Chapter 2
PROGRAM PERFORMANCE

McGuire Nuclear Station

Fort Calhoun Nuclear Power Plant

MEASURING AND REPORTING PERFORMANCE

This chapter presents information on the NRC's performance in achieving its mission and goals during FY 2006. The Agency's mission is to ensure the safety and security of the American public, and the environment, in the use of byproduct, source, and special nuclear materials. To fulfill this mission, the NRC established five goals: Safety, Security, Openness, Effectiveness, and Management which are contained in the Agency's FY 2004-FY 2009 Strategic Plan. For each goal, strategic outcome(s) define success in attaining the goal. In addition, a set of performance measures is associated with each goal that not only indicates NRC effectiveness in achieving the goal, but also establishes the basis for NRC performance management.

This chapter also describes NRC achievements in accomplishing its goals. The safety goal key achievements are discussed within Nuclear Reactor Licensing, Nuclear Reactor Inspection, Fuel Facilities, Nuclear Material Users, High-Level Waste Repository, Decommissioning and Low-Level Waste, and Spent Fuel Storage and Transportation.

The Agency's success in achieving its Security, Openness, Effectiveness, and Management goals is also described. In addition, the Agency's progress in "getting to the green" for the five management initiatives identified in the President's Management Agenda is described. Moreover, this chapter presents information on data sources, data quality, and the completeness and reliability of performance data. This discussion focuses primarily on NRC methods for collecting and analyzing data, ensuring data security, and improving the Agency's performance measures and the quality of its data during the current reporting period. The performance measures reported in this chapter reflect measures in the NRC FY 2006 Performance Budget.

STRATEGIC GOALS AND PERFORMANCE MEASURES

Safety Goal: Ensure Protection of Public Health and Safety and the Environment

Strategic Outcomes

The NRC has five strategic outcomes associated with the Safety goal that determine whether the Agency has achieved its aim to ensure protection of public health and safety as well as the environment:

- No nuclear reactor accidents.[1]
- No inadvertent criticality events.
- No acute radiation exposures resulting in fatalities.
- No releases of radioactive materials that result in significant radiation exposures.[2]
- No releases of radioactive materials that cause significant adverse environmental impacts.[3]

[1]"Nuclear reactor accidents" are defined in the NRC Severe Accident Policy Statement as those events that result in substantial damage to the reactor fuel, whether or not serious offsite consequences occur.

[2]"Significant radiation exposures" are defined as those that result in unintended permanent functional damage to an organ or a physiological system as determined by a physician in accordance with Abnormal Occurrence Criterion I.A.3.

[3]Releases that have the potential to cause "adverse impact" are those that exceed the limits for reporting abnormal occurrences as given by Abnormal Occurrence Criterion 1.B.1.

Results: In FY 2006, the NRC achieved all of its Safety goal strategic outcomes.

Performance Measures

The table below lists the performance measures and targets for the FY 2006 Safety goal, as stated in the FY 2006 Performance Budget. The NRC met all of its FY 2006 Safety goal performance measure targets.

FY 2006 Safety Goal Performance Measures

MEASURE	2001	2002	2003	2004	2005	2006
1. Number of new conditions evaluated as red by the Reactor Oversight Process is ≤3.		New Metric in FY 2005			0	0
2. Number of significant accident sequence precursors of a nuclear reactor accident is zero.	0	1	0	0	0	0
3. Number of operating reactors with integrated performance that entered the Manual Chapter 0350 process, or the multiple/repetitive degraded cornerstone column or the unacceptable performance column of the Reactor Oversight Program Action Matrix, with no performance exceeding Abnormal Occurrence Criterion I.D.4 is ≤4.		New Metric in FY 2005			0	0
4. Number of significant adverse trends in industry safety performance with no trend exceeding the Abnormal Occurrence Criterion I.D.4 is ≤1.	0	0	0	0	0	0
5. Number of events with radiation exposures to the public and occupational workers that exceed Abnormal Occurrence Criterion I.A is:						
Reactors: 0	0	0	0	0	0	0
Materials: ≤6	0	0	0	0	1	0
Waste: 0	0	0	0	0	0	0
6. Number of radiological releases to the environment that exceed applicable regulatory limits is:						
Reactor: ≤3	0	0	0	0	0	0
Materials: ≤5	0	4	0	1	0	0
Waste: 0	0	0	0	0	0	0

Analysis of Results

1. Reactor Oversight Process red conditions: The NRC reactor inspection program monitors nuclear power plant performance in three broad areas: reactor safety, radiation safety, and security. Plant performance is analyzed based on a large number of perfor-

mance indicators and inspection findings. These indicators and findings are categorized into one of four categories: green, white, yellow, or red with red being the category of highest significance. Red indicates a significant reduction in the safety of a nuclear power plant. In FY 2006, there were no red performance indicators or inspection findings.

2. **Reactor significant precursors:** The second measure tracks significant precursor events determined by the likelihood of an event adversely impacting safety. A significant precursor is an event that had a probability of 1 in 1,000 (or greater) of leading to substantial damage to the reactor fuel. No significant precursors occurred in FY 2006.
3. **Reactor performance:** The conditions in this measure indicate whether the NRC identifies significant issues in a plant during inspections conducted under the reactor oversight program. If any of the conditions in this measure are met, the NRC will take action to ensure that plant safety is improved. In FY 2006, no reactors meet the conditions in this measure.
4. **Reactor safety trends:** This measure tracks trends for several key indicators of the nuclear industry safety performance. These indicators provide insights into major areas of reactor performance, including reactor safety, radiation safety, and physical protection. Statistical analysis techniques are applied to each indicator to calculate its long-term trend. These trends represent industry averages rather than individual plant performance. In FY 2006, no statistically significant adverse trends have been documented in any of the indicators. This performance measure is the broadest indicator of nuclear power plant performance and shows that the nuclear industry, under the NRC oversight, continues to maintain overall safety of nuclear power plants.
5. **Nuclear material radiation exposures:** This measure tracks the number of radiation exposures to the public and occupational workers that exceed Abnormal Occurrence Criterion I.A, 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. In FY 2006, no radiation exposures have exceeded Abnormal Occurrence Criterion I.A. Ensuring that nuclear materials cause no harm to human health constitutes an important measure of the success of both the NRC and the industry in the safe use of nuclear materials.
6. **Nuclear material releases to the environment:** This measure is an indicator of the effectiveness of the NRC's nuclear material environmental programs which is defined through compliance with the applicable regulatory limits in 10 CFR Part 20. The dose constraints and concentration limits in 10 CFR are protective of human health and the environment. In FY 2006, the industry has had no nuclear material releases to the environment that exceed regulatory limits.

Nuclear Reactor Licensing Activity

The Nuclear Reactor Safety Program ensures that civilian nuclear power reactors and test and research reactors are licensed and operated in a manner that adequately protects public health and safety and the environment while safeguarding special nuclear materials used in reactors. Safety at nuclear power plants has improved substantially over the past 20 years (see following pages for long-term trends in safety indicators). This improvement in the safety performance of nuclear power plants results from the combined efforts of the nuclear industry and the NRC.

