,752)
Change in uncollected customer payments, from Federal sources	4,702	(5,560)
Obligated balance, end of year		
Unpaid obligations, end of year (gross)	303,254	359,402
Uncollected customer payments from Federal sources, end of year	(8,631)	(13,333)
<b>Obligated Balance, End of Year (Net)</b>	<b>\$ 294,623</b>	<b>\$ 346,069</b>
<b>Budget Authority and Outlays, Net</b>		
Budget Authority, gross	\$ 1,045,118	\$ 1,068,455
Actual offsetting collections	(11,616)	(8,933)
Change in uncollected customer payments from Federal sources	4,702	(5,560)
<b>Budget Authority, Net</b>	<b>\$ 1,038,204</b>	<b>\$ 1,053,962</b>
Outlays, gross	\$ 1,086,872	\$ 1,088,396
Actual offsetting collections	(11,616)	(8,933)
Outlays, net	1,075,256	1,079,463
Distributed offsetting receipts	(894,399)	(910,901)
<b>Agency Outlays, Net</b>	<b>\$ 180,857</b>	<b>\$ 168,562</b>

The accompanying notes to the principal statements are an integral part of this statement.

## NOTES TO THE PRINCIPAL STATEMENTS

*(All Tables are Presented in Thousands)*

### NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### A. REPORTING ENTITY

The U.S. Nuclear Regulatory Commission (NRC) is an independent regulatory agency of the Federal Government that the U.S. Congress created to regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of the public health and safety, to promote the common defense and security, and to protect the environment. Its purposes are defined by the *Energy Reorganization Act of 1974*, as amended, along with the *Atomic Energy Act of 1954*, as amended, which provide the foundation for regulating the Nation's civilian use of nuclear materials.

The NRC operates through the execution of its congressionally approved appropriations for Salaries and Expenses (which includes funds derived from the Nuclear Waste Fund) and the Office of the Inspector General. In addition, the U.S. Agency for International Development (USAID) provides transfer appropriations to develop nuclear safety, regulatory authorities, and independent oversight of nuclear reactors in Russia, Ukraine, Kazakhstan, Georgia, and Armenia.

#### B. BASIS OF PRESENTATION

These principal statements report the financial position and results of operations of the NRC as required by the *Chief Financial Officers Act of 1990* and the *Government Management Reform Act of 1994*. These financial statements were prepared from the books and records of the NRC in conformance with the GAAP of the United States and the form and content for entity financial statements specified by the OMB in Circular No. A-136, "Financial Reporting Requirements." The GAAP for Federal entities are the standards prescribed by the Federal Accounting Standards Advisory Board, which is the official body for setting the accounting standards of the

U.S. Government. These statements are, therefore, different from the financial reports, also prepared by the NRC pursuant to OMB directives, which are used to monitor and control the NRC's use of budgetary resources.

The NRC has not presented a Statement of Custodial Activity because the amounts involved are immaterial and incidental to its operations and mission.

#### C. BUDGETS AND BUDGETARY ACCOUNTING

Budgetary accounting measures appropriation and consumption of budget spending authority or other budgetary resources and facilitates compliance with legal constraints and controls over the use of Federal funds. Under budgetary reporting principles, budgetary resources are consumed at the time of purchase. Assets and liabilities, which do not consume current budgetary resources, are not reported, and only those liabilities for which valid obligations have been established are considered to consume budgetary resources.

For FY 2012, Congress enacted no-year appropriations for the NRC Salaries and Expenses and the Office of the Inspector General, which are available for obligation by the NRC until expended. Additionally, Congress enacted a two year appropriation for the Office of the Inspector General, which is available for obligation by the NRC until September 30, 2013. Congress passed NRC's appropriation for FY 2012.

#### D. BASIS OF ACCOUNTING

These financial statements reflect both accrual and budgetary accounting transactions. Under the accrual method, revenues are recognized when earned and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. Budgetary accounting is also used to record the obligation of funds prior to the accrual-based transaction. The Statement of Budgetary Resources presents budgetary resources available to the NRC and changes in obligations during the year. Interest on borrowings of the Treasury is not included as a cost to the NRC programs and is not included in the accompanying financial statements.

Pursuant to OMB Circular A-136, the format of the Statement of Budgetary Resources (SBR) was revised in FY 2012 to better align with Treasury Standard Form (SF) 133. Accordingly,

certain reclassifications were made to the previously issued FY 2011 SBR amounts to conform to the new presentation used for FY 2012. Beginning balances for the FY 2011 SBR were not changed.

### E. REVENUES AND OTHER FINANCING SOURCES

The NRC is required to offset its appropriations by revenue received during the fiscal year from the assessment of fees. The NRC assesses two types of fees to recover its budget authority: (1) fees assessed under 10 CFR Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services under the *Atomic Energy Act of 1954*, as Amended," for licensing, inspection, and other services under the authority of the *Independent Offices Appropriation Act of 1952* to recover the NRC's costs of providing individually identifiable services to specific applicants and licensees; and (2) annual fees assessed for nuclear facilities and materials licensees under 10 CFR Part 171, "Annual Fees for Reactor Licenses and Fuel Cycle Licenses and Material Licenses." Licensing revenues are recognized on a straight-line basis over the licensing period. The annual licensing period for reactor and materials fees begins October 1 and ends September 30. Annual fees for reactors are invoiced in four quarterly installments, before the end of each quarter. The materials annual fee is invoiced in the month the license was originally issued. Inspection fees are recorded as revenues when the services are performed.

For accounting purposes, appropriations are recognized as financing sources (appropriations used) at the time goods and services are received. At the end of the fiscal year, appropriations recognized are reduced by the amount of assessed fees collected during the fiscal year to the extent of new budget authority for the year. Collections that exceed the new budget authority are held to offset subsequent years' appropriations. Appropriations expended for property and equipment are recognized as expenses when the asset is consumed in operations as reflected by depreciation and amortization expense.

### F. FUND BALANCE WITH TREASURY

The NRC's cash receipts and disbursements are processed by the Treasury. The Fund Balance with Treasury is primarily appropriated funds that are available to pay current liabilities and to finance authorized purchase commitments. Fund Balance with Treasury represents the NRC's right to draw on the Treasury for allowable expenditures.

### G. ACCOUNTS RECEIVABLE

Accounts receivable consist of amounts that other Federal agencies and the public owe to the NRC. Amounts due from the public are presented net of an allowance for uncollectible accounts. The allowance is determined based on the age of the receivable and allowance rates established from historical experience. Receivables from Federal agencies are expected to be collected; therefore, there is no allowance for uncollectible accounts for Federal agencies.

### H. NON-ENTITY ASSETS

Non-entity assets consist of miscellaneous penalties and interest due from the public, which, when collected, must be transferred to the Treasury.

### I. PROPERTY AND EQUIPMENT

Property and equipment consist primarily of typical office furnishings, leasehold improvements, nuclear reactor simulators, and computer hardware and software. The costs of internal use software include the full cost of salaries and benefits for agency personnel involved in software development. The NRC has no real property. The land and buildings in which the NRC operates are provided by the General Services Administration (GSA), which charges the NRC rent that approximates the commercial rental rates for similar properties.

Property with a cost of \$50 thousand or more per unit and a useful life of 2 years or more is capitalized at cost and depreciated using the straight-line method over the useful life. Other property items are expensed when purchased. Normal repairs and maintenance are charged to expense as incurred.

### J. ACCOUNTS PAYABLE

The NRC uses an estimation methodology to calculate the accounts payable balance which represents costs for billed and unbilled goods and services received (prior to year end) that are unpaid. The NRC had previously used an estimation methodology to calculate the accounts payable balance based on a review of the sample obligations from the total open obligations balances. For FY 2012, the NRC calculates the accounts payable amount using an average based on the historical trend of validated accruals. The estimation methodology is validated quarterly.

### K. LIABILITIES NOT COVERED BY BUDGETARY RESOURCES

Liabilities represent the amount of monies or other resources that the NRC is likely to pay as the result of a transaction or event that has already occurred. No liability can be paid by the NRC absent an appropriation. Liabilities for which an appropriation has not been enacted are classified as "Liabilities Not Covered by Budgetary Resources." Also, the NRC liabilities arising from sources other than contracts can be abrogated by the Government acting in its sovereign capacity.

#### Intragovernmental

The NRC records a liability to the U.S. Department of Labor (DOL) for *Federal Employees Compensation Act* (FECA) benefits paid by the DOL on behalf of the NRC.

#### Federal Employee Benefits

Federal employee benefits represent the actuarial liability for estimated future FECA disability benefits. The DOL generated the future workers' compensation estimate from an application of actuarial procedures developed to estimate the liability for FECA, which includes the expected liability for death, disability, medical, and miscellaneous costs for approved compensation cases. The liability is calculated using historical benefit payment patterns related to a specific incurred period to predict the ultimate payments related to that period.

#### Other

Accrued annual leave represents the amount of annual leave that NRC employees have earned but not yet taken.

### L. CONTINGENT LIABILITIES

Contingent liabilities are those for which the existence or amount of the liability cannot be determined with certainty pending the outcome of future events. The uncertainty should ultimately be resolved when one or more future events occur or fail to occur. A contingent liability (included in Other Liabilities) should be recorded when a past event or exchange transaction has occurred; a future outflow or other sacrifice of resources is probable; and the future outflow or sacrifice of resources is measurable. A contingency is considered probable when the future confirming event or events are more likely than not to occur, with the exception of pending or threatened litigation and unasserted claims. A contingency is disclosed in

the Notes to the Financial Statements if any of the conditions for liability recognition are not met and there is at least a reasonable possibility that a loss or an additional loss may have been incurred. A contingency is considered reasonably possible when the chance of the future confirming event or events occurring is more than remote but less than probable (Note 16). A contingency is not recognized as a contingent liability and an expense nor disclosed in the Notes to the Financial Statements when the chance of the future event or events occurring is remote. A contingency is considered remote when the chance of the future event or events occurring is slight.

### M. ANNUAL, SICK, AND OTHER LEAVE

Annual leave is accrued as it is earned and the accrual is reduced as leave is taken. Each year, the balance in the accrued annual leave liability account is adjusted to reflect current pay rates. To the extent that current or prior year funding is not available to cover annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of nonvested leave are expensed as taken.

### N. RETIREMENT PLANS

The NRC employees belong to either the Federal Employees Retirement System (FERS) or the Civil Service Retirement System (CSRS).

The NRC does not report on its financial statements FERS and CSRS assets, accumulated plan benefits, or unfunded liabilities, if any, applicable to its employees. Reporting such amounts is the responsibility of the U.S. Office of Personnel Management. The portion of the current and estimated future outlays for CSRS not paid by the NRC is included in the NRC's financial statements as an imputed financing source in the NRC's Statement of Changes in Net Position and as program costs on the Statement of Net Cost.

### O. LEASES

The NRC's capital leases are for personal property consisting of reproduction equipment that is installed at the NRC Headquarters.

Operating leases consist of real property leases with the GSA. The leases are for the NRC's Headquarters and regional offices. The GSA charges the NRC lease rates that approximate commercial rates for comparable space.

### P. PRICING POLICY

The NRC provides nuclear reactor and materials licensing and inspection services to the public and other Government entities. In accordance with OMB Circular No. A-25, "User Charges," and the *Independent Offices Appropriation Act of 1952*, the NRC assesses fees under 10 CFR Part 170 for licensing and inspection activities to recover the full cost of providing individually identifiable services.

The NRC's policy is to recover the full cost of goods and services provided to other Government entities in which the services performed are not part of its statutory mission and the NRC has not received appropriations for those services. Fees for reimbursable work are assessed at the 10 CFR Part 170 rate with minor exceptions for programs that are nominal activities of the NRC.

### Q. NET POSITION

The NRC's net position consists of unexpended appropriations and cumulative results of operations. Unexpended appropriations represent appropriated spending authority that is unobligated and has not been withdrawn by the Treasury and obligations that have not been paid. Cumulative results of operations represent the excess of financing sources over expenses since inception.

### R. USE OF MANAGEMENT ESTIMATES

The preparation of the accompanying financial statements in accordance with GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses. Actual results could differ from those estimates.

### S. APPROPRIATION TRANSFERS

The NRC is a party to allocation transfers with the USAID as a receiving (child) entity. These transfers are for the international development of nuclear safety and regulatory authorities in Russia, Ukraine, Kazakhstan, Georgia, and Armenia for the

startup, operation, shutdown, and decommissioning of Soviet-designed nuclear power plants; the safe and secure use of radioactive materials; and the accounting for and protection of nuclear materials. Allocation transfers are legal delegations by one agency of its authority to obligate budget authority and outlay funds to another agency. All financial activity related to these allocation transfers (e.g., budget authority, obligations, and outlays) is reported in the financial statements of the parent entity from which the underlying legislative authority, appropriations, and budget apportionments are derived. The NRC receives allocation transfers, as the child, from USAID.