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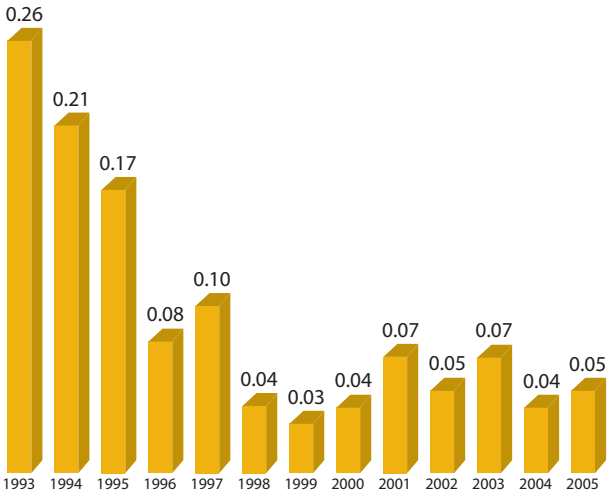
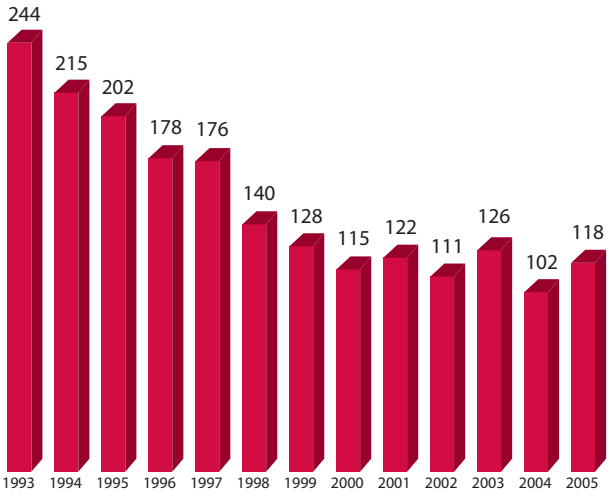
Long Term Trends

The NRC measures the long-term effectiveness of its Nuclear Reactor Safety program activities using several industry-level performance indicators, some of which are addressed in the following pages. These indicators show significant improvement in the long-term trends for safety performance of nuclear power plants since 1988, the baseline year for the statistical analyses. 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 the charts in this section display data since 1993.

SIGNIFICANT EVENTS
(Per Reactor)



COLLECTIVE RADIATION EXPOSURE
(Person-cSv)



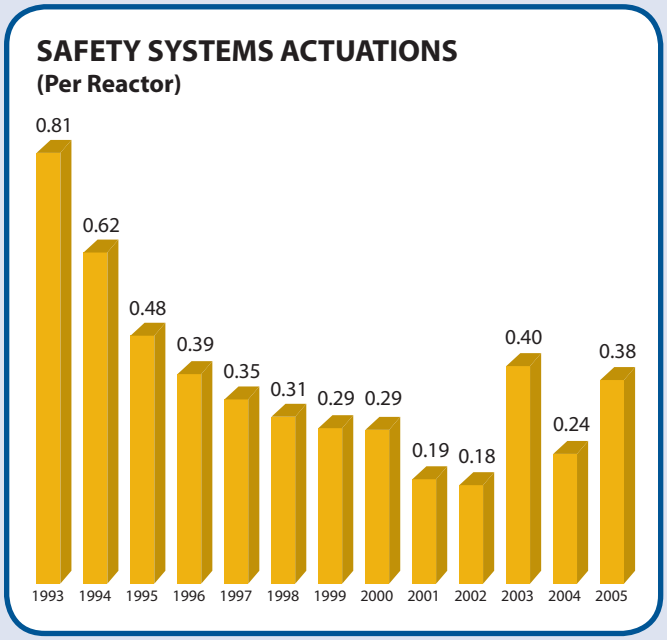
The industry safety indicators are derived through engineering and scientific analyses by the NRC's Office of Nuclear Reactor Regulation and Office of Nuclear Regulatory Research. The analyses of some events for FY 2005 and FY 2006 are still ongoing. The performance indicator results are subject to minor 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.

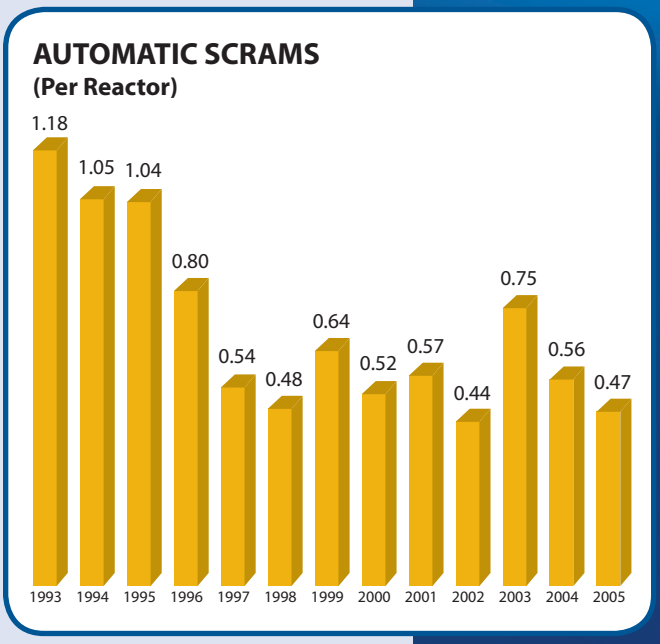
The Industry's Safety Performance Record

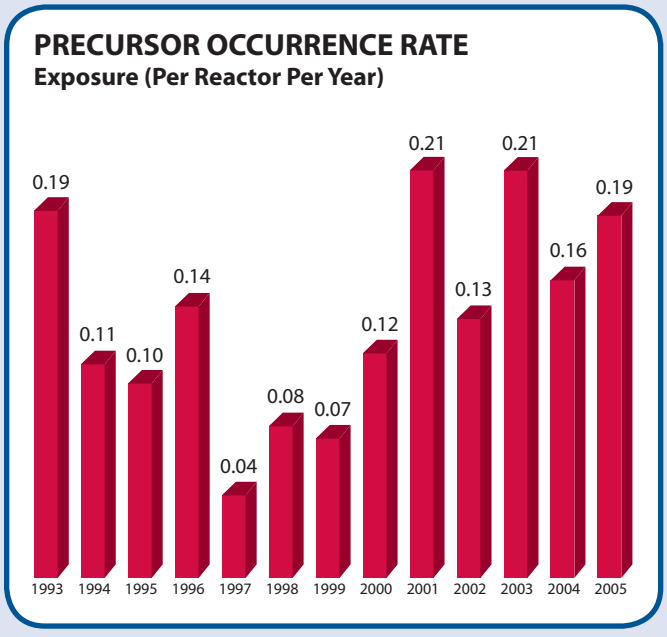
- Significant events meet specific criteria such as degradation of important safety equipment. The Agency reviews operating events and assesses their safety significance. The number of significant events has declined since 1993.
- The total (collective) radiation dose received by workers is an indication of the radiological challenges of maintaining and operating nuclear power plants. The trend shows a reduction in collective dose since 1988 and demonstrates the effectiveness of the controls on radiation exposure implemented to meet these challenges.
- 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.
- 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 statistical trend for number of scrams, which has been declining steadily since 1988.

- 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. Due to the complexities associated with evaluating precursor events, the data always lag behind other indicators. Precursor data through FY 2005 (which contains preliminary data) is shown.
- 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 declined since 1988.







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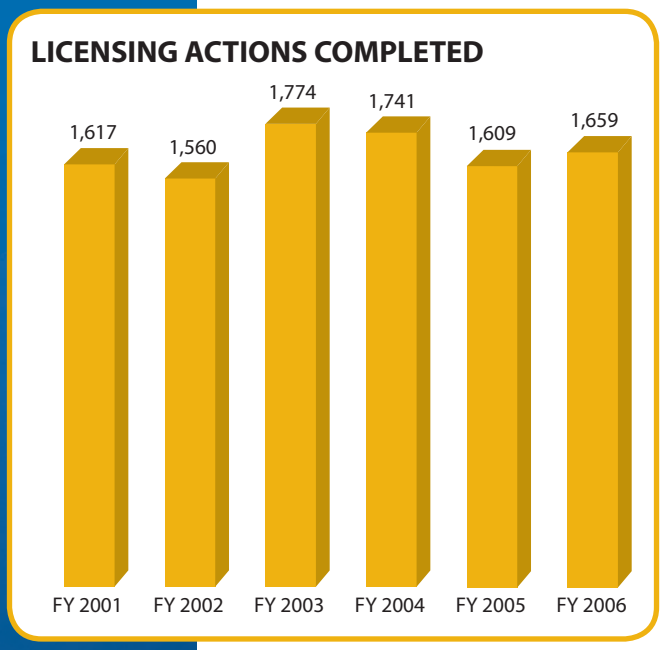

Figure 11

The NRC completed 1,659 reactor licensing actions during the year (see Figure 11), above the target of 1,500 licensing actions. At the end of FY 2006, 97.6 percent of the inventory was less than one year old and 99.9 percent of the actions were completed within two years. The targets were 96 percent and 100 percent respectively. The licensing action inventory age goal of 100 percent and less than two years old was not met because of the complexity of the staff's review of Columbia Generating Station's Alternate Source Term amendment request. Technical issues associated with the review, including continued efforts to resolve differing staff opinions, allowed this licensing action to exceed two years of age on September 30, 2006. The staff intends to devote resources to resolve these issues and complete the review by the end of October, 2006. (see Figure 12).

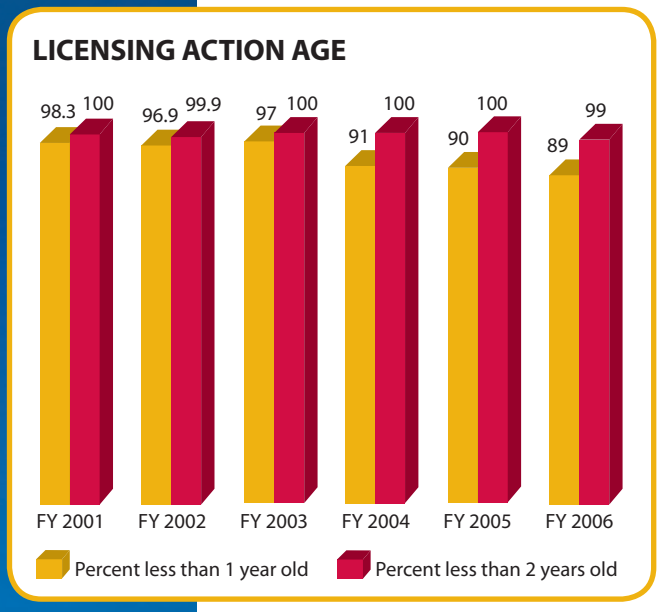

Figure 12

Evaluations of nuclear facility power uprate applications represent one of the more important types of licensing activities and are a means for facilities to increase the power output of their plants. The NRC reviews focus on the potential impacts of the proposed power uprate on overall plant safety. The review of a power uprate application ensures that risks associated with increasing a plant's power output are fully addressed and that plant operation at the increased power level is safe. Power uprates increased the Nation's electrical generating capacity by approximately 429 Megawatts electric (MWe) in FY 2006.

New Reactor Licensing

Another important area involves the preparations for conducting licensing reviews for a new generation of nuclear reactors. Licensing activities for new reactors ensure that these reactors will meet NRC safety requirements and that a stable and predictable regulatory process is in place so that the Agency can evaluate future license applications without imposing undue regulatory burden on nuclear power generating companies. The NRC is undertaking these preparatory activities in response to the nuclear industry's increased interest in constructing new reactors as a result of the Energy Policy Act of 2005 and ongoing U.S. Department of Energy efforts to share the costs of new reactor licensing projects. The first applications to construct and operate new nuclear power reactors are expected to be filed as soon as 2007, with several more in FY 2008 and FY 2009. The current number of expected Combined License applications for the period FY 2007 through FY 2009 has increased to a total of 20. The NRC proposed revisions to the regulation governing early site permits, design certifications, and combined licenses to improve the effectiveness and efficiency of the licensing processes for new reactor applications.

New Reactor Designs

The NRC has been actively reviewing new nuclear reactor designs. On December 30, 2005, the Commission voted unanimously to certify a fourth power plant design, the Westinghouse AP1000 standard plant design. In addition, General Electric has submitted an application for the Economic Simplified Boiling-Water Reactor design. In a letter dated December 1, 2005, the staff informed General Electric that their application is sufficiently complete and that it was formally accepted as a docketed application for design certification.

By certifying nuclear reactor designs, the NRC resolves safety issues in a design certification rulemaking. When an applicant submits an application for construction of a new nuclear power plant using one of these designs that has been certified by the Commission, the license application review can proceed more efficiently in a manner that ensures safety while minimizing unnecessary regulatory burden and delays.

In addition to working on domestic issues for new reactor construction, the NRC has been a leader in cooperating with other national nuclear regulatory authorities to address advanced reactor oversight. The NRC is leading a multinational effort called the Multinational Design Evaluation Program to more efficiently review new reactor designs. The goal of this effort is to make all new reactor reviews more safety-focused. NRC representatives are communicating closely with representatives from the Finnish and French regulatory authorities about the EPR designs that are being constructed in Finland and planned for licensing in France and the United States. A longer-term multinational effort is being undertaken under the auspices of the Office of Economic Cooperation and Development's Nuclear Energy Agency in attempt to harmonize regulatory approaches to facilitate more efficient reviews of Generation IV reactors.

Early Site Permits

The NRC is currently reviewing early site permit applications for the Clinton, North Anna, Grand Gulf, and Vogtle nuclear power plant sites. The Agency issued the Clinton environmental impact statement on July 28, 2006, and the Grand Gulf environmental impact statement on April 7, 2006. The staff issued the associated safety evaluation report for the Grand Gulf site on April 24, 2006, the Clinton site on May 1, 2006, and the North Anna site on August 15, 2006. Early site permits address site safety issues, environmental protection issues, and plans for coping with emergencies independent of the review of a specific nuclear plant design.

In addition to working on domestic issues for new reactor construction, the NRC has been a leader in cooperating with other national nuclear regulatory authorities to address advanced reactor oversight. The NRC has proposed an initiative, the multinational design approval program, that will allow several regulatory authorities to share expertise and resources in reviewing new and future reactor designs.

License Renewal

Reactor operating licenses for nuclear reactors are granted for 40 years and can be renewed for as long as an additional 20 years. The review process for renewal applications is designed to assess whether a reactor can continue to be operated safely during the extended period of operation.

To renew a license, the utility must demonstrate that the effects of aging will not adversely affect structures or components important to safety during the renewal period.

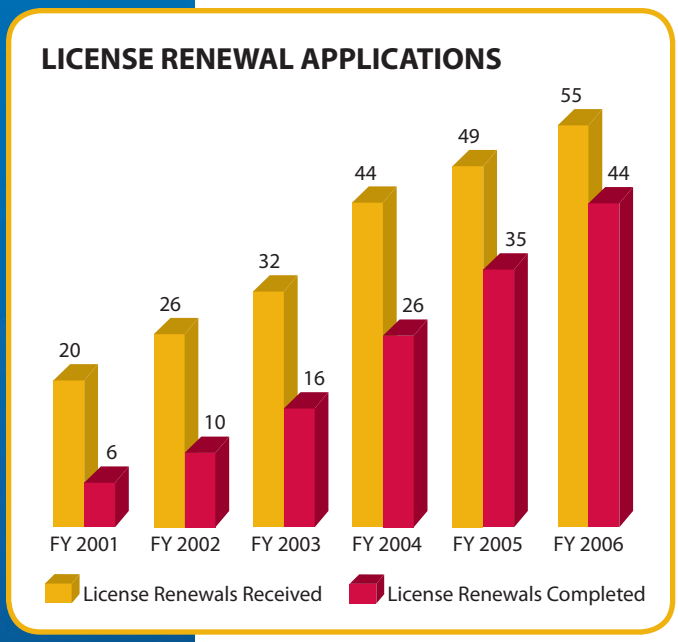

Figure 13

Such structures and components include the reactor vessel, piping, electrical cabling, containment structure, and steam generators. For some structures or components, additional action may be needed to ensure adequate margins of safety. Additionally, the potential impact on the environment due to the extended period of operation is assessed to verify that the impacts are not so great as to preclude license renewal.

The NRC has received applications to renew the licenses for 55 units at 32 sites and has renewed licenses for 44 units at 23 sites (see Figure 13). The NRC is currently reviewing applications to renew the licenses for eleven units at nine sites. The Agency expects that almost all of the licensees for currently licensed units will ultimately apply to renew their licenses.

Extensive implementation guidance was developed to standardize and improve the efficiency of the renewal process such that the time period for renewing a standard application is not unduly long. This guidance enables the Commission to minimize unnecessary regulatory burden for the applicant while ensuring that the plant can continue to operate safely. In the future, the NRC will update this guide as needed based on lessons learned and process improvements identified during renewal application reviews.