### T. STATEMENT OF NET COST

The programs as presented on the Statement of Net Cost are based on the annual performance budget and are described as follows:

The Nuclear Reactor Safety and Security program encompasses all the NRC efforts to ensure that civilian nuclear power reactor facilities and research and test reactors are licensed and operated in a manner that adequately protects the public health and safety, and the environment, and protects against radiological sabotage and theft or diversion of special nuclear materials. The Nuclear Reactor Safety and Security program contains the following activities: operating reactors and new reactors.

The Nuclear Materials and Waste Safety and Security program encompasses all of the NRC efforts to protect the public health and safety and the environment and ensures the secure use and management of radioactive materials. The Nuclear Materials and Waste Safety and Security program contains the following activities: fuel facilities, nuclear materials users, decommissioning and low-level waste, spent fuel storage and transportation, and high-level waste repository.

For intragovernmental gross costs, the buyers and sellers are both Federal entities. For earned revenues from the public, the buyers of the goods or services are non-Federal entities.

NOTE 2. FUND BALANCE WITH TREASURY

	2012	2011
<b>Fund Balances</b>		
Appropriated funds	\$ 343,925	\$ 379,586
Nuclear Waste Fund	13,602	15,098
Other fund types	2	(104)
<b>Total</b>	<b>\$ 357,529</b>	<b>\$ 394,580</b>
<b>Status of Fund Balance with Treasury</b>		
Unobligated balance		
Available		
Appropriated funds	\$ 61,474	\$ 38,745
Unavailable	1,430	9,765
Obligated balance not yet disbursed	294,623	346,069
Non-budgetary funds with Treasury	2	1
<b>Total</b>	<b>\$ 357,529</b>	<b>\$ 394,580</b>

The Fund Balance with Treasury consists of the unobligated and obligated budgetary account balances. It includes Nuclear Waste Fund activity. The Nuclear Waste Fund unobligated balance is \$10.5 million and \$9.9 million as of September 30, 2012, and 2011, respectively.

Other fund types in the Fund Balance with Treasury represent miscellaneous collections and adjustments which will offset revenue in the following year.

NOTE 3. ACCOUNTS RECEIVABLE

	2012	2011
<b>Intragovernmental</b>		
Fee receivables and reimbursements	\$ 7,660	\$ 8,287
<b>Receivables with the Public</b>		
Materials and facilities fees-billed	\$ 3,180	\$ 13,107
Materials and facilities fees-unbilled	91,269	83,189
Other	61	180
Total Receivables with the Public	94,510	96,476
Less: Allowance for uncollectible accounts	(1,564)	(4,467)
<b>Total Receivables with the Public, Net</b>	<b>\$ 92,946</b>	<b>\$ 92,009</b>
Total Accounts Receivable	\$ 102,170	\$ 104,763
Less: Allowance for uncollectible accounts	(1,564)	(4,467)
<b>Total Accounts Receivable, Net</b>	<b>\$ 100,606</b>	<b>\$ 100,296</b>

NOTE 4. PROPERTY AND EQUIPMENT, NET

Fixed Assets Class	Service Years	Acquisition Value	Accumulated Depreciation and Amortization	2012 Net Book Value	2011 Net Book Value
Equipment	5-8	\$ 12,239	\$ (10,987)	\$ 1,252	\$ 1,613
Leased equipment	5-8	1,806	(1,508)	298	649
IT software	5	55,828	(38,418)	17,410	10,057
IT software under development	-	2,155	-	2,155	4,104
Leasehold improvements	20	69,998	(36,387)	33,611	15,128
Leasehold improvements in progress	-	45,256	-	45,256	14,991
<b>Total</b>		<b>\$ 187,282</b>	<b>\$ (87,300)</b>	<b>\$ 99,982</b>	<b>\$ 46,542</b>

**NOTE 5. OTHER LIABILITIES**

	2012	2011
<b>Intragovernmental</b>		
Liability to offset miscellaneous accounts receivable	\$ 6	\$ 60
Liability for advances from other agencies	18	81
Accrued workers' compensation	1,797	1,753
Accrued unemployment compensation	13	37
Employee benefit contributions	2,062	2,079
<b>Total Intragovernmental Other Liabilities</b>	<b>\$ 3,896</b>	<b>\$ 4,010</b>
<b>Other Liabilities</b>		
Accrued annual leave	\$ 47,824	\$ 49,918
Accrued salaries and benefits	8,772	9,138
Contract holdbacks, advances, capital lease liability, and other	5,544	5,344
Contingent liabilities	-	-
Grants payable	8,161	10,758
<b>Total Other Liabilities</b>	<b>\$ 70,301</b>	<b>\$ 75,158</b>
<b>Total Intragovernmental and Other Liabilities</b>	<b>\$ 74,197</b>	<b>\$ 79,168</b>

Other liabilities are current except for capital lease liability (Note 7).

**NOTE 6. LIABILITIES NOT COVERED BY BUDGETARY RESOURCES**

	2012	2011
<b>Intragovernmental</b>		
FECA paid by DOL	\$ 1,797	\$ 1,753
Accrued unemployment compensation	13	37
<b>Federal Employee Benefits</b>		
Future FECA	7,224	7,245
<b>Other</b>		
Accrued annual leave	47,824	49,918
Contingent liabilities	-	-
<b>Total Liabilities Not Covered by Budgetary Resources</b>	<b>56,858</b>	<b>58,953</b>
<b>Total Liabilities Covered by Budgetary Resources</b>	<b>67,735</b>	<b>70,662</b>
<b>Total Liabilities</b>	<b>\$ 124,593</b>	<b>\$ 129,615</b>

Liabilities Not Covered by Budgetary Resources represents the amount of future funding needed to pay the accrued unfunded expenses as of September 30, 2012, and 2011. These liabilities are not funded from current or prior-year appropriations and assessments, but rather should be funded from future appropriations and assessments. Accordingly, future funding requirements have been recognized for the expenses that will be paid from future appropriations.

The projected annual benefit payments for FECA are discounted to present value. The interest rate assumptions used for discounting benefits are 3.54 percent and 4.03 percent for FY 2012 and FY 2011, respectively.



NOTE 7. LEASES

				2012	2011
<b>Assets Under Capital Leases:</b>					
Copiers and booklet maker				\$ 1,806	\$ 1,806
Accumulated depreciation				(1,508)	(1,157)
<b>Net Assets Under Capital Leases</b>				<b>\$ 298</b>	<b>\$ 649</b>
				2012	2011
Future Lease Payments Due:	Fiscal Year	Capital	Operating		
	2012	\$ -	\$ -	\$ -	\$ 32,110
	2013	244	56,083	56,327	33,801
	2014	92	44,174	44,266	23,805
	2015	93	41,133	41,226	20,874
	2016	-	41,342	41,342	20,852
	2017 and thereafter	-	296,128	296,128	58,631
	Total Lease Liability	429	478,860	479,289	190,073
Add:	Imputed Interest	9	-	9	17
<b>Total Future Lease Payments</b>		<b>\$ 438</b>	<b>\$ 478,860</b>	<b>\$ 479,298</b>	<b>\$ 190,090</b>

The Capital Lease Liability of \$429 thousand is included in Other Liabilities (Note 5).

For FY 2012, there are six capital leases with terms of 5 years, consisting of two capital leases added in FY 2011 with an interest rate of 1.26 percent, two capital leases added in FY 2008 with an interest rate of 3.99 percent, and two capital leases added in FY 2007 with an interest rate of 4.58 percent. The reproduction equipment is depreciated over 5 years using the straight-line method with no salvage value.

For FY 2012, there are three new operating leases for new office space at the NRC Headquarters and regional offices. The GSA charges the NRC lease rates which are approximate commercial rates for comparable space.

NOTE 8. CUMULATIVE RESULTS OF OPERATIONS

	2012	2011
Liabilities not covered by budgetary resources (Note 6)	\$ (56,858)	\$ (58,953)
Investment in property and equipment, net (Note 4)	99,982	46,542
Contributions from foreign cooperative research agreements	4,064	3,997
Nuclear Waste Fund	13,782	15,024
Accounts receivable - fees	99,068	98,660
Fee collection revenue not transferred	104	(104)
Other	52	27
<b>Cumulative Results of Operations</b>	<b>\$ 160,194</b>	<b>\$ 105,193</b>

NOTE 9. STATEMENT OF NET COST

For the years ended September 30,	2012	2011
<b>Nuclear Reactor Safety and Security</b>		
Intragovernmental gross costs	\$ 237,830	\$ 257,924
Less: Intragovernmental earned revenue	(48,945)	(59,332)
Intragovernmental net costs	188,885	198,592
Gross costs with the public	586,261	599,644
Less: Earned revenues from the public	(766,756)	(727,408)
Net costs with the public	(180,495)	(127,764)
<b>Total Net Cost of Nuclear Reactor Safety and Security</b>	<b>\$ 8,390</b>	<b>\$ 70,828</b>
<b>Nuclear Materials and Waste Safety and Security</b>		
Intragovernmental gross costs	\$ 59,551	\$ 71,987
Less: Intragovernmental earned revenue	(6,228)	(7,686)
Intragovernmental net costs	53,323	64,301
Gross costs with the public	168,449	167,363
Less: Earned revenues from the public	(82,402)	(94,233)
Net costs with the public	86,047	73,130
<b>Total Net Cost of Nuclear Materials and Waste Safety and Security</b>	<b>\$ 139,370</b>	<b>\$ 137,431</b>

NOTE 10. EXCHANGE REVENUES

	2012	2011
Fees for licensing, inspection, and other services	\$ 894,860	\$ 879,208
Revenue from reimbursable work	9,471	9,452
<b>Total Exchange Revenues</b>	<b>\$ 904,331</b>	<b>\$ 888,660</b>

NOTE 11. FINANCING SOURCES OTHER THAN EXCHANGE REVENUE

	2012	2011
<b>Appropriations Used</b>		
Collections are used to reduce the fiscal year's appropriations recognized:		
Funds consumed	\$ 1,064,774	\$ 1,060,178
Less: Collection of fees assessed	(894,296)	(911,004)
Less: Nuclear Waste Funding expense	(1,422)	(14,548)
<b>Total Appropriations Used</b>	<b>\$ 169,056</b>	<b>\$ 134,626</b>
Funds consumed include \$48.6 million and \$44.7 million through September 30, 2012, and 2011, respectively, of available funds from prior years.		
	2012	2011
<b>Non-Exchange Revenue, Net of Funds Returned to U.S. Treasury General Fund</b>		
Civil penalties	\$ 466	\$ 98
Miscellaneous receipts	231	172
Non-Exchange Revenue	697	270
Contra-Revenue	(697)	(270)
<b>Total Non-Exchange Revenue, Net of Funds Returned to U.S. Treasury General Fund</b>	<b>\$ -</b>	<b>\$ -</b>
	2012	2011
<b>Imputed Financing</b>		
Civil Service Retirement System	\$ 13,193	\$ 16,541
Federal Employee Health Benefit	19,958	21,245
Federal Employee Group Life Insurance	90	92
Judgments/Awards	464	12,656
<b>Total Imputed Financing</b>	<b>\$ 33,705</b>	<b>\$ 50,534</b>

NRC employees belong to either the Federal Employees Retirement System (FERS) or the Civil Service Retirement System (CSRS). For FY 2012 and FY 2011, for employees belonging to FERS, the NRC withheld 0.8 percent of base pay earnings, in addition to *Federal Insurance Contribution Act* (FICA) withholdings, and matched the withholdings with an 11.7 percent contribution. The sum is transferred to the Federal Employees Retirement Fund. For employees covered by CSRS, the NRC withholds 7 percent of base pay earnings. The NRC matched this withholding with a 7 percent contribution in FY 2012 and FY 2011.

The Thrift Savings Plan (TSP) is a retirement savings and investment plan for employees belonging to either FERS or CSRS. The maximum percentage of base pay that an employee participating in FERS or CSRS may contribute is unlimited, subject to the maximum contribution of \$17 thousand in 2012 and \$16.5 thousand in 2011. For employees participating in FERS, the NRC automatically contributes 1 percent of base pay to their account and matches contributions up to an additional 4 percent. For employees participating in CSRS, there is no NRC matching of the contribution. The sum of the employees' and NRC's contributions are transferred to the Federal Retirement Thrift Investment Board.