Nuclear Reactor Inspection

The NRC's Reactor Oversight Process verifies that nuclear plants are being operated safely and in accordance with the NRC's rules and regulations. The NRC has full authority to demand immediate licensee action for any conditions which result in excess risk to the public, including requiring a plant be shut down if necessary. Inspection findings and performance indicators are evaluated to assess the safety performance of each operating nuclear power plant. 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 results of NRC inspection findings for each plant are available to the public on the NRC web site. The NRC also conducts public meetings with licensees to discuss the results of the NRC's assessments of its safety performance.

When necessary, the NRC initiates investigation and enforcement activities to identify and appropriately respond to instances of willful noncompliance with NRC regulations. If necessary, fines and sanctions are applied to punish willful noncompliance or malfeasance.

In FY 2006, the Nation's nuclear power plants were operated well within NRC safety requirements. The performance measures for the safety goal document that no plants were operating at unacceptable levels. In addition, the safety trend for nuclear plants as a whole showed no adverse trends. More than 99 percent of plant safety indicators were rated green in FY 2006.

The NRC continued to improve the Reactor Oversight Process in FY 2006. Agency assessments confirm that the Reactor Oversight Process has resulted in a more 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.

Reactor Investigations and Enforcement

Compliance with NRC requirements plays an important role in giving the Agency confidence that safety is being maintained. NRC policy endeavors to deter noncompliance and to encourage prompt identification and timely, comprehensive corrections. Licensees, contractors, and their employees who do not achieve the high standard of compliance expected by the NRC are subject to enforcement sanctions. Each enforcement action depends on the circumstances of the case. However, in no case will the NRC permit licensees to continue to conduct licensed activities if they cannot achieve and maintain adequate levels of safety.

Emergency Preparedness and Incident Response

The NRC emergency preparedness and incident response activities are aimed at ensuring that the Agency is capable of responding effectively to events at its licensees' sites and that adequate protective measures can and will be taken to mitigate plant damage and to minimize radiation doses to members of the public.

In FY 2006, the NRC conducted numerous outreach initiatives regarding the review of emergency preparedness regulations and guidance; improved the licensing infrastructure to support new reactor license applications; continued a comprehensive review of requirements led by the Department of Homeland Security (DHS); worked with the U.S. Department of Health and Human Services (HHS) to distribute potassium iodide to States that request it; continued upgrades to the Agency's incident response center; and developed and implemented key lessons learned from Hurricane Katrina, a pandemic workshop, and other emergency response exercises.

During the 2005 hurricane season, the NRC and DHS effectively responded to hurricanes Katrina, Rita, and Wilma which had no significant impact on commercial nuclear power plant safety. After the storms, the NRC and DHS coordinated their review of licensee, State, and local emergency preparedness and response capabilities to allow timely restart of nuclear power facilities to support restoration of infrastructure while maintaining the protection of public health and safety. The NRC conducted a lessons learned review of the 2005 hurricane season and developed thirteen recommendations grouped in the areas of coordination and communications, roles and responsibilities, and supporting NRC employee needs. Those items necessary to be completed before the 2006 hurricane season were completed on schedule.

The Agency uses different types of exercises to test and demonstrate its incident response and emergency preparedness capabilities. In FY 2006, 12 formal scheduled exercises were conducted at licensee sites, five of which included full NRC participation. In addition, the NRC participated in two governmentwide interagency exercises. The NRC also conducts other improvement techniques such as tabletop drills and internal procedural exercises. In FY 2006, the NRC conducted two of these drills. The exercises provide training, test the Agency's plans, procedures, and guidance documents, and test and evaluate the headquarters incident response facility and critical incident response communication capabilities. The NRC conducted an unannounced emergency response drill at NRC headquarters to validate response time and exercise command controls and communications during an event.

Following completion of each exercise, the NRC conducts a comprehensive review of the exercise and collects lessons learned information from participants. The lessons learned are used to correct deficiencies identified in the exercise and enhance the efficiency and/or effectiveness of the facility, guidance documentation, or interaction with exercise partners.

Fuel Facilities

The NRC licenses and inspects all commercial nuclear fuel facilities that process and fabricate uranium ore into reactor fuel, which powers the Nation's nuclear reactors. Licensing and inspection actions represent a key aspect of the Agency's nuclear fuel cycle safety and safeguards program. Inspection actions include detailed health, safety, safeguards, and environmental licensing reviews as well as inspections of licensee programs, procedures, operations, and facilities to ensure safe and secure operations.

The NRC conducted several significant fuel cycle licensing reviews in FY 2006. The Agency completed a license renewal for Westinghouse Electric Co., LLC. To ensure that the fuel facility was operating safely and securely, the Agency reviewed, among other issues, safety analyses for controlling hazardous materials and the engineered and human performance barriers relied on to control hazardous materials. The NRC also conducted comprehensive reviews of first-of-a-kind integrated safety analysis submitted by licensees in response to new requirements in 10 CFR Part 70 Domestic Licensing of Special Nuclear Material. An integrated safety analysis increases the use of risk information to identify hazards, the engineered and human performance barriers relied on to control hazards, and the management measures to ensure that controls are available and reliable. The NRC completed integrated safety analysis reviews for BWX Technologies, Inc.; Westinghouse Electric Co., LLC; and AREVA NP, Inc. (formerly Framatome, ANP).

The NRC also issued a license to Louisiana Energy Services to construct and operate the National Enrichment Facility. This is the first license issued by the NRC for a full-scale uranium enrichment plant. The National Enrichment Facility will use gas centrifuge technology to enrich uranium, the first commercial use of such technology in the United States.

The NRC is currently reviewing a license application submitted by USEC, Inc., for a commercial gas centrifuge uranium enrichment facility, the American Centrifuge Plant, to be located in Piketon, Ohio. The NRC conducted public meetings near the location of the proposed facility to provide information on the NRC licensing process and to seek input from the public for the environmental impact statement. The NRC issued the Final Environmental Impact Statement in May 2006, and the Final Safety Evaluation Report was issued September 2006. The NRC previously issued a license to USEC, Inc. for the Lead Cascade Facility, which is to be used to demonstrate the gas centrifuge technology and collect information on optimizing the uranium enrichment operations. Region II completed its operational readiness review, which authorizes USEC Inc. to introduce uranium hexafluoride in the Lead Cascade.

Nuclear Materials Users

The NRC licenses and inspects the commercial use of nuclear material for industrial, medical, and academic purposes. The NRC and 34 Agreement States regulate more than 20,000 specific materials licensees and 150,000 general materials licensees. The NRC currently regulates and inspects approximately 4,400 specific licensees for the use of nuclear byproduct and other radioactive materials.

These uses 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. Detailed health and safety reviews as well as inspections of licensee procedures and facilities provide reasonable assurance of safe operations and the development of safe products. The NRC and the Agreement States routinely inspect nuclear materials 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. In particular, the NRC regularly evaluates the safety significance of events reported by licensees and Agreement States.

In FY 2006, the NRC completed reviews of 3,032 materials licensing actions and 1,152 material program inspections. From 1999 through 2006, the NRC has improved the timeliness of its reviews of nuclear material license renewals and sealed source and device designs (see Figure 14). In FY 2006, the NRC completed 94 percent (309) of the 329 requests for license renewal and sealed source and device design reviews within 180 days, and 98 percent (2,661) of 2,703 new applications and license amendments within 90 days.

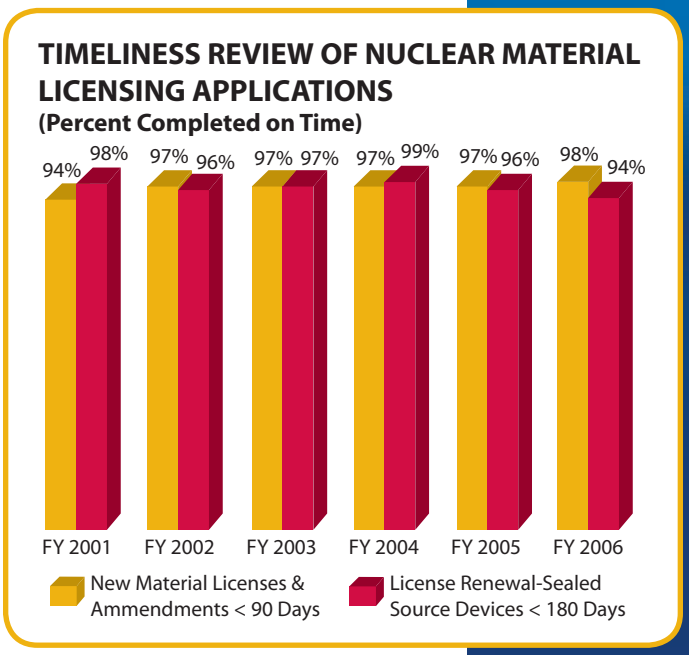

Figure 14

The NRC worked with the Department of Energy to recover unwanted or orphaned radioactive sources that were initially identified for accelerated recovery. From the inception of this program in 1997 through 2006, more than 11,700 radioactive sources have been recovered from more than 450 sites.

The NRC is assisting U.S. Customs and Border Protection in fulfilling its Congressional mandate to verify the legitimacy of radioactive material shipments coming into the United States through established ports of entry. The NRC regularly provides Customs and Border Protection with information on the licensing of radioactive materials, including import and export licensing information, and has established processes to provide around-the-clock technical support.

The NRC completed the interim inventory of high-risk sources, defined as International Atomic Energy Agency Category 1 and Category 2 sources. Although reporting is voluntary, reporting process enhancements produced a response rate of 99.7 percent from licensees in NRC and Agreement States. This inventory was useful in supporting government efforts to respond to national emergencies (such as Hurricanes Katrina and Rita) and nationally significant events. The NRC also used the inventory in further enhancing the safety, security, and control of radioactive sources, including issuance of increased control orders.

The NRC issued more than 1,000 increased control orders, imposing additional safety and security measures on licensees that possess Category 1 and 2 quantities as specified in the International Atomic Energy Agencies "Code of Conduct for the Safety and Security of Radioactive Sources." The NRC worked with the Agreement States to impose the same requirements with their licensees through legally binding agreements. The NRC issued security orders to irradiator facilities, manufacturer and distributor facilities, and licensees shipping IAEA Category 1 quantities. The NRC continued to develop a process that would

screen new license applications for the need for enhanced security measures and to identify suspicious uses of nuclear materials.

Nuclear Material Users Investigation and Enforcement

During inspections at a material user licensee's facility in FY 2006, the NRC identified several violations of Agency requirements, including (1) overexposure to the right hand of a radiographer, (2) failure to have two qualified people present during field radiographic operations, (3) failure to secure licensed material to prevent unauthorized access or removal and failure to immediately notify the NRC of missing licensed material, and (4) failure to survey the perimeter of a temporary job site during radiographic operations. The NRC issued a penalty of $19,500 for these violations.

State and Tribal Programs

During 2006, NRC entered into an Agreement under Section 274b of the Atomic Energy Act with the State of Minnesota making Minnesota the 34th Agreement State.

NRC, with the assistance of the Agreement States, completed 11 Integrated Materials Performance Evaluation Program reviews to determine the adequacy and compatibility of those Agreement State programs and one review for the fuel cycle inspection program in Region II.

Three States (Illinois, Massachusetts, and Ohio) signed an addendum which modified their respective Agreements under Section 274i of the Atomic Energy Act to perform security inspections, for and on behalf of the U.S. Nuclear Regulatory Commission, of materials licensees authorized to possess and transport items containing radioactive material in quantities of concern.

High-Level Waste Repository

The high-level waste repository activity focuses on permanent storage and disposal of high-level nuclear waste. The NRC conducts its high-level waste program in accordance with the Nuclear Waste Policy Act (as amended) and the Energy Policy Act of 1992. This legislation also prescribes the roles of the NRC, Department of Energy, and the Environmental Protection Agency in the high-level waste program.

The Department of Energy is responsible for disposing of the Nation's high-level waste, including site characterization and repository design as well as the development, operation, and ultimate closure of a deep geologic repository. The Department also is responsible for characterizing the potential site at Yucca Mountain in the State of Nevada. The Environmental Protection Agency is in charge of developing environmental standards for the Yucca Mountain repository that are consistent with the recommendations of the National Academy of Sciences.

The NRC continued to interact with the Department of Energy on its new spent fuel management program, which uses standardized transportation, aging, and disposal canisters. The Department of Energy is scheduled to issue performance specifications for the disposal container by the end of 2006, and these specifications will inform the designs for transport package and storage cask systems.

To prepare for a potential high-level waste repository license application, the NRC enhanced its electronic information exchange capability to enable the electronic receipt of high-level waste documentary material. The Agency used the electronic hearing docket in the proceeding for the Pre-License Application Presiding Officer. The NRC obtained security ap-

proval to deploy the protective order file to support the proceeding. The NRC tested its preparedness by conducting end-to-end exercises to determine how organizations' processes, procedures, functions, and systems receive, process, and respond to documents and filings. The Agency's management group completed the operational readiness review for the release and concluded that the release met the service-level requirements and functionality for the prelicense application phase.

Decommissioning and Low-Level Waste

The NRC addresses licensing and inspection activities at 15 decommissioning power reactors and 38 complex material and fuel facility sites. Decommissioning removes radioactive contamination from buildings, equipment, groundwater, and soil, achieving levels that permit the release of the property, with or without restrictions on its future use by the public. The NRC terminates the licenses for decommissioned facilities after the licensees demonstrate that the residual on-site radioactivity falls within regulatory limits and is sufficiently low to protect the health and safety of the public and the environment. The NRC also conducts a number of regulatory activities to help ensure the safe management and disposal of the low-level radioactive waste generated by radioactive material users, nuclear power plants, and other NRC licensees.

NRC's significant FY 2006 environmental completions included publishing the Final Environmental Impact Statement (NUREG-1834) for USEC's commercial gas centrifuge uranium enrichment facility license application, and completing extensive cooperating Agency comments on the West Valley Demonstration Project preliminary Draft Environmental Impact Statement. Furthermore, staff prepared three draft complex Environmental Assessments (Humboldt Bay; Honeywell License Renewal, and Smith Ranch); and an Environmental Assessment for the Energy Policy Act Rulemaking.

The NRC has overseen decommissioning activities at numerous complex sites and power reactor sites. During 2006, the NRC completed decommissioning activities at seven sites. Completion of decommissioning activities enables sites to be returned to productive use while ensuring that residual radioactivity does not pose an unacceptable risk to the public.

Beginning in Fiscal Year 2005, the NRC assumed new responsibilities in accordance with the National Defense Authorization Act of 2005 for reviewing Department of Energy waste incidental to reprocessing determinations for the Savannah River Site and the Idaho National Laboratory. Waste incidental to reprocessing is residual waste contained in tanks at Department of Energy sites that may, in some instances, be safely disposed of in locations other than in a geologic repository for high-level waste. The NRC is to monitor the Department of Energy disposal actions to assess compliance with certain NRC requirements and report to Congress, the State, and the Department of Energy if the NRC finds the Department of Energy is not in compliance. In FY 2006, the NRC completed its first review under the Act, which was for salt waste that will be removed from tanks at the Savannah River Site and disposed in an on-site disposal area. The NRC found that the Department of Energy disposal plan is protective of the public health and safety and the environment. NRC has initiated two additional reviews of tank closures at the Savannah River Site and at the Idaho National Laboratory.

Spent Fuel Storage and Transportation

The NRC ensures that reactor spent fuel is safely stored to support continued reactor operations and safely transported when necessary. The NRC conducts licensing and certifica-

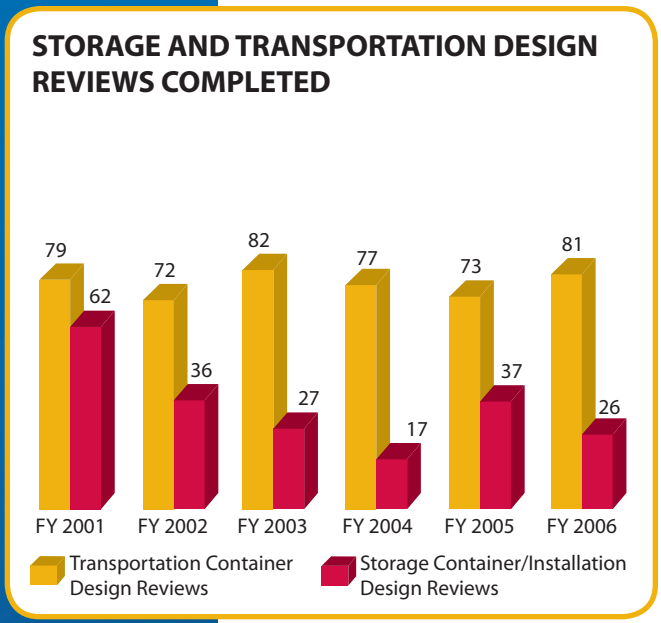

Figure 15

tion reviews to ensure that storage designs comply with NRC regulations for the storage of nuclear reactor spent fuel and for the domestic and international transport of nuclear reactor spent fuel and other risk-significant radioactive materials.