**NOTE 12. TOTAL OBLIGATIONS INCURRED**

	2012	2011
Direct Obligations		
Category A	\$ 1,032,329	\$ 1,071,326
Exempt from Apportionment	-	7,341
Total Direct Obligations	1,032,329	1,078,667
Reimbursable Obligations	12,823	4,818
<b>Total Obligations Incurred</b>	<b>\$ 1,045,152</b>	<b>\$ 1,083,485</b>

Obligations exempt from apportionment are the result of funds derived from the Nuclear Waste Fund. Category A Obligations consist of the NRC appropriations only. Undelivered orders for the Nuclear Waste Fund are \$3.1 million and \$5.0 million, Salaries and Expenses are \$246.4 million and \$289.7 million, and the Office of the Inspector General is \$2.4 million and \$2.2 million through September 30, 2012, and 2011, respectively.

**NOTE 13. NUCLEAR WASTE FUND**

For FY 2012, the NRC's budget did not include funds from the Nuclear Waste Fund compared to the NRC's budget for FY 2011, which included \$9.9 million. The Statement of Federal Financial Accounting Standards (SFFAS) No. 27, "Identifying and Reporting Earmarked Funds," lists three defining criteria for an earmarked fund. Generally, an earmarked fund is established by law to use specifically identified financing sources only for designated activities, and the statute provides explicit authority to retain current, unused revenues for future use. Also, the law includes a requirement to account for and report on the receipt and use of the financing sources as distinguished from general revenues.

In 1982, Congress passed the *Nuclear Waste Policy Act of 1982* (Public Law 97-425) establishing the Nuclear Waste Fund (NWF) to be administered by the U.S. Department of Energy (DOE) (42 U.S.C. 10222). Given the terms of the statute, the NWF clearly meets the definition of an earmarked fund from the DOE's perspective, and the DOE does indeed report the NWF as an earmarked fund in its Performance and Accountability Report (PAR).

For the NRC, the NWF transfer is a source of financing; its receipt of NWF funds is a use of NWF resources. The NRC collects no revenue on behalf of the NWF and has no administrative control over it. Furthermore, the Treasury has no separate fund symbol for the NWF under the NRC's agency location code (ALC). The receipt and expenditure of NWF money is reported to Treasury under the NRC's primary Salaries and Expenses fund (X0200).

Based on these facts, the NWF is not an earmarked fund from the NRC's perspective. In order to provide additional information to the users of these financial statements, enhanced disclosure of the fund is presented below.

The funding provided to the NRC in FY 2011 and carried forward to subsequent years was for the purpose of performing activities associated with the DOE's application for a high-level waste repository at Yucca Mountain, NV.

The NWF amounts received, expended, obligated, and unobligated balances as of September 30, 2012, and 2011, are shown in the following:

	2012	2011
Appropriations received	\$ -	\$ 9,980
Expended appropriations	\$ 1,689	\$ 14,601
Obligations incurred	\$ -	\$ 7,341
Unobligated balances	\$ 10,497	\$ 9,996

**NOTE 14. EXPLANATION OF DIFFERENCES BETWEEN THE STATEMENT OF BUDGETARY RESOURCES AND THE BUDGET OF THE U.S. GOVERNMENT**

The Statement of Federal Financial Standards (SFFAS) No. 7, "Accounting for Revenue and Other Financing Sources," requires the NRC to reconcile the budgetary resources reported on the Statement of Budgetary Resources to the prior fiscal year actual budgetary resources presented in the Budget of the U.S. Government and explain any material differences. The NRC does not have any material differences between the Statement of Budgetary Resources and the Budget of the U.S. Government.

**NOTE 15. RECONCILIATION OF NET COST OF OPERATIONS TO BUDGETARY RESOURCES**

For the years ended September 30,	2012	2011
<b>Budgetary Resources Obligated</b>		
Obligations incurred (Note 12)	\$ 1,045,152	\$ 1,083,485
Less: Spending authority from offsetting collections and recoveries	(21,342)	(33,334)
Less: Distributed offsetting receipts	(894,399)	(910,901)
Net Obligations	129,411	139,250
<b>Other Resources</b>		
Imputed financing from costs absorbed by others	33,705	50,534
Non-Exchange Revenue	697	270
Funds returned to U.S. Treasury General Fund	(697)	(270)
Net Other Resources Used to Finance Activities	33,705	50,534
Total Resources Used to Finance Activities	163,116	189,784
Resources Used to Finance Items Not Part of the Net Cost of Operations	(26,311)	(14,846)
Total Resources Used to Finance the Net Cost of Operations	136,805	174,938
Components of the Net Cost of Operations that will not require or generate resources in the current period	10,955	33,321
<b>Net Cost of Operations</b>	<b>\$ 147,760</b>	<b>\$ 208,259</b>

**NOTE 16. CONTINGENCIES**

The NRC is subject to potential liabilities in various administrative proceedings, legal actions, environmental suits, and claims brought against it. In the opinion of the NRC's management and legal counsel, the ultimate resolution of these proceedings, actions, suits, and claims will not materially affect the financial position or net costs of the NRC.

*Reasonably Possible Likelihood of an Adverse Outcome:*

The NRC was a party to a case as of September 30, 2012 and 2011 where an adverse outcome was reasonably possible. The upper range of the loss on the potential liability was \$2.5 million and \$150 thousand as of September 30, 2012 and 2011, respectively.

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF BUDGETARY RESOURCES**

*(In Thousands)*

For the fiscal year ended September 30, 2012	Salaries and Expenses	Office of Inspector General	Office of Inspector General	Nuclear Facility Fees	Total
	X0200	X0300	12/130300	X5280	
<b>Budgetary Resources</b>					
Unobligated balances brought forward, October 1	\$ 47,602	\$ 1,012	\$ -	\$ (104)	\$ 48,510
Recoveries of prior year obligations					
Actual	13,992	436	-	-	14,428
Unobligated balance from prior year budget authority, net	61,594	1,448	-	(104)	62,938
Budget authority					
Appropriations	1,027,240	9,774	1,086	104	1,038,204
Spending authority from offsetting collections	6,900	14	-	-	6,914
<b>Total Budgetary Resources</b>	<b>\$ 1,095,734</b>	<b>\$ 11,236</b>	<b>\$ 1,086</b>	<b>\$ -</b>	<b>\$ 1,108,056</b>
<b>Status of Budgetary Resources</b>					
Obligations incurred (Note 12)	\$ 1,034,287	\$ 9,779	\$ 1,086	\$ -	\$ 1,045,152
Unobligated balance, end of year					
Apportioned	49,564	1,413	-	-	50,977
Exempt from apportionment	10,497	-	-	-	10,497
Unapportioned	1,386	44	-	-	1,430
Total unobligated balance, end of year	61,447	1,457	-	-	62,904
<b>Total Status of Budgetary Resources</b>	<b>\$ 1,095,734</b>	<b>\$ 11,236</b>	<b>\$ 1,086</b>	<b>\$ -</b>	<b>\$ 1,108,056</b>
<b>Change in Obligated Balance</b>					
Unpaid obligations, brought forward, October 1	\$ 358,707	\$ 695	\$ -	\$ -	\$ 359,402
Uncollected customer payments from Federal sources, brought forward, October 1	(13,333)	-	-	-	(13,333)
Obligated balance, start of year (net), as adjusted	345,374	695	-	-	346,069
Obligations incurred (Note 12)	1,034,287	9,779	1,086	-	1,045,152
Outlays, gross	(1,076,390)	(9,396)	(1,086)	-	(1,086,872)
Recoveries of prior year unpaid obligations	(13,992)	(436)	-	-	(14,428)
Change in unpaid obligations	(56,095)	(53)	-	-	(56,148)
Change in uncollected customer payments, from Federal sources	4,702	-	-	-	4,702
Obligated balance, end of year					
Unpaid obligations, end of year (gross)	302,612	642	-	-	303,254
Uncollected customer payments from Federal sources, end of year	(8,631)	-	-	-	(8,631)
<b>Obligated Balance, End of Year (Net)</b>	<b>\$ 293,981</b>	<b>\$ 642</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 294,623</b>
<b>Budget Authority and Outlays, Net</b>					
Budget Authority, gross	\$ 1,034,140	\$ 9,788	\$ 1,086	\$ 104	\$ 1,045,118
Actual offsetting collections	(11,602)	(14)	-	-	(11,616)
Change in uncollected customer payments from Federal sources	4,702	-	-	-	4,702
<b>Budget Authority, Net</b>	<b>\$ 1,027,240</b>	<b>\$ 9,774</b>	<b>\$ 1,086</b>	<b>\$ 104</b>	<b>\$ 1,038,204</b>
Outlays, gross	\$ 1,076,390	\$ 9,396	\$ 1,086	\$ -	\$ 1,086,872
Actual offsetting collections	(11,602)	(14)	-	-	(11,616)
Outlays, net	1,064,788	9,382	1,086	-	1,075,256
Distributed offsetting receipts	-	-	-	(894,399)	(894,399)
<b>Agency Outlays, Net</b>	<b>\$ 1,064,788</b>	<b>\$ 9,382</b>	<b>\$ 1,086</b>	<b>\$ (894,399)</b>	<b>\$ 180,857</b>

## INSPECTOR GENERAL'S LETTER TRANSMITTING INDEPENDENT AUDITORS' REPORT



OFFICE OF THE  
INSPECTOR GENERAL

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 14, 2012

MEMORANDUM TO: Chairman Macfarlane

FROM:   
*for* Hubert T. Bell  
Inspector General

SUBJECT: RESULTS OF THE AUDIT OF THE UNITED STATES  
NUCLEAR REGULATORY COMMISSION'S FINANCIAL  
STATEMENTS FOR FISCAL YEARS 2012 and 2011  
(OIG-13-A-04)

The Chief Financial Officers Act of 1990, as amended (CFO Act), requires the Inspector General (IG) or an independent external auditor, as determined by the IG, to annually audit the United States Nuclear Regulatory Commission's (NRC) financial statements in accordance with applicable standards. In compliance with this requirement, the Office of the Inspector General (OIG) retained Clifton Gunderson, LLP, which merged with another firm to become CliftonLarsonAllen, LLP (CLA), to conduct this annual audit. Transmitted with this memorandum are the following CLA reports:

- Opinion on the Principal Statements.
- Opinion on Internal Control.
- Compliance with Laws and Regulations.

NRC's Performance and Accountability Report includes comparative financial statements for FY 2012 and FY 2011.

### Objective of a Financial Statement Audit

The objective of a financial statement audit is to determine whether the audited entity's financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation.

CLA's audit and examination were conducted in accordance with auditing standards generally accepted in the United States of America; *Government Auditing Standards* issued by the Comptroller General of the United States; attestation standards established by the American Institute of Certified Public Accountants; and Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, as amended. The audit included, among other things, obtaining an understanding of NRC and its operations, including internal control over financial reporting; evaluating the design and operating effectiveness of internal control and assessing risk; and testing relevant internal controls over financial reporting. Because of inherent limitations in any internal control, misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal control to future periods are subject to the risk that the internal control may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

#### **FY 2012 Audit Results**

The results are as follows:

##### Financial Statements

- Unqualified opinion.

##### Internal Controls

- Unqualified opinion.

##### Compliance with Laws and Regulations

- No reportable instances of noncompliance/no substantial noncompliance noted.

#### **Office of the Inspector General Oversight of CLA Performance**

To fulfill our responsibilities under the CFO Act and related legislation for oversight of the quality of the audit work performed, we monitored CLA's audit of NRC's FY 2012 financial statements by:

- Reviewing CLA's audit approach and planning.
- Evaluating the qualifications and independence of CLA's auditors.
- Monitoring audit progress at key points.
- Examining the working papers related to planning and performing the audit and assessing NRC's internal controls.
- Reviewing CLA's audit reports for compliance with *Government Auditing Standards* and OMB Bulletin No. 07-04, as amended.



- Coordinating the issuance of the audit reports.
- Performing other procedures deemed necessary.

CLA is responsible for the attached auditor's report, dated November 8, 2012, and the conclusions expressed therein. OIG is responsible for technical and administrative oversight regarding the firm's performance under the terms of the contract. Our oversight, as differentiated from an audit in conformance with *Government Auditing Standards*, was not intended to enable us to express, and accordingly we do not express, an opinion on:

- NRC's financial statements.
- The effectiveness of NRC's internal control over financial reporting.
- NRC's compliance with laws and regulations.

However, our monitoring review, as described above, disclosed no instances where CLA did not comply, in all material respects, with applicable auditing standards.