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 Department of Transportation and, as appropriate, the Department of Energy. To help ensure the safety and security of both spent fuel storage and radioactive material transportation, the NRC inspects transport container package designs, spent fuel storage cask designs, and interim storage of spent fuel at both reactor sites and sites away from the reactors. This approach helps to ensure that licensees provide safe interim storage of spent reactor fuel and that they transport nuclear materials in packages that furnish a high degree of safety.

In 2006, the NRC completed 81 transport container design reviews and 26 storage container and installation design reviews (see Figure 15). The NRC's timely and effective review of transportation and interim storage licensing requests protects public health and safety by ensuring that shipments are contained in NRC-approved packages that meet rigorous performance requirements and by verifying that spent fuel is safely stored, thereby enabling continued reactor operations. The NRC also conducted 16 inspections of independent spent fuel storage installations and of radioactive material package certificate holders, to conduct "dry run" loadings with licensee personnel and to ensure that casks are being fabricated according to approved safety requirements in FY 2006.

The NRC issued a license to Private Fuel Storage, LLC, to authorize construction and operation of an away-from-reactor independent spent fuel storage installations on the reservation of the Skull Valley Band of Goshute Indians, a Federally recognized Indian tribe. Should it be constructed, the proposed above ground facility will provide temporary storage of spent fuel from U.S. nuclear power plants. The safe storage of spent nuclear fuel is important to maintaining public and environmental safety.

Other Activities

Safety Research

The NRC's reactor safety research program evaluates and resolves safety issues related to nuclear power plants, provides the basis for regulatory changes and improvements, coordinates NRC activities related to consensus and voluntary standards for Agency use, and assesses operational events to identify accident precursors. The Agency conducts its research program to also 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 NRC engages in cooperative research with other Federal agencies (for example, DOE, and the National Aeronautics and Space Administration), the nuclear industry, universities, and international partners.

During the past year, the NRC research program has addressed key areas that support the Agency's safety mission. Some of these activities are related to verification and validation of fire safety models for nuclear power plant applications, development of a licensing strategy for the next-generation nuclear plants, a proactive program for the assessment of reactor system and pressure boundary components and their susceptibility to known and potential material degradation mechanisms, and development of the Mitigating Systems Performance Index to produce a more risk-informed and performance-based indicator.

The NRC is working with the National Academy of Sciences to conduct a study of industrial, research, and commercial uses of radioactive sources. The NRC's research activities also continue to support analytical tools for the development of radiation protection standards and guidance on the use of byproduct materials. Further, research will support the development of probabilistic risk assessment guidance to risk-inform the regulatory framework for materials licensees.

Fire Safety

The NRC's fire safety research program supports regulatory activities related to fire protection and fire risk analysis. During FY 2006, this research program focused on activities to support the implementation of a new risk-informed, performance-based fire protection rule, 10 CFR 50.48(c), which endorses National Fire Protection Association Standard 805. This program also focuses on applications, such as exemptions or deviations to current regulations. The draft of NUREG-1824, "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications," issued January 2006, documents the verification and validation of five fire modeling tools commonly used in nuclear power plant applications. Technical reviews of fire models are necessary to ensure that analysts can judge the adequacy of the scientific and technical basis for the models, select models appropriate for a specific use, and understand the levels of confidence that can be placed in the results predicted by the models. Future improvements in fire dynamics calculation methods and models and the introduction of additional fire test data may affect the results of these reports.

To support the development of guidance documents for risk-informed, performance-based fire protection programs, the NRC has continued an international cooperative effort with the National Institute of Standards and Technology to benchmark, verify, and validate fire models. Other fire safety research activities included full-scale endurance testing of selected electrical raceway fire barrier systems, which are designed to protect certain plant equipment needed to achieve a safe shutdown during a nuclear plant fire.

Licensing of Next Generation Nuclear Plant

The Energy Policy Act of 2005 specifies that the Secretary of Energy shall establish the next-generation nuclear plant project. This project consists of research, development, design, construction, licensing, and operation of a prototype nuclear plant, including a very-high-temperature reactor, which can be used to generate electricity, hydrogen, or both. In addition, the Act provides that the NRC shall have licensing and regulatory authority for any reactor authorized under the Act. The Secretary of Energy and the NRC Chairman must jointly develop and submit a licensing strategy for the prototype reactor by August 2008. The NRC has initiated work to develop the licensing strategy discussed in the Act.

Materials Degradation

The NRC is conducting research on material degradation. The Agency performed a proactive material degradation assessment to identify susceptible materials and components

that can reasonably be expected to degrade in light-water reactors in the future. Other ongoing activities include (1) evaluating the effectiveness of inservice inspection techniques and programs to detect degradation in components with a high likelihood for degradation, (2) estimating probabilities of failure and associated uncertainties for these components, and (3) performing risk assessments of components that are likely to degrade to evaluate their impact on safety. The NRC is also currently cooperatively developing and implementing an international research program for the components and degradation mechanisms of interest. This cooperative work should develop the knowledge and technology necessary to implement effective material degradation management programs to address potential future degradation by taking mitigating actions, performing effective and timely inspections, and monitoring and repairing affected components.

The NRC is evaluating approximately 4,500 light water reactor components to develop new insights into material degradation. Additional assessments included a semiquantitative evaluation of the potential for future degradation and provided insights into time-dependent phenomena that could lead to new degradation. The NRC also identified degradation issues related to plant operations, such as the potential for cracking caused by aggressive environments that may develop at the end of fuel cycles as well as the removal of fibrous insulation from pipes to address sump clogging that could render the pipes susceptible to stress-corrosion cracking from the outside surface, if new insulation is not applied.

Assessing Safety System Performance

The NRC uses objective measures of nuclear power plant performance in its reactor oversight program. These measures are part of the oversight process to determine the safety performance of each nuclear power plant and to identify those plants that require additional attention to ensure that they are operating in accordance with NRC safety requirements. A new measure, the Mitigating Systems Performance Index, has been developed to assess safety system performance by addressing both unavailability and unreliability and assigning the greatest weight to the most risk-significant equipment in each of six systems at a plant.

The NRC initiated a pilot program that obtained monthly plant performance data from 20 pilot plants and then used risk assessment models and plant equipment performance data to independently assess the efficiency of the index. On the basis of this research, the staff concluded that the performance indicator can differentiate risk-significant changes in performance. The index also addresses problems associated with current performance indicators for safety system unavailability. The NRC implemented the index during the second quarter of FY 2006.

Evaluation of Environmental Contaminants

Research on decommissioning and waste disposal has focused on providing more realistic models to address complex contamination problems at decommissioning sites. During this past year, the tools and expertise developed in this program provided support to the Regions and to the Office of Nuclear Reactor Regulation associated with site-specific tritium contamination problems raised at several nuclear power plants. Modeling and monitoring training courses were attended by Agency staff. New milestones were developed with the release of FRAMES2 (a platform for building multimedia environmental models for complex sites) and RESRAD-OFFSITE, and the publication of an integrated methodology on site characterization, modeling, and monitoring. Other activities contributing to enhanced modeling capability included work on thermodynamic sorption models (applied to financial assurance requirements for in situ leach uranium mines), and updated parameters for food chain pathway models.

Security Goal: Ensure the Secure Use and Management of Radioactive Materials

Strategic Outcome

The NRC has one strategic outcome associated with this goal that determines whether the Agency has achieved its goal to ensure the secure use and management of radioactive materials:

- No instances where licensed radioactive materials are used domestically in a manner hostile to the security of the United States.

Results: In FY 2006, the NRC achieved the Security goal strategic outcome.

Performance Measures

The table below lists the performance measures and targets for the FY 2006 Security goal, as stated in the FY 2006 Performance Budget. The NRC met all of the FY 2006 Security goal performance measure targets.

FY 2006 Security Goal Performance Measures

MEASURE	2001	2002	2003	2004	2005	2006
1. Unrecovered losses or thefts of risk-significant radioactive sources is zero	0	0	0	0	0	0
2. Number of security events and incidents that exceed Abnormal Occurrence Criteria I.C.2–4 is ≤4.			New Measure in FY 2005		0	0
3. Number of significant unauthorized disclosures of classified and/or safeguards information is zero.	0	0	0	0	0	0

Analysis of Results

1. **Unrecovered losses or thefts:** This measure covers any loss or theft of radioactive nuclear material that the NRC has determined to be risk significant. The measure tracks the NRC's performance in ensuring that those radioactive sources that the Agency has determined to be risk significant for the public health and safety are accounted for at all times. The Agency used a thorough, detailed scientific methodology and the public rulemaking process to determine which sources are important. The ability to account for these sources is vital to securing the Nation's critical infrastructure from "dirty bomb" attacks, or other means of radiation dispersal. Despite the disruptions caused by hurricanes Rita and Katrina, there were no losses of nuclear material in the affected areas. There were no losses or thefts of risk-significant radioactive material during FY 2006.
2. **Security events:** This measure shows whether NRC-licensed facilities maintain adequate protective forces to prevent theft or diversion of nuclear material or sabotage that could result in harm to the public health and safety. This measure also shows whether special nuclear material (as defined in 10 CFR Part 70.4) is accounted for at all times and whether losses of this material occur that could lead to the creation of an improvised nuclear device or other type of nuclear device. Furthermore, the measure tracks whether the systems in place at NRC-licensed facilities maintain accurate inventories of special nuclear material that the facilities process, use, or store. No events met the conditions for this measure in FY 2006.

3. **Significant disclosures:** This measure includes significant unauthorized disclosures of classified and/or safeguards information that cause 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 (safeguards information) 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 documented disclosures occurred during FY 2006.

Security Activities

Security Assessments

The NRC continued its efforts to ensure the security of NRC-licensed nuclear power facilities by completing two plant-specific assessments at each facility during FY 2006. These assessments identified measures that should be taken to mitigate the effects of a broad range of terrorist threats. First, the NRC completed an independent assessment of spent fuel pools for all nuclear power reactors. Second, the NRC identified additional mitigation strategies for challenges to the reactor core and containment at each nuclear power reactor. In addition, the NRC performed detailed spent fuel pool analyses for two nuclear power reactors to evaluate the robustness of the pools' design.

Security Inspection

In the past year, the NRC has broadened its efforts to ensure the secure use and management of radioactive materials. The Agency completed security assessments of potentially risk-significant licensed facilities and activities to determine the need for mitigative strategies and best practices that would provide enhanced protection against a range of threats. A roll-out is now underway for communicating these results to Federal and state agencies, licensees, and others.

The NRC also remained vigilant of security within the nuclear industry through its oversight activities. During 2006, the NRC continued to refine the security cornerstone of the Reactor Oversight Process and initiated, in collaboration with industry, a comparison of the effectiveness and efficiency of the Agency's revised significance determination process and an industry-developed alternative. The upgraded security inspections required in the reactor inspection program were completed at all reactor sites throughout 2006. In addition, the NRC continued its efforts to complete the Phase III Material Control and Accounting inspections at power reactor spent fuel pools. The purpose of these inspections is to determine if licensees have adequately accounted for and controlled the spent fuel in their spent fuel pools.

Force-on-Force Exercises

The NRC regularly carries out force-on-force exercises at commercial operating nuclear power plants and Category II fuel cycle facilities as part of its comprehensive security program. These exercises are used to evaluate and improve the effectiveness of plant security programs to prevent radiological sabotage. The Agency's force-on–force exercise program is conducted at least once every three years at each commercial nuclear power plant and fuel facility.

Force-on-force exercises assess a nuclear plant's physical protection to defend against the design basis threat, which characterizes the adversary against which plant owners must design physical protection systems and response strategies. A full force-on-force exercise,

spanning several days, includes both table-top drills and simulated combat between a mock commando-type adversary force and the nuclear plant security force. During the mock attack, the adversary force attempts to reach and damage key safety systems and components that protect the reactor's core (containing radioactive fuel) or the spent nuclear fuel pool, potentially causing a radioactive release to the environment. The nuclear power plant's security force, in turn, seeks to stop the adversaries from reaching the plant's equipment and causing such a release. These exercises include a wide array of Federal, state, and local law enforcement and emergency planning officials in addition to plant operators and NRC personnel. In FY 2006 the Agency completed 21 force-on-force exercises and submitted its first annual Report to Congress on the results of the NRC security inspection program.

Security Rulemaking

During 2006, the NRC undertook security rulemaking activities that will promote greater stability of the security requirements placed upon its licensees. For example, the Agency has proposed a comprehensive revision to the requirements for physical protection at nuclear reactors. The Agency also published a proposed rule to amend its regulations that govern the requirements pertaining to the design basis threat.

Control of Radioactive Sources

In FY 2006, the NRC maintained and broadened its efforts to identify and mitigate the risk of terrorist threats through enhanced security and controls for the use, storage, and transportation of byproduct material and spent nuclear fuel. In collaboration with the Department of Homeland Security, Department of Energy, 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 consistently enhance radioactive source protection and security.

The NRC worked with the Agreement States to issue new requirements to licensees that enhance the security and control for risk-significant radioactive material. This included development of an inspection program to verify the implementation of these measures. The NRC also completed activities for a final rule that establishes the regulatory foundation for the National Source Tracking System, a database for tracking radioactive sources of concern. The rule would require the NRC and Agreement State licensees to report transactions involving the manufacture, transfer, receipt, disassembly and disposal of nationally tracked sources (Category 1 and 2 sources from the International Atomic Energy Agency Code of Conduct for the Safety and Security of Radioactive Sources). A source registry has been implemented and an interim database developed as a first stage for a National Source Tracking System. The NRC and Agreement States have implemented a process to screen new license applications or applicants to determine, with reasonable assurance, that the requested materials will be used as intended. The NRC also decided to include category 3 sources in the National Source Tracking System to deal with threat posed from potential aggregation of sources.

The NRC continued its efforts to implement portions of the International Atomic Energy Agency Code of Conduct. The NRC continued its participation in the International Atomic Energy Agency to develop guidance documents for the security of radioactive sources in use, storage, and transportation. The NRC's involvement in these committees enhances security and public safety, and contributes to international and domestic regulatory stability. New export and import regulations that became effective in FY 2006 impose more stringent controls over the Category 1 and 2 materials defined by the International Atomic

Energy Agency Code of Conduct. These new regulations implement a key element of the Code of Conduct and its guidance documents by increasing licensing requirements, as well as notice and consent requirements.

In FY 2006, the Agency also implemented provisions of the Energy Policy Act of 2005, related to security and controls for risk-significant radioactive sources. The NRC also initiated an National Academy of Sciences study on radiation source use and replacement. Under the leadership of the NRC, the interagency Radiation Source Protection and Security Task Force issued its initial report in August 2006. The Task Force report provided recommendations to the President and Congress relating to the security of radiation sources in the United States from terrorist threats, including acts of sabotage, theft, or use of a radiation source in an Radiological Dispersal Device.

Spent Fuel

The NRC continued work related to spent nuclear fuel security. In FY 2006, the Agency completed three security plan reviews for Independent Spent Fuel Storage Installations and issued two security orders to new Independent Spent Fuel Storage Installation licensees. The NRC also reviewed and approved six spent fuel transportation routes. In addition, the NRC jointly sponsored a study by the National Academy of Science Board of Radioactive Waste Management on the risks of transporting high-level waste, including spent fuel. The board issued its final report in 2006 and concluded that there were no fundamental technical barriers to the safe transport of radioactive materials, that the radiological risk from spent fuel shipments was low and well understood, and that existing regulations are adequate to protect the public during radioactive shipments. Finally, the NRC has been involved with evaluation of the security measures being developed by Private Fuel Storage, an Independent Spent Fuel Storage Installation in Skull Valley, Utah. The Agency's Safety Evaluation Report concluded that the proposed security measures identified for Private Fuel Storage will provide adequate protection of public health and safety. The NRC issued a license for Private Fuel Storage in February 2006. The NRC staff has been in contact with Private Fuel Storage management regarding the submission of the Private Fuel Storage Concept of Operations plan and projected construction milestones.