#### **Meeting with the Chief Financial Officer**

At the exit conference on November 13, 2012, representatives of the Office of the Chief Financial Officer, OIG, and CLA discussed the results of the audit.

#### **Comments of the Chief Financial Officer**

In his response, the Chief Financial Officer (CFO) agreed with the report. The full text of the CFO's response follows this report.

We appreciate NRC staff's cooperation and continued interest in improving financial management within NRC.

Attachment: As stated

cc: Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff  
N. Mamish, OEDO  
K. Brock, OEDO  
C. Jaegers, OEDO

## INDEPENDENT AUDITORS' REPORT



CliftonLarsonAllen LLP  
www.cliftonlarsonallen.com

### INDEPENDENT AUDITORS' REPORT

Inspector General  
United States Nuclear Regulatory Commission

Chairman  
United States Nuclear Regulatory Commission

We have audited the accompanying balance sheets of the United States Nuclear Regulatory Commission (NRC) as of September 30, 2012 and 2011, and the related statements of net cost, changes in net position, and budgetary resources ("financial statements") for the years then ended. The objective of our audit was to express an opinion on the fairness of these financial statements. In connection with our audit, we were also engaged to express an opinion on the effectiveness of NRC's internal control over financial reporting and considered NRC's compliance with laws and regulations. In our audit, we found:

- The financial statements are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America (U.S.);
- NRC maintained, in all material respects, effective internal control over financial reporting including safeguarding of assets and compliance with laws and regulations; and
- No instances of reportable noncompliance with selected provisions of laws and regulations tested, including the requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA).

The following sections discuss in more detail: (1) these conclusions; (2) Management's Discussion and Analysis (MD&A), required supplementary information, and other accompanying information; (3) management's responsibility for the financial statements; (4) our responsibility for the audit; and (5) certain other matters.

#### Opinion on the Financial Statements

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of NRC as of September 30, 2012 and 2011, its net costs, changes in net position, and budgetary resources for the years then ended in conformity with accounting principles generally accepted in the U.S.

**INDEPENDENT AUDITOR'S REPORT (Continued)**

**Opinion on Internal Control**

In our opinion, the NRC maintained, in all material respects, effective control over financial reporting including safeguarding of assets and compliance with laws and regulations as of September 30, 2012, that provided reasonable assurance that misstatements, losses or noncompliance material in relation to the financial statements would be prevented, or detected and corrected, on a timely basis. Our opinion is based on criteria established under 31 U.S.C. 3512 (c) and (d) and the Federal Managers' Financial Integrity Act (FMFIA).

**Report on Compliance**

In connection with our audit, we performed tests of NRC's compliance with certain provisions of laws and regulations. The results of our tests disclosed no instances of noncompliance that are required to be reported in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States or OMB Bulletin 07-04, *Audit Requirements for Federal Financial Statements*, as amended (OMB Bulletin 07-04). However, the objective of our audit was not to provide an opinion on compliance with laws and regulations. Accordingly, we do not express such an opinion.

Under FFMA, we are required to report whether the financial management systems used by NRC substantially comply with (1) Federal financial management systems requirements, (2) applicable Federal accounting standards, and (3) the United States Standard General Ledger (USSGL) at the transaction level. To meet this requirement, we performed tests of compliance with FFMA Section 803(a) requirements.

The objective of our audit was not to provide an opinion on NRC's compliance with FFMA. Accordingly, we do not express such an opinion. However, our work disclosed no instances in which NRC's financial management systems did not substantially comply with (1) Federal financial management systems requirements, (2) Federal accounting standards, or (3) the USSGL at the transaction level.

**Required Supplementary Information**

Accounting principles generally accepted in the U.S. require that NRC's Management Discussion and Analysis (MD&A) and other required supplementary information be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Federal Accounting Standards Advisory Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the MD&A and required supplementary information in accordance with auditing standards generally accepted in the U.S., which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

**INDEPENDENT AUDITOR'S REPORT (Continued)**

**Other Information**

Other Accompanying Information in Chapters 2 and 4 (Program Performance and Other Accompanying Information) of NRC's Fiscal Year 2012 Performance and Accountability Report is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

**Management's Responsibility for the Financial Statements**

An entity's internal control over financial reporting is a process effected by those charged with governance, management, and other personnel, the objectives of which are to provide reasonable assurance that (1) transactions are properly recorded, processed, and summarized to permit the preparation of financial statements in accordance with accounting principles generally accepted in the U.S., and assets are safeguarded against loss from unauthorized acquisition, use, or disposition; and (2) transactions are executed in accordance with laws and regulations that could have a direct and material effect on the financial statements.

Management is responsible for (1) preparing the financial statements in conformity with accounting principles generally accepted in the U.S.; (2) preparing and presenting other information in documents containing the audited financial statements and auditor's report, and ensuring the consistency of that information with the audited financial statements; (3) designing, implementing, and maintaining effective internal control over financial reporting, and evaluating its effectiveness; (4) ensuring that NRC's financial management systems substantially comply with FFMIA requirements; and (5) complying with applicable laws and regulations. NRC management evaluated the effectiveness of NRC's internal control over financial reporting as of September 30, 2012, based on criteria established under FMFIA.

**Auditor's Responsibility**

We are responsible for conducting our audit in accordance with auditing standards generally accepted in the U.S.; the standards applicable to the financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Bulletin 07-04. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the U.S. We are also responsible for: (1) obtaining a sufficient understanding of internal control over financial reporting and compliance to plan the audit, (2) testing whether NRC's financial management systems substantially comply with the FFMIA requirements referred to above, (3) testing compliance with selected provisions of laws and regulations that have a direct and material effect on the financial statements and laws for which OMB Bulletin 07-04 requires testing, and (4) performing limited procedures with respect to other information appearing in the Performance and Accountability Report.

In order to fulfill these responsibilities, we (1) examined, on a test basis, evidence supporting the amounts and disclosures in the financial statements; (2) assessed the appropriateness of the accounting policies used and the reasonableness of significant estimates made by management; (3) evaluated the overall presentation of the financial statements; (4) obtained an understanding of NRC and its operations, including its internal control related to financial reporting (including safeguarding of assets) and compliance with laws, regulations, contracts,

**INDEPENDENT AUDITOR'S REPORT (Continued)**

and grant agreements (including execution of transactions in accordance with budget authority); (5) evaluated the effectiveness of the design of internal control; (6) tested the operating effectiveness of relevant internal controls over financial reporting and compliance; (7) considered the design of the process for evaluating and reporting on internal control and financial management systems under FMFIA; (8) tested whether NRC's financial management systems substantially complied with the FMFIA requirements referred to above; and (9) tested compliance with selected provisions of certain laws, regulations, contracts, and grant agreements. The procedures selected depend on the auditors' judgment, including our assessment of risks of material misstatement of the financial statements, whether due to fraud or error. We believe we obtained sufficient and appropriate audit evidence on which to base our conclusions.

We did not evaluate all internal controls relevant to operating objectives as broadly defined by the FMFIA, such as those controls relevant to preparing statistical reports and ensuring efficient operations. We limited our internal control testing to controls over financial reporting and compliance. Because of inherent limitations in internal control, misstatements due to error or fraud, losses, or noncompliance may nevertheless occur and not be detected. We also caution that projecting our audit results to future periods is subject to risk that controls may become inadequate because of changes in conditions or that the degree of compliance with controls may deteriorate. In addition, we caution that our internal control testing may not be sufficient for other purposes.

We did not test compliance with all laws and regulations applicable to NRC. We limited our tests of compliance to selected provisions of laws and regulations that have a direct and material effect on the financial statements and those required by OMB Bulletin 07-04 that we deemed applicable to NRC's financial statements for the fiscal year ended September 30, 2012. We caution that noncompliance with laws and regulations may occur and not be detected by these tests and that such testing may not be sufficient for other purposes.

**Other Matters**

We noted certain matters involving the NRC's internal controls and its operation, which we have reported to NRC management in a separate letter dated November 8, 2012.

Management's response to our report is presented in Chapter 3 of NRC's Fiscal Year 2012 Performance and Accountability Report. We did not audit NRC's response and, accordingly, we express no opinion on it.

This report is intended solely for the information and use of NRC's management, NRC's Office of the Inspector General, OMB, the U.S. Government Accountability Office, and the U.S. Congress, and is not intended to be, and should not be, used by anyone other than these specified parties.

*CliftonLarsonAllen LLP*

Arlington, Virginia  
November 8, 2012

## MANAGEMENT'S RESPONSE TO THE INDEPENDENT AUDITORS' REPORT ON THE FINANCIAL STATEMENTS



CHIEF FINANCIAL  
OFFICER

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 13, 2012

MEMORANDUM TO: Stephen D. Dingbaum  
Assistant Inspector General for Audits  
Office of the Inspector General

FROM: J. E. Dyer *Melvin Brown for*  
Chief Financial Officer

SUBJECT: AUDIT OF THE FISCAL YEAR 2012 AND 2011 FINANCIAL  
STATEMENTS

We appreciate the collaborative relationship between the Office of the Inspector General, the auditors, and the Office of the Chief Financial Officer in supporting our continuing effort to improve financial reporting. We have reviewed the Independent Auditor's Report of the Agency's Fiscal Year 2012 and 2011 financial statements and are in agreement with it.

cc: N. Mamish, AO/OEDO  
J. Arildsen, OEDO  
K. Bock, OEDO  
C. Jaegers, OEDO



# Chapter 4

## OTHER ACCOMPANYING INFORMATION

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*Chapter 4* | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST  
SERIOUS MANAGEMENT AND PERFORMANCE  
CHALLENGES FACING NRC



OFFICE OF THE  
INSPECTOR GENERAL

**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

October 1, 2012

MEMORANDUM TO: Chairman Macfarlane

FROM: Hubert T. Bell /RA/  
Inspector General

SUBJECT: INSPECTOR GENERAL'S ASSESSMENT OF THE MOST  
SERIOUS MANAGEMENT AND PERFORMANCE  
CHALLENGES FACING NRC (OIG-13-A-01)

The Reports Consolidation Act of 2000 requires the Inspector General of each Federal agency to annually summarize what he or she considers to be the most serious management and performance challenges facing the agency and to assess the agency's progress in addressing those challenges. In accordance with the act, I identified seven management and performance challenges confronting the Nuclear Regulatory Commission (NRC) that I consider to be the most serious.

Although most of the 2012 challenges were reworded slightly from the 2011 challenges, these changes were intended to improve clarity or reflect shifts in emphasis in the challenge areas, but not to indicate any substantive changes in the fundamental challenges themselves.

If you have any questions, please contact Stephen D. Dingbaum, Assistant Inspector General for Audits, at 415-5915 or me at 415-5930.

Attachment: As stated

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### Most Serious Management and Performance Challenges Facing the Nuclear Regulatory Commission as of October 1, 2012\* (as identified by the Inspector General)

Challenge 1	Management of regulatory processes to meet a changing environment in the oversight of nuclear materials.
Challenge 2	Management of internal NRC security and oversight of licensee security programs.
Challenge 3	Management of regulatory processes to meet a changing environment in the oversight of nuclear facilities.
Challenge 4	Management of issues associated with the safe storage of high-level radioactive waste when there is no long-term disposal solution.
Challenge 5	Management of information technology.
Challenge 6	Administration of all aspects of financial management and procurement.
Challenge 7	Management of human capital.

*\*The most serious management and performance challenges are not ranked in any order of importance. This report has been condensed for inclusion in the FY 2012 Performance and Accountability Report. For a full version of this report go to <http://www.nrc.gov/reading-rm/doc-collections/insp-gen/>*

# Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

## CHALLENGE 1

### MANAGEMENT OF REGULATORY PROCESSES TO MEET A CHANGING ENVIRONMENT IN THE OVERSIGHT OF NUCLEAR MATERIALS

#### OVERVIEW

NRC is responsible for maintaining an established regulatory framework for the safe and secure use of nuclear materials; medical, industrial, and academic applications; uranium recovery activities; and low-level radioactive waste sites. NRC is authorized to grant licenses for the possession and use of radioactive materials and establish regulations to govern the possession and use of those materials. Agency regulations require that certain material licensees have extensive material control and accounting programs as a condition of their licenses. Other license applicants (including those requesting authorization to possess small quantities of special nuclear materials<sup>1</sup>) must develop and implement plans that demonstrate a commitment to accurately control and account for radioactive materials. Upon a State's request, NRC may enter into an agreement to relinquish its authority to the State to regulate certain radioactive materials and limited quantities of special nuclear material. The State must demonstrate that its regulatory program is adequate to protect public health and safety and compatible with NRC's program. The States that enter into an agreement assuming this regulatory authority from NRC are called Agreement States. Currently, there are 37 Agreement States.

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<sup>1</sup>Special nuclear material, as defined by Title 1 of the Atomic Energy Act of 1954, is plutonium, uranium-233, or uranium enriched in the isotopes uranium-233 or uranium-235.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### ISSUES

- Ensure appropriate oversight of radioactive material. This includes the implementation of the National Source Tracking System, Web Based Licensing, and the Licensing Verification System to ensure the accurate tracking and control of byproduct material, especially those materials with the greatest potential to impact public health and safety.
- Ensure that radioactive material is adequately protected to preclude its use for malicious purposes.
- Ensure appropriate oversight of nuclear materials used in medicine.
- Ensure reliable accounting of special nuclear materials in the NRC and Department of Energy jointly managed Nuclear Materials Management and Safeguards System.
- Ensure the appropriate oversight of uranium recovery facilities. The Department of Energy is responsible for cleanup and remediation of these sites under an NRC general license.
- Ensure the management and safe storage and disposal of low-level radioactive waste produced as a result of NRC-licensed activities. All current low-level waste disposal sites are regulated by Agreement States.
- Ensure that Agreement State programs are adequate to protect public health and safety and the environment, and are compatible with NRC's program.

### ASSESSMENT

During FY 2012, OIG audited several areas dealing with NRC's oversight of nuclear materials. Regarding NRC's oversight of industrial radiography, OIG found four distinct areas where NRC could improve. OIG found that radiography licenses do not clearly or consistently indicate what activities licensees are authorized to conduct or where they may conduct them, the agency's inspection program guidance lacks needed specificity, temporary job site inspections are not being conducted as often as possible, and NRC has an inconsistent approach for inspecting NRC licensee facilities in Agreement States.

OIG conducted two audits concerning general licenses. In its first audit, OIG identified that general licensed devices could contain dangerous radioactive sources even though persons with no radiation training or experience were allowed to operate the devices. In the second audit, OIG found that many general licensees are unaware of NRC's regulatory requirements for general licensed devices increasing the probability that accountability of such devices will decrease, placing public health and safety and the environment at risk.

## *Chapter 4* | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

Since FY 2003, OIG has been tracking NRC's progress regarding the reliable accounting of special nuclear materials. While the agency has made some progress, it still needs to conduct periodic inspections to verify that material licensees comply with material control and accounting requirements as well as document the basis of the approach used to risk inform NRC's oversight of material control and accountability activities for all types of materials licensees.

During FY 2012, OIG's audit on the oversight of uranium recovery facilities disclosed two opportunities for more effective oversight. OIG found that the agency needs to improve its compliance with the terms of the site-specific memoranda of understanding it has with the Environmental Protection Agency and NRC needs to reduce its reliance on the Department of Energy's inspection program to alert NRC to problems at decommissioned uranium recovery sites in Department of Energy custody.

During FY 2012, OIG reviewed and found acceptable the agency's implementation and availability of the National Enforcement Database Web Site, which provides a standardized data collection process that can be used as the basis for an information sharing tool among NRC and Agreement States.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### CHALLENGE 2

#### MANAGEMENT OF INTERNAL NRC SECURITY AND OVERSIGHT OF LICENSEE SECURITY PROGRAMS

##### OVERVIEW

NRC must remain vigilant of the security of its own infrastructure and that of nuclear facilities and nuclear material. Ensuring predictability in the security environment is an ongoing challenge for NRC. NRC must continue to use robust, proactive measures to protect its infrastructure – the buildings, personnel, and information – from both internal and external threats. Moreover, as the nature of the threat continues to evolve, NRC faces challenges with protecting nuclear facilities and materials, the constant sharing of sensitive information, as well as emergency preparedness and incident response.

##### ISSUES

- Review and strengthen internal physical and information security programs to protect NRC assets (e.g., NRC headquarters and regional facilities, safeguards and classified information, and information systems).
- Manage information in accordance with new Federal Government policies for designating, marking, safeguarding, and disseminating controlled unclassified information (CUI).
- Review and strengthen physical and cyber security inspection programs to protect licensee owned assets (e.g., facility designs, technology descriptions, dual use material and components, safeguards and classified information) from compromise.
- Review nuclear power plant emergency preparedness oversight.

##### ASSESSMENT

During FY 2012, OIG auditors found that while NRC has made improvements to the Safeguards Information (SGI) program, NRC lacked a structured process for tracking SGI releases, lacked guidance on granting “outsiders” access to SGI, and had inadequate business processes over the SGI designator role. OIG also found that while the information systems security program has improved, the agency’s plan of action and milestones still needs improvement, the agency has not developed an organization-wide risk management strategy, and configuration management procedures are not consistently implemented.

## *Chapter 4* | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

OIG found sensitive unclassified non-safeguards information (SUNSI)<sup>2</sup> on an NRC shared drive. NRC has not yet fully implemented quality assurance checks following network upgrades to ensure that access controls are preserved in shared network drives that process documents containing SUNSI/CUI.

OIG identified that a more systematic approach to analyzing security findings data beyond the regional level can help NRC staff better identify licensee performance trends. Further, periodic reviews of the significance determination process (SDP) assessment tools and systemic testing of new and revised SDP assessment tools can help staff apply SDP assessment tools in a more transparent and consistent manner.

As part of issue area monitoring, OIG reviewed the agency's cyber security roadmap to understand the status of the staff's approach for evaluating cyber security at power reactor licensees and combined operating license applicants.

An OIG investigation completed during FY 2012 concerning a contractor's mishandling of NRC employee personally identifiable information (PII) identified a shortcoming in NRC's contractual arrangement for the contractor to routinely provide PII to the Office of Personnel Management. OIG determined that the contractual arrangement did not adequately address the retention and destruction of NRC employee PII data.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

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<sup>2</sup>SUNSI is any information of which the loss, misuse, modification, or unauthorized access can reasonably be foreseen to harm the public interest, the commercial or financial interests of the entity or individual to whom the information pertains, the conduct of NRC and Federal programs, or the personal privacy of individuals. SUNSI includes allegation information, security-related information, Privacy Act information, among others. SUNSI will be included under the new CUI categorization of Government information.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### CHALLENGE 3

#### MANAGEMENT OF REGULATORY PROCESSES TO MEET A CHANGING ENVIRONMENT IN THE OVERSIGHT OF NUCLEAR FACILITIES

##### OVERVIEW

NRC faces the challenge of maintaining its core regulatory programs while adapting to changes in its regulatory environment. NRC must address a highly variable interest in licensing and constructing new nuclear power plants to meet the Nation's increasing demands for energy production. As of July 2012, NRC had received 18 Combined License applications, 10 of which NRC was actively reviewing. Moreover, the agency is reviewing two standard design certifications and, for advanced reactors, expects to receive two design certification applications and one construction permit application through 2014.

While responding to the emerging demands associated with licensing and regulating new reactors, NRC must maintain focus and effectively carry out its current regulatory responsibilities, such as inspections of the current fleet of operating nuclear reactors and fuel cycle facilities. NRC intends to increase its safety focus on licensing and oversight activities through risk-informed and performance-based regulation.

Further, the U.S. Court of Appeals for the District of Columbia Circuit ruled in June 2012 that NRC's waste-confidence decision had not adequately addressed all environmental effects and thus violated the National Environmental Policy Act. In September 2012, the Commission directed the NRC staff to develop, within the next 24 months, an environmental impact statement, a revised waste confidence decision, and a rule on the temporary storage of spent nuclear fuel. While agency staff believe that the license application review activities and ongoing plant construction will not be delayed by the court ruling, the ultimate impact on final licensing decisions and new construction approvals is yet to be determined.



# Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

## ISSUES

### NEW FACILITIES

- Implement the new Construction Inspection Program.
  - Risk-inform Construction Inspection Program activities to ensure the safe operation of newly constructed nuclear facilities.
  - Ensure that the NRC staff has the necessary knowledge and skill to successfully implement the program.
- As the public's demand for new energy sources continues, NRC must ensure that the process for reviewing applications for new facilities focuses on safety and effectiveness.
- As the sources of manufactured reactor components become more globalized, NRC must ensure that its regulations and oversight activities appropriately address the challenges associated with licensees procuring components from suppliers located outside the United States.

### EXISTING FLEET

- Ensure that NRC maintains the ability to effectively review licensee applications for license renewals and power uprates submitted by industry in response to the Nation's increasing demands for energy production.
- Respond to a heightened public focus on license renewals resulting in contested hearings.
- Ensure the ability to identify emerging operating and safety issues at all plants, including issues associated with license renewal and power uprates; consistently apply regulatory and review changes in response to these emerging issues across the existing fleet of reactors.
- Establish and maintain effective, stable, and predictable regulatory programs or policies for all programs.

### CROSS-CUTTING ISSUES

- Systematically identify and develop, and consistently implement internal controls to ensure effectiveness and efficiency of agency operations and resources.
- Identify and improve weak, informal, or unstructured processes to facilitate effective, efficient, and consistent staff activities.
- Improve the clarity, consistency, and comprehensiveness of guidance for NRC staff such as the *Inspection Manual* and inter/intra-office guidance.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### ASSESSMENT

During FY 2012, OIG auditors identified a variety of needs related to new facility construction oversight:

- *Guidance and training:* OIG found that the agency did not have formal guidelines governing the use of key documents used in construction inspection, and had not established procedures for updating the key documents and communicating the changes to agency stakeholders. NRC also lacked guidance for some types of inspection activity and needed to clarify stakeholder roles and responsibilities. Furthermore, NRC needs to design construction inspection training programs through a formalized needs assessment to ensure that agency staff is receiving appropriate and useful training.
- *Inspection activity tracking:* OIG found that one of the agency's database tools to document new reactor construction activities suffered from development delays and inaccurate cost accounting. The agency needs to take specific steps to improve oversight of development of the database.
- *Manufactured reactor components:* OIG found that NRC has not developed a formal strategy for evaluating what inspections are necessary at modular assembly facilities located away from the plant construction site. Furthermore, NRC needs to develop an interoffice inspection coordination strategy to ensure appropriate inspections of modular systems, structures, and components assembled or manufactured offsite.
- *Interoffice coordination:* OIG found a lack of sustained coordination both within headquarters and between headquarters and Region II for new-construction program related activities and interactions. These problems would have been minimized if NRC had in place formalized change management processes to address communications and coordination problems in a changing environment.

With regard to the existing fleet, OIG auditors concurred with agency proposals in response to OIG recommendations to clarify the guidance regarding the process the agency uses to track licensee commitments. OIG auditors also noted improvements the agency made to its nuclear component vendor oversight program, including vendor inspection planning, communications with vendors, and agencywide coordination in monitoring for and evaluating counterfeit, fraudulent, and suspect nuclear components. However, OIG auditors found weaknesses in NRC's guidance and compliance with the guidance for the issuance of confirmatory action letters, a regulatory tool for confirming a licensee's agreement to take certain actions to remove significant concerns about health and safety, safeguards, or the environment. NRC needs a centralized control point for agencywide oversight and implementation of a fully effective confirmatory action letter process.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

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### CHALLENGE 4

#### MANAGEMENT OF ISSUES ASSOCIATED WITH THE SAFE STORAGE OF HIGH-LEVEL RADIOACTIVE WASTE WHEN THERE IS NO LONG-TERM DISPOSAL SOLUTION

#### OVERVIEW

NRC regulates high-level radioactive waste generated from commercial nuclear power reactors. High-level radioactive waste is either spent (used) reactor fuel when it is accepted for disposal or waste materials remaining after spent fuel is reprocessed. Because of its highly radioactive fission products, high-level radioactive waste must be handled and stored with care. Since the only way radioactive waste finally becomes harmless is through decay, which for high-level waste can take hundreds of thousands of years, the waste must be stored and finally disposed of in a way that provides adequate protection of the public for a very long time.

The United States has entered a period where the national policy for storing, reprocessing, and disposal of spent nuclear fuel is being reexamined. With the prospect of spent nuclear fuel being stored at reactor sites for the foreseeable future due to the uncertainty surrounding a permanent repository for high-level radioactive waste, NRC has been reviewing the issues associated with long-term storage. An independent spent fuel storage installation (ISFSI) is an NRC-licensed facility designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with the spent fuel. An ISFSI typically consists of a concrete storage pad, storage containers (casks), and any support facilities. As of August 2012, there were ISFSIs storing spent nuclear fuel or preparing to store spent nuclear fuel in the near term at 62 different locations across the United States. Of these ISFSI sites, 52 were located at operating reactors and the remaining 10 were located away from an operating reactor.

In 2010, NRC updated its Waste Confidence Decision—affirming that spent nuclear fuel could be safely stored onsite at nuclear power plants until a permanent waste repository is built. However, in June 2012, the U.S. Court of Appeals for the District of Columbia Circuit ruled that NRC's waste-confidence decision had not adequately addressed all environmental effects and thus violated the National Environmental Policy Act. The Commission affirmed that the agency will not issue licenses dependent upon the Waste Confidence Decision until the court's remand is appropriately addressed.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### ISSUES

- Ensure safe and secure interim storage for increasing quantities of high-level radioactive waste for the foreseeable future until a permanent repository for high-level radioactive waste is operational.
- Address regulatory issues relative to a longer-than-anticipated time for interim storage of high-level waste.
- Maintain flexibility to address regulatory challenges related to the storage and transportation of spent nuclear fuel and high-level waste.

### ASSESSMENT

In FY 2011, OIG audited the safety aspect of NRC's oversight of ISFSIs and identified areas where the agency could improve. OIG found that there is no formalized agencywide training program for ISFSI safety inspectors. When ISFSI safety inspectors do not have a consistent understanding of agency inspection requirements, oversight can be compromised. Specifically, there is an increased potential for inadequate inspections to occur, which could result in an increased risk to public health and safety. In response to OIG's finding, NRC is developing training for ISFSI safety inspectors. OIG also found that the period between routine ISFSI inspections varies among regions from 1 to almost 6 years. The inspection frequencies vary because the frequency required to conduct routine ISFSI inspections is not clearly defined. Routine ISFSI safety inspections could be delayed indefinitely without clearly defined inspection frequency guidance, potentially increasing the risk to public health and safety. In response to OIG's finding, NRC staff is revising its inspection manual establishing a minimum frequency for conducting routine ISFSI safety inspections.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

## CHALLENGE 5

### MANAGEMENT OF INFORMATION TECHNOLOGY

#### OVERVIEW

NRC needs to continue upgrading and modernizing its information technology (IT) capabilities to meet its IT/information management strategic goals. These goals include ensuring NRC staff have quick and easy access to information, providing IT solutions that are easy to use and increase agency program performance, and delivering excellent service.

#### ISSUES

- Upgrade or adopt information technology activities to improve the productivity, efficiency, and effectiveness of agency programs and operations.
- Expand mobile computing – “working from anywhere” – options such as remote access from NRC-issued laptops, non-NRC computers, and hand-held devices including a “bring your own devices” pilot program to allow for the distributed work locations of NRC staff.
- Improve information retrieval with better categorization and organization, enterprise content management, and improved search capabilities.
- Enhance “working with anyone” capabilities to include virtual meeting and collaboration tools with internal and external stakeholders including licensees and the public.

#### ASSESSMENT

As part of the OIG's Issue Area Monitor program,<sup>3</sup> OIG reviewed the agency's pilot program for Quick Response codes. Quick Response code is a two-dimensional code that has fast readability and large storage capacity compared to standard barcodes. In August 2011, Region III began implementing a 3-month initiative to evaluate the feasibility and effectiveness of using Quick Response codes. Region III concluded that the continued use of Quick Response codes would be of benefit to the NRC in its efforts to conduct business in an open and transparent manner, while seeking innovative methods to communicate with external stakeholders.

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<sup>3</sup>Under the Issue Area Monitor Program, OIG staff assigned to various issue areas monitor agency performance on these management challenges.

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OIG is reviewing NRC's data center consolidation initiative,<sup>4</sup> IT acquisition program improvements, and IT asset review process<sup>5</sup> per Office of Management and Budget guidance and policy. OIG is also currently reviewing the operational capabilities and performance of an NRC information support system - SLES.<sup>6</sup>

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

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<sup>4</sup>NRC is pursuing consolidation of data center assets in response to the Federal Data Center Consolidation Initiative (FDCCI) guidance published by the Office of Management and Budget (OMB). The FDCCI aims to promote the use of Green IT, reduce costs of data center hardware, increase overall IT security posture, and shift IT investments to more efficient computing platforms and technologies.

<sup>5</sup>NRC is in the process of reengineering its IT governance process and IT asset review process in response to OMB guidance. The 25-Point Implementation Plan to Reform Federal Information Technology Management requires agencies to reform and strengthen IT investment review boards and to implement an IT review process called TechStat. TechStat sessions are face-to-face evidence-based reviews of IT programs. The goal of these sessions is to determine whether to turn around, halt, or terminate investments that do not provide value to U.S. citizens.

<sup>6</sup>SLES - the Safeguards Information Local Area Network and Electronic Safe – is NRC's secure content management system for safeguards information. Safeguards Information is defined as information the disclosure of which could reasonably be expected to have a significant adverse effect on the health and safety on the public and/or common defense and security by significantly increasing the likelihood of theft, diversion, or sabotage of materials or facilities subject to NRC jurisdiction.

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### CHALLENGE 6

#### ADMINISTRATION OF ALL ASPECTS OF FINANCIAL MANAGEMENT AND PROCUREMENT

NRC management is responsible for meeting the objectives of several statutes, including the Federal Managers' Financial Integrity Act. This act mandates that NRC establish controls that reasonably ensure that (1) obligations and costs comply with applicable law; (2) assets are safeguarded against waste, loss, unauthorized use, or misappropriation; and (3) revenues and expenditures are properly recorded and accounted for. This act encompasses program operational and administrative areas, as well as accounting and financial management.

NRC's procurement of goods and services must be made with an aim to achieve the best value for the agency's dollars in a timely manner. Agency policy provides that NRC's procurement of goods and services should support the agency's mission; be planned, awarded, and administered efficiently and effectively; and be consistent with sound business practices and contracting principles. Agency efforts are currently focused on the goals of achieving (1) a 21st century acquisition program that uses state-of-the-art acquisition methodologies for acquisition planning, execution, management, and closeout, and (2) an acquisition program that fully integrates with agencywide program and financial planning and execution.

#### ISSUES

##### FINANCIAL MANAGEMENT

- Respond to the flat budget environment.
- Improve the performance and functionality of the agency's core financial system.
- Implement a new travel management system.

##### PROCUREMENT

- Respond to Commission direction to implement a 21st century acquisition program that will consider broader agency programmatic requirements.
- Implement an acquisition system that is integrated with the agency's core financial system.

## Chapter 4 | INSPECTOR GENERAL'S ASSESSMENT OF THE MOST SERIOUS MANAGEMENT AND PERFORMANCE CHALLENGES FACING NRC

### ASSESSMENT

#### FINANCIAL MANAGEMENT

During FY 2012, OIG audits relevant to this challenge identified that NRC continues to have sound financial management practices. For example, the Audit of the NRC's Financial Statements for Fiscal Year 2011 resulted in an unqualified audit opinion. Moreover, other OIG audits with financial aspects demonstrated that NRC is in compliance with Federal laws and standards related to financial management.

OIG continues to monitor the agency's new core financial system, the Financial Accounting and Integrated Management Information System (FAIMIS). OIG periodically meets with the Office of the Chief Financial Officer to discuss ongoing issues with FAIMIS. Current audits demonstrate that OIG is committed to identifying areas needing improvement. OIG is currently conducting audits of NRC's budget execution process and travel charge card program, which require OIG auditors to review information generated from FAIMIS.

#### PROCUREMENT

OIG continues to monitor the agency's procurement activities through quarterly meetings with the NRC Division of Contracts. During FY 2012, OIG issued a report on an audit of NRC's contract award process. Additionally, OIG conducted an audit of a contract related to an agency system.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.



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### CHALLENGE 7

#### MANAGEMENT OF HUMAN CAPITAL

For several years, NRC experienced significant growth resulting from an increased interest in nuclear power. During FY 2012, NRC's workforce was approximately 4,000 staff positions and it is unlikely that NRC will see any growth over the next several years. Going forward, NRC will need to support increasing mandates within a zero-growth or declining budget environment. NRC must institutionalize an approach that focuses on its mission of protecting the public health and safety while remaining mindful of staff needs. To manage human capital effectively, while continuing to accomplish the agency's mission, NRC must continue to implement initiatives in the following areas:

- Reducing inefficiencies and overhead by centralizing and streamlining processes while maintaining or improving the level of customer service.
- Space planning.

#### ISSUES

- Respond to the flat budget environment.
- Adapt training and development programs to the changing needs of agency staff.
- Address knowledge management in light of the high number of senior experts and managers who are or will be eligible to retire.
- Facilitate continuation of its space planning efforts, including completion of the Three White Flint North building at NRC headquarters.

#### ASSESSMENT

OIG continues to monitor the agency's budget and hiring practices through quarterly meetings with offices in the corporate management area.

Additionally, during our audits and evaluations, OIG considers both budgeting information for NRC programs and training needs for staff and makes recommendations, as appropriate, for improvements in these areas. For example, OIG discussed improvements needed in the training offered by the agency in reports concerning NRC's (1) contract award process; (2) management of import/export authorizations; (3) Inspections, Tests, Analyses, and Acceptance Criteria process; and (4) protection of Safeguards Information.

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With regard to the construction efforts of Three White Flint North, OIG continues to meet on a quarterly basis with the Directorate for Space Planning and Consolidation, Office of Administration. Updates on construction and any scheduling changes for the transition of staff to the new building are communicated during these meetings.

OIG investigations completed during FY 2012 pertained to various human capital issues. For example, several investigations addressed misuse of the Government travel card by charging non-travel related expenses, and one identified a contractor's misuse of Government resources by viewing inappropriate material. While some of the individuals who misused these resources had received counseling that such activities were prohibited, continued misuse in these areas suggests a need for broader and clearer messaging in these areas. Another investigation identified that NRC managers and staff can do a better job of ensuring that employee official travel destinations are necessary to execute NRC's mission and to ensure that traveler-claimed expenses are authorized, necessary, and related to the official travel purpose. In a separate matter, OIG investigations identified an employee who provided fraudulent material to support a permanent change of station move.

The Appendix provides a list of OIG FY 2012 reports relevant to this challenge and examples of agency actions addressing the challenge.

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### CONCLUSION

The seven challenges contained in this report are distinct, yet are interdependent to accomplishing NRC's mission. For example, the challenge of managing human capital affects all other management and performance challenges.

The agency's continued progress in taking actions to address the challenges presented should facilitate achieving the agency's mission and goals.

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## APPENDIX: OIG REPORTS<sup>7</sup> AND AGENCY ACTIONS ADDRESSING THE MANAGEMENT AND PERFORMANCE CHALLENGES

### 1. MANAGEMENT OF REGULATORY PROCESSES TO MEET A CHANGING ENVIRONMENT IN THE OVERSIGHT OF NUCLEAR MATERIALS.

#### *OIG Reports Addressing Challenge 1*

- *Audit of NRC's Oversight of Decommissioned Uranium Recovery Sites and Sites Undergoing Decommissioning*, OIG-12-A-06
- *Audit of NRC's Issuance of General Licenses*, OIG-12-A-14
- *Audit of NRC's Oversight of Industrial Radiography*, OIG-12-A-15
- *Audit of NRC's 10 CFR Part 31 General Licensing Program*, OIG-12-A-21

#### *Agency Actions Addressing Challenge 1*

NRC continues to work towards integrating the licensing and tracking of source materials under one management mechanism. While NRC has deployed upgrades to the National Source Tracking System, it also continues development of Web-Based Licensing and the License Verification System.

In addition to collecting information in the National Source Tracking System, NRC launched a pilot inspection program to collect information on self-shielded irradiators and other irradiators. The purpose of the pilot is to assess the need to modify the current inspection program to determine if more frequent inspections would result in greater compliance with security requirements.

NRC continues to work on issues regarding the continued disagreement in the medical community about the definition of a medical event.

NRC has been working to resolve issues of material control and accounting in response to a 2003 OIG audit report. NRC has implemented a rule change requiring improved reporting and reconciliation for licensees reporting to the Nuclear Materials Management and

Safeguards System, and continues to verify the adequacy of material control and accounting of special nuclear material at NRC-licensed facilities. Additionally, the Commission has directed NRC staff to revise and consolidate current material control and accounting regulations into Title 10, Code of Federal Regulations, Part 74. The final rule and associated guidance is scheduled to be completed by December 31, 2012.

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<sup>7</sup>The listing of OIG reports addressing each challenge provides some of the audit and investigative reports issued in the challenge area during fiscal 2012, but is not intended to be all-inclusive.

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### 2. MANAGEMENT OF INTERNAL NRC SECURITY AND OVERSIGHT OF LICENSEE SECURITY PROGRAMS.

#### *OIG Reports Addressing Challenge 2*

- *Independent Evaluation of NRC's Implementation of the Federal Information Security Management Act (FISMA) for FY 2011, OIG-12-A-04*
- *Audit of NRC's Management of the Baseline Security Inspection Program, OIG-12-A-10*
- *Audit of NRC's Protection of Safeguards Information (SGI), OIG-12-A-12*
- *Mishandling of Personally Identifiable Information by an ILearn Contractor, OIG Case No. 11-26*
- *Evaluation Report- Information Security Risk Evaluation of Region II, Atlanta, GA, OIG-12-A-17*
- *Evaluation Report- Information Security Risk Evaluation of Region III, Lisle, IL, OIG-12-A-22*

#### *Agency Actions Addressing Challenge 2*

NRC participated in working groups with the National Archives and Records Administration's Controlled Unclassified Information Office (CUIO) to develop policies for marking, safeguarding, dissemination, decontrol, and destruction of CUI, and submitted NRC's CUI Implementation Plan to the CUIO. The agency also ensured that Privacy Act compliance activities were completed, such as Privacy Impact Assessments, requirements of Office of Management and Budget (OMB) Circular A-130, and OMB requirements for personally identifiable information. The agency updated online personally identifiable information roles and responsibilities annual training to include role based scenarios.

In FY 2012, the staff initiated plans to reintegrate the Security Cornerstone into the Reactor Oversight Process performance assessment program. The staff exhibited the NRC values of openness and integrity in its efforts to apprise all stakeholders of the details and timeframes associated with the implementation plan. Specifically, the staff issued a Regulatory Issue Summary and presented the implementation plan to internal and external stakeholders in various forums, including the 2012 Regulatory Information Conference and other public meetings. Reintegration of security into the Reactor Oversight Process assessment program also involves changes to the NRC's public Web site; these changes will be made in August 2012 to reflect licensee performance within the Security Cornerstone without disclosing sensitive, security-related information, consistent with current Commission policy.

The Office of Nuclear Security and Incident Response supported multiple industry hosted public workshops on cyber security in order to increase awareness of NRC actions in this area. The office has worked with the university system and specifically the University of Maryland to exchange cyber security information.

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### 3. MANAGEMENT OF REGULATORY PROCESSES TO MEET A CHANGING ENVIRONMENT IN THE OVERSIGHT OF NUCLEAR FACILITIES.

#### *OIG Reports Addressing Challenge 3*

- *Audit of NRC's Use of Confirmatory Action Letters*, OIG-12-A-09
- *Audit of NRC's Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Process*, OIG-12-A-16
- *Audit of NRC's Use of Orders*, OIG-12-A-19

#### *Agency Actions Addressing Challenge 3*

NRC has embarked on a number of actions in response to the Japan nuclear accident in March 2011. Since then, the agency issued the first regulatory requirements for the Nation's 104 operating reactors based on the lessons-learned at Fukushima Dai-ichi. The NRC continues to evaluate and act on the lessons learned to ensure that appropriate safety enhancements are implemented at U.S. nuclear power plants. NRC's activities are being led by a steering committee comprised of senior NRC management. Additionally, NRC established the Japan Lessons Learned Project Directorate, a group of more than 20 full-time employees focused exclusively on implementing the lessons learned.

The staff is currently conducting oversight activities at the new power reactor construction sites at Vogtle and V.C. Summer. NRC's Region II has established a resident inspector's office at each site. Each office now has a construction senior resident inspector and two construction resident inspectors. In addition, Region II sends construction inspectors from the regional office to inspect construction activities at the sites. Furthermore, the agency has undertaken an effort to enhance the assessment of plant performance during construction through the development of a new assessment process. NRC staff began a 12-month pilot of the new program on January 2012 at the Vogtle construction site and on March 2012 at the Summer construction site. The staff plans to provide recommendations to the Commission based on results of the pilot by April 2013.

NRC also undertook an effort to obtain feedback from rulemaking programs across the agency to address cumulative effects of regulation and other aspects of rulemaking.

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### 4. MANAGEMENT OF ISSUES ASSOCIATED WITH THE SAFE STORAGE OF HIGH-LEVEL WASTE WHEN THERE IS NO LONG-TERM DISPOSAL SOLUTION.

#### *OIG Reports Addressing Challenge 4*

No reports were issued in FY 2012; an audit of NRC's oversight of spent fuel pools is planned for FY 2013.

#### *Agency Actions Addressing Challenge 4*

Because the U.S. Court of Appeals for the District of Columbia Circuit found that the NRC violated the National Environmental Policy Act in issuing its 2010 update to the Waste Confidence Decision and accompanying Temporary Storage Rule, the Commission has directed NRC staff not to issue licenses for new reactors or to issue renewed licenses for existing reactors until the court's remand is appropriately addressed.

Currently, NRC does not have active safety oversight responsibilities at the potential Yucca Mountain repository site. When the U.S. Department of Energy, Office of Civilian Radioactive Waste Management, discontinued site activities and closed its Yucca Mountain Project Office, the NRC closed its Las Vegas Onsite Representatives Office.

### CHALLENGE 5. MANAGEMENT OF INFORMATION TECHNOLOGY.

#### *OIG Reports Addressing Challenge 5*

No reports were issued in FY 2012; an audit on the Safeguards Local Area Network and Electronic Safe is underway and FY 2013 audits are planned to address NRC's information technology readiness for Three White Flint North and the Financial Accounting and Integrated Management Information System (FAIMIS).

#### *Agency Actions Addressing Challenge 5*

OIS published the NRC Open Government plans for FY 2013 and FY 2014. NRC's Open Government program intersects with OMB's Digital Government Strategy regarding the use of mobile technology to further stakeholder engagement. OMB's strategy provides a framework for moving information safely and securely to internal and external stakeholders and puts additional focus on making high value data more readily usable, irrespective of the technology used to access it.

NRC continued to implement the National Source Tracking System with a focus on ensuring data integrity and increasing online usage of the system. The agency also leveraged information technology, including established listservs, to notify States regarding relevant NRC regulatory actions, and build an infrastructure to support more effective communication and outreach to Tribal governments.

The agency streamlined the NRC IT/Information Management governance process in keeping with current best practices and Office of Management and Budget requirements (e.g., using PortfolioStat

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and TechStat tools such as a training deck, guidance documents, briefing deck, and other various templates, and process). In addition, improvements were made to the Agencywide Documents Access and Management System to provide new features and capabilities to make the user experience more efficient and effective.

The agency also continued to participate in planning and building the new headquarters building and datacenter to ensure efficient, cost-effective, and future-thinking IT infrastructure requirements are understood and included.

NRC enhanced the base laptop program which provides several enabling technologies for mobile users and supports the capability to 'Work from Anywhere.' Enhancements included the addition of WiFi capability on Mobile Desktops and agency loaner laptops.

An effort is underway to offer the Bring your Own Device service to provide agency staff with secure, remote access to agency e-mail, calendar, and contact data on personally owned mobile devices (e.g., tablets and smartphones).

### CHALLENGE 6. ADMINISTRATION OF ALL ASPECTS OF FINANCIAL MANAGEMENT AND PROCUREMENT.

#### *OIG Reports Addressing Challenge 6*

- *Independent Evaluation of NRC's Contract Award Process*, OIG-12-A-02
- *Results of the Audit of the United States Nuclear Regulatory Commission's Financial Statements for Fiscal Year 2011*, OIG-12-A-03
- *Independent Auditor's Report on the U.S. Nuclear Regulatory Commission's Special-Purpose Financial Statements as of September 30, 2011, and for the Year Then Ended*, OIG-12-A-0
- *Audit of NRC's Implementation of the Federal Managers' Financial Integrity Act for Fiscal Year 2011*, OIG-12-A-07
- *Independent Auditor's Report on the Condensed Financial Statements*, OIG-12-A-08
- *Audit of NRC's FY 2011 Compliance With the Improper Payment Elimination and Recovery Act of 2010*, OIG-12-A-11
- *Audit of NRC's Management of Import/Export Authorizations*, OIG-12-A-13
- *Audit of NRC's Contract Administration of the EPM contract*, OIG-12-A-18
- *Audit of NRC's Oversight of the Agency's Federally Funded Research and Development Center*, OIG-12-A-20



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### *Agency Actions Addressing Challenge 6*

#### **Financial Management**

As with many other Federal agencies, NRC has had to meet its mission in the face of budget cuts that have flattened the agency's budget. NRC has worked to reorganize its budget process in an effort to target areas of inefficiencies. NRC also established a Transforming Assets into Business Solutions Task Force to analyze and assess NRC's business practices and develop a plan to reduce the duplication of efforts in corporate and office support areas. The agency is continuing to implement the recommendations of the task force.

At the beginning of FY 2011, NRC deployed its new core financial management system, FAIMIS. During FY 2012, the agency transferred the hosting responsibilities for FAIMIS to a new service provider. While FAIMIS has been operational for nearly two fiscal years, there are still a number of functionalities that need improvement including: (1) the reports used by agency staff to reconcile budget and accounting information, and (2) the cost accounting module. To address operational challenges of FAIMIS, the agency has continued to employ several change management and organizational communication strategies. Regarding NRC's travel management system, the current contract for the governmentwide eTravel system expires at the beginning of FY 2014. The General Services Administration announced a new vendor in June 2012; however, procurement activities have been suspended pending resolution of a protest from an unsuccessful bidder.

#### **Procurement**

NRC executed its first enterprise-wide contract in the area of education and training through its strategic acquisition effort. This resulted in the reduction from 13 vendors to 3 and significant cost savings. Further initiatives are underway in the areas of information technology, meetings and conferences, and technical assistance/research.

Additionally, on May 31, 2012, NRC entered into an interagency agreement with Department of Transportation for the implementation of a new acquisition system. This system will be integrated with FAIMIS. The agency expects the system to be fully implemented by early FY 2014.

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### CHALLENGE 7. MANAGEMENT OF HUMAN CAPITAL.

#### *OIG Reports Addressing Challenge 7*


- *Independent Evaluation of NRC's Contract Award Process*, OIG-12-A-02
- *Audit of NRC's Protection of Safeguards Information*, OIG-12-A-12 *Audit of NRC's Management of Import/Export Authorizations*, OIG-12-A-13
- *Audit of NRC's Inspections, Tests, Analyses, and Acceptance Criteria*, OIG-12-A-16
- *Questionable Travel Claims by Office of Nuclear Materials Safety and Safeguards Employees*, Case No. 08-51
- *Misuse of Government Travel Card*, Case Nos. 11-34, 11-36, and 11-39
- *Misuse of Government Computer by an Office of Information Services Contractor Employee*, Case No. 11-62
- *Misuse of NRC Citibank Travel Credit Card and Change of Station Fraud by an Office of New Reactors Employee*, Case No. 11-01

#### *Agency Actions Addressing Challenge 7*

As NRC continues to transition from a period of aggressive growth to a flat budget, it is critical that the agency has the most effective organizational structure possible. Agency staffing levels have stabilized and it is unlikely that the agency will see any growth over the next several years. As a result, the agency is currently working to institutionalize a workforce planning process that will ensure the agency has the appropriate number of staff with the right skills and experience to ensure successful job performance and realization of organizational objectives.

The agency has also implemented three enterprise wide knowledge management initiatives: (1) identifying high-value/high-risk (of loss) knowledge and skills the Agency currently possesses; (2) capturing and sharing that high-value/high-risk knowledge with other agency staff before it is lost; and (3) identifying high-value opportunities for creation of communities of practice that enable the sharing of knowledge and skills among those employees who perform the same job function.

Additionally, the relocation of headquarters staff to Three White Flint North is scheduled to be completed by March 2013. Currently, to access Three White Flint North, agency employees will have to cross Marinelli Road, a multi-lane road. There is no funding in the budget for either above ground or underground pedestrian access between One White Flint North and Three White Flint North. The Montgomery County Department of Transportation and NRC are continuing to work together to maximize pedestrian safety around the White Flint Complex.



SUMMARY OF  
FINANCIAL  
STATEMENT  
AUDIT AND  
MANAGEMENT  
ASSURANCES

# Chapter 4 | SUMMARY OF FINANCIAL STATEMENT AUDIT AND MANAGEMENT ASSURANCES

## SUMMARY OF FINANCIAL STATEMENT AUDIT

Audit Opinion—Unqualified

Restatement—No

Material Weaknesses—No

## SUMMARY OF MANAGEMENT ASSURANCES

### Effectiveness of Internal Control over Financial Reporting (FMFIA § 2)

Statement of Assurance—Unqualified

Material Weaknesses—No

### Effectiveness of Internal Control over Operations (FMFIA § 2)

Statement of Assurance—Unqualified

Material Weaknesses—No

### Conformance with Financial Management System Requirements (FMFIA § 4)

Statement of Assurance—Systems Conform to Financial Management System Requirements

Nonconformance—No

### Compliance with Federal Financial Management Improvement Act (FFMIA)

	Agency	Auditor
Overall Substantial Compliance	Yes	Yes
1. Systems Requirements	Yes	Yes
2. Accounting Standards	Yes	Yes
3. United States Standard General Ledger at Transaction Level	Yes	Yes



IMPROPER PAYMENTS  
INFORMATION ACT  
AND RECOVERY  
AUDIT REPORTING  
DETAILS

## Chapter 4 | IMPROPER PAYMENTS INFORMATION ACT AND RECOVERY AUDIT REPORTING DETAILS

To comply with the *Improper Payments Information Act of 2002* (IPIA) and the *Improper Payments Elimination and Reporting Act of 2010* (IPERA), the NRC incorporated improper payments testing into the FY 2011 A-123 Appendix A assessment.

NRC performed a risk assessment to determine which programs would be included in the improper payments testing. According to OMB guidance, agencies were not required to review intragovernmental transactions or payments to employees. Therefore, commercial payments and grants payments remained as potential areas to test. As of March 31, 2011, total commercial payments were \$113,982,097 and total grants payments were \$6,932,818.

IPERA states that if gross annual improper payments exceed 2.5 percent of program outlays and \$10 million, of all program or activity payments made, or \$100 million, then a program is susceptible to significant improper payments. Based on a risk based analysis of susceptibility of payment streams to improper payments, NRC management determined that the scope of the assessment would be limited to commercial payments. The scope of the assessment was further refined through the identification of sixteen (16) potential error conditions that would cause a payment to be “improper”. These error conditions were grouped into three categories: payment amount, payment eligibility, and payment delivery. Test procedures were developed for each error condition.

The NRC selected a sample based on a population of the commercial payments as of May 31, 2011 that was reconciled to the general ledger. A statistician extracted a statistically valid sample of 265 commercial payments totaling \$45.4 million that were divided into eight strata. This sample of 265 payments covered 3.4 percent of commercial payments and 32.7 percent of the total dollar value of all commercial payments.

The results of testing identified four instances in which discounts offered by the contractor were not taken, resulting in improper payments of \$3,200. Extrapolating the errors to the population resulted in \$26,810 in improper payments and an improper payment rate of 0.02 percent for commercial payments in FY 2011. This rate falls well below IPERA’s significant improper payment threshold of 2.5 percent of program outlays and \$10 million of all program or activity payments made during the fiscal year, or \$100 million. Therefore, after discussions with OMB, it was determined that NRC could conduct this testing every three years, in accordance with the IPERA and OMB guidance. The next review is scheduled for FY 2014.

Based on the amount of improper payments discovered, \$3,200 (\$26,810 extrapolated), and the approximate contractor costs of \$137,205 for the IPERA testing, the NRC determined that recovery audits are not cost-effective. The NRC will continue to monitor improper payments and conduct testing on a three year cycle.



# SCHEDULE OF SPENDING

**SCHEDULE OF SPENDING**

(In Thousands)

For the year ended September 30,	2012
<b>WHAT MONEY IS AVAILABLE TO SPEND?</b>	
Total Resources	\$ 1,108,056
Less Amount Available but Not Agreed to be Spent	(61,474)
Less Amount Not Available to be Spent	(1,430)
<b>Total Amounts Agreed to be Spent</b>	<b>\$ 1,045,152</b>
<b>HOW WAS THE MONEY SPENT?</b>	
<b>Spending within NRC Major Programs</b>	
<b>Nuclear Reactor Safety and Security</b>	
Payroll	\$ 469,266
Contracts	272,860
Travel	21,275
Rent, Communications, and Utilities	36,189
Structures and Equipment	17,664
Other	33,733
Total money spent for Nuclear Reactor Safety and Security	850,987
<b>Nuclear Materials and Waste Safety and Security</b>	
Payroll	130,052
Contracts	75,655
Travel	5,896
Rent, Communications, and Utilities	10,029
Structures and Equipment	4,895
Other	9,358
Total money spent for Nuclear Materials and Waste Safety and Security	235,885
<b>Total Spending</b>	<b>1,086,872</b>
<b>Spending related to prior year amounts agreed to be spent</b>	<b>(41,720)</b>
<b>Total Amounts Agreed to be Spent</b>	<b>\$ 1,045,152</b>



**SCHEDULE OF SPENDING**

*(In Thousands)*

For the year ended September 30,	2012
<b>WHO DID THE MONEY GO TO?</b>	
For Profit	\$ 230,093
Individuals	520,878
Federal	260,209
State & Local Government	20,675
Other	13,297
<b>Total Amounts Agreed to be Spent</b>	<b>\$ 1,045,152</b>
<b>HOW WAS THE MONEY ISSUED?</b>	
Grants	\$ 26,862
Contracts	286,200
Non Financial Assistance Direct Payments	597,925
Travel	27,286
Other Payment Types	106,879
<b>Total Amounts Agreed to be Spent</b>	<b>\$ 1,045,152</b>

In accordance with OMB Circular A-136 Section 11.5.1, the Schedule of Spending is not a required part of the Financial Statements and, therefore, it is not audited.





# ACRONYMS AND ABBREVIATIONS

## Chapter 4 | ACRONYMS AND ABBREVIATIONS

Acronym	
10 CFR	Title 10 of the Code of Federal Regulations
ABWR	Advanced Boiling-Water Reactor
ADAMS	Agencywide Documents Access and Management System
AGA	Association of Government Accountants
ANPR	Advance Notice of Proposed Rulemaking
AO	Abnormal Occurrence
ASLB	Atomic Safety and Licensing Board
ASME	American Society of Mechanical Engineers
ASP	Accident Sequence Precursor
BFS	Budget Formulation System
BRC	Blue Ribbon Commission
CCDP	conditional core damage probability
CFR	Code of Federal Regulations
CFS	core financial system
CNS	Convention on Nuclear Safety
COL	Combined License
CSP	cyber security plans
CSRS	Civil Service Retirement System
CSS	Commission on Safety Standards
CUI	controlled unclassified information
CUIO	Controlled Unclassified Information Office
DC	design certification
DHS	U.S. Department of Homeland Security
DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
ECIC	Executive Committee on Internal Control
EP	emergency preparedness
EPAct	Energy Policy Act of 2005
EPRI	Electric Power Research Institute

Acronym	
FAIMIS	Federal Accounting and Integrated Management Information System
FBI	Federal Bureau of Investigation
FDCCI	Federal Data Center Consolidation Initiative
FECA	Federal Employees Compensation Act of 1993
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FFD	fitness-for-duty
FFMIA	Federal Financial Management Improvement Act of 1996
FICA	Federal Insurance Contributions Act of 1935
FISMA	Federal Information Security Management Act
FMFIA	Federal Managers' Financial Integrity Act of 1982
FOIA	Freedom of Information Act of 1966
FR	Federal Register
FY	fiscal year
GAAP	Generally Accepted Accounting Principles
GSA	General Services Administration
HF	hydrogen fluoride
HMR	Hydrometeorological Report
HRA	human reliability analysis
HTGR	high-temperature gas-cooled reactor
IAEA	International Atomic Energy Agency
IG	Inspector General
IIFP	International Isotopes Fluorine Products
IM	information management
IMC	Inspection Manual Chapter
Integrity Act	Federal Managers' Financial Integrity Act of 1982
iPWR	integral pressurized-water reactor

## Chapter 4 | ACRONYMS AND ABBREVIATIONS

Acronym	
IRRS	Integrated Regulatory Review Service
ISA	Integrated Safety Analysis
ISG	interim staff guidance
ISFSI	independent spent fuel storage installation
IT	information technology
ITAAC	inspections, tests, analyses, and acceptance criteria
MDEP	Multinational Design Evaluation Program
MOU	Memorandum of Understanding
MWe	Megawatt electric
MWt	Megawatt thermal
NEA	Nuclear Energy Agency
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NGNP	Next Generation Nuclear Plant
NIST	National Institute of Standards and Technology
NLE	national level exercise
NOV	notice of violation
NPR	non-power reactor
NRC	U.S. Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Commission document identifier
NWF	Nuclear Waste Fund
NWPA	Nuclear Waste Policy Act of 1982, as amended
OBRA-90	The Omnibus Budget Reconciliation Act of 1990
OIG	Office of the Inspector General
OIS	Office of Information Services
OMB	Office of Management and Budget
OSART	Operational Safety Review Team
PAR	Performance and Accountability Report
PII	Personally Identifiable Information
PRA	probabilistic risk assessment

Acronym	
PRM	Petition for Rulemaking
REIRS	Radiation Exposure Information and Reporting System
REM	Roentgen Equivalent Man
RG	Regulatory Guide
RIS	Regulatory Issue Summary
ROP	Reactor Oversight Process
SAPHIRE	Systems Analysis Program for Hands-On Integrated Reliability Evaluation
SBO	station blackout
SDP	Significance Determination Process
SECY	Office of the Secretary of the Commission
SER	Safety Evaluation Report
SFFAS	Statement of Federal Financial Accounting Standards
SGI	Safeguards Information
SLES	Safeguards Information Local Area Network and Electronic Safe
SMR	small modular reactor
SOARCA	State-of-the-Art Reactor Consequence Analyses
SPAR	Standardized Plant Analysis Risk
SRM	staff requirements memorandum
SRP	Standard Review Plan
STAQS	Strategic Acquisition System
SUNSI	Sensitive Unclassified Non-Safeguards Information
TRANSSC	Transport Safety Standards Committee
TVA	Tennessee Valley Authority
UF <sub>6</sub>	uranium hexafluoride
UO <sub>2</sub>	uranium dioxide
USAID	U.S. Agency for International Development
USGS	U.S. Geological Survey
USI	Unresolved Safety Issue
WIR	Waste Incidental to Reprocessing






# BIBLIOGRAPHIC DATA SHEET

# Chapter 4 | BIBLIOGRAPHIC DATA SHEET

<p><b>NRC FORM 335</b> (9-2004) NRCMD 3.7</p> <p align="center"><b>BIBLIOGRAPHIC DATA SHEET</b> <i>(See instructions on the reverse)</i></p>	<p><b>1. REPORT NUMBER</b> <small>(Assigned by NRC, Add Vol., Supp., Rev., and Addendum Numbers, if any.)</small></p> <p>NUREG-1542, Vol. 18</p>	
<p><b>2. TITLE AND SUBTITLE</b></p> <p>U.S. Nuclear Regulatory Commission Fiscal Year 2012 Performance and Accountability Report</p>	<p><b>3. DATE REPORT PUBLISHED</b></p>	
	<p>MONTH November</p>	<p>YEAR 2012</p>
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<p><b>5. AUTHOR(S)</b></p> <p>David Holley, James Coyle, et. al</p>	<p><b>6. TYPE OF REPORT</b> Annual</p>	
	<p><b>7. PERIOD COVERED</b> Fiscal Year 2012</p>	
<p><b>8. PERFORMING ORGANIZATION - NAME AND ADDRESS</b> <small>(If NRC, provide Division, Office or Region, U. S. Nuclear Regulatory Commission, and mailing address; if contractor, provide name and mailing address)</small></p> <p>Division of Planning and Budget Office of the Chief Financial Officer U.S. Nuclear Regulatory Commission Washington, DC 20555-0001</p>		
<p><b>9. SPONSORING ORGANIZATION - NAME AND ADDRESS</b> <small>(If NRC, type "Same as above", if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address)</small></p> <p>Same as above</p>		
<p><b>10. SUPPLEMENTARY NOTES</b></p>		
<p><b>11. ABSTRACT</b> <small>(200 words or less)</small></p> <p>The Fiscal Year 2012 Performance and Accountability Report (PAR) presents the agency's program performance and financial management information. The PAR gives the President, Congress, and the American public the opportunity to assess the agency's performance in achieving its mission and the stewardship of its resources.</p>		
<p><b>12. KEY WORDS/DESCRIPTORS</b> <small>(List words or phrases that will assist researchers in locating the report)</small></p> <p>Performance and Accountability Report (PAR) Fiscal Year (FY) 2012</p>	<p><b>13. AVAILABILITY STATEMENT</b> Unlimited</p>	
	<p><b>14. SECURITY CLASSIFICATION</b> <small>(This Page)</small> Unclassified</p>	
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