Openness Goal: Ensure Openness in Our Regulatory Process

Strategic Outcome

The NRC has one strategic outcome associated with this goal that determines whether the Agency has achieved its goal to ensure openness in its regulatory processes.

- Stakeholders are informed and involved in NRC processes as appropriate.

Performance Measures

Results: Data for Performance measure one was not undertaken due to cost considerations. Performance measure two was missed, with 67% of the selected openness output measures achieved.

Listed below are the FY 2006 Openness goal performance measures and targets stated in the FY 2006 Performance Budget.

FY 2006 Openness Goal Performance Measures

MEASURE	2001	2002	2003	2004	2005	2006
1. Percentage of surveyed stakeholders that perceive the NRC to be open in its processes		New Measure in FY 2006				Not Undertaken
2. Seventy percent of selected openness output measures achieve performance targets		New Measure in FY 2005			50%	67%

Analysis of Results

1. **Percentage of surveyed stakeholders that perceive the NRC to be open in its process.** This measure was based on a survey of residents that live near nuclear facilities. The NRC's overall score in FY 2004 was 68 out of 100, which is relatively high for a regulatory Agency. The NRC staff was found to be professional, competent and helpful. The Agency received high scores for the information provided to stakeholders. The Agency found that it needs to review information for ease of understanding, however, and ensure that information is written in plain English so that it is understandable to non-technical stakeholders. The scores on participation were lowest. The respondents did not seem to be satisfied with the opportunities the Agency offers them to participate in the regulatory process.

   The staff did not undertake a survey in FY 2006 due to cost considerations and decided that a series of Openness/Stakeholder Satisfaction Focus Groups could give the Agency an added pathway to evaluate and measure how the public perceives NRC messages and statements. The results of the focus group effort, combined with the results of the prior openness survey, will provide better awareness of specific elements of public outreach that need enhancement and may be used to formulate a different measurement tool for next year's report. The focus group effort could help address local official and community outreach issues by ensuring NRC information is written in plain English and that opportunities to participate in NRC's regulatory process are clear.

2. **Seventy percent of selected openness output measures achieve performance targets.** This measure is based on the following nine output measures. Seven of the measures must be achieved in order to met the measure target of seventy percent.

   A. *Ninety percent of stakeholder formal requests for information receive an NRC response within 60 days of receipt.* The purpose of this measure is to ensure stakeholders that NRC will reply to their formal request within a reasonable amount of time. The NRC met 100 percent of this target by responding to 26 formal letters within 60 days of receipt.

   B. *The NRC achieves a user satisfaction score for the Agency's public web site greater than or equal to the Federal Agency Mean score based on results of the yearly American Customer Satisfaction Index for Federal Web sites.* The purpose of the measure is to determine whether the NRC public site's score is equal to or greater than the mean score for Federal Web sites, which is based on the American Customer Satisfaction Index. In 1999, the Federal Government selected the American Customer Satisfaction Index to be a standard metric for measuring citizen satisfaction. Over 55 Federal Government agencies have used the American Customer Satisfaction Index to measure citizen satisfaction of more than 110 services and programs. The Index is produced by

the University of Michigan in partnership with the American Society for Quality and CFI Group, an international consulting firm. Although the Agency met the Federal Agency Mean Score during the 3rd and 4th quarters, the Agency did not meet the annual score of 70.5 percent for FY 2006. NRC's actual score was 69.75 percent.

Action to address missed measure: Based on the survey results, the annual satisfaction score was below the Federal Agency Mean Score due to the current search engine. It is anticipated that a Web Content Management System will be implemented by the 4th quarter of FY 2007 in order to satisfy customer concerns.

C. *Complete 50 percent of the Freedom of Information Act Requests in 20 days (median).* This measure tracks the NRC's responsiveness to an important type of public request for information in a timely fashion. The Freedom of Information Act requires federal agencies to make their records promptly available to any person who makes a proper request. In making a determination, the Agency is required to address all records subject to a FOIA request (including those already public, to be released, withheld in part, and withheld in entirety, if applicable). FOIA defines "promptly" as making records available within 20 working days. The 20 working day performance measure period begins once a request is "perfected." A FOIA request is perfected "when it describes the records sought well enough to allow a reasonable search to be made, all questions about the payment of applicable fees have been resolved with the requester, and the request has actually been received by the FOIA/PA Officer." The NRC met this target by responding to 61 percent of the requests within 20 days.

D. *Issue ninety percent of Director's Decisions under 2.206 within 120 days:* This measure tracks the NRC's responsiveness to a special type of public request for information, Director's Decisions. 10 CFR 2.206 gives individuals an opportunity to file a petition to institute a proceeding to modify, suspend, or revoke a license or for any other action that may be proper. The NRC met the target by issuing Director's Decisions within 120 days.

E. *Make ninety percent of Final Significance Determination Process Determinations within 90 days for all potentially greater than green findings:* This measure tracks the timeliness of Significance Determination Process determinations. The NRC reactor inspection program monitors nuclear power plant performance in three broad areas: reactor safety, radiation safety, and security. Plant performance is analyzed based on a large number of performance indicators, including inspection findings. Each plant is then categorized in one of four categories: green, white, yellow, or red. Red findings indicate a significant reduction in the safety of a nuclear power plant. The NRC met this target with 92 percent completed within 90 days.

F. *90 percent of stakeholders believe they were given sufficient opportunity to ask questions or express their views.* This measure uses feedback forms at public meetings during FY 2006 to determine whether stakeholders believe that they were given sufficient opportunity to ask questions or express their views at these meetings. The NRC met this target with 92 percent of stakeholders stating that they were given sufficient opportunity to ask questions or express their views at the meetings.

G. *At least ninety percent of Category 2 and 3 meetings on regulatory issues for which public notices are issued at least 10 days in advance of the meeting:* This measure tracks the timeliness with which the NRC notifies the public of meetings. Category 2 and 3 meetings are open to the public and public participation to ask questions and provide comments either throughout the meeting or at designated points in the agenda of the meeting. The NRC met this target with 92 percent of public notices were issued at least 10 days in advance of the meeting.

H. *Ninety percent of non-sensitive, unclassified regulatory documents generated by the NRC and sent to the Agency's Document Processing Center that are released to the public by the 6th working day after the date of the document.* This measure tracks the Agency's timeliness of releasing NRC-generated documents to the public. The Agency missed this measure, with only 63 percent of the documents released within the required time frame during FY 2006.

Action to address missed measure: There was a misunderstanding within the Agency regarding a common method of calculating release dates for documents. In the 4th quarter FY 2006, an Agency announcement was issued reiterating and clarifying the Agency policy. Greater emphasis on following Agency policy will be stressed throughout the Agency and should result in an improvement in the percentage of documents that are released within the required time frame.

I. *Ninety percent of non-sensitive, unclassified regulatory documents received by the NRC are released to the public by the 6th working day after the document is added to the ADAMS main library.* This measure tracks the Agency's timeliness in releasing externally generated documents received by the NRC for public review. The Agency missed this measure, with 77 percent of the documents released within the required time frame during FY 2006.

Action to address missed measure: NRC has determined that multiple factors were responsible for not meeting the target. These factors include, but are not limited to, the amount of time required for NRC staff to review certain documents for potential security and other sensitive information before they are released to the public, and the incorrect calculation of release dates. The Agency has taken steps to make sure there is a clear understanding by all staff in calculating release dates. Greater emphasis on following Agency policy will be stressed throughout the Agency and should result in an improvement in the percentage of documents that are released within the required time frame.

Openness Activities

The NRC views nuclear regulation as the public's business and, as such, it should be transacted openly and candidly in order to maintain the public's confidence. The goal to ensure openness explicitly recognizes that the public must be informed about, and have a reasonable opportunity to participate meaningfully in, the NRC's regulatory process.

The NRC affords the public and other stakeholders numerous opportunities to keep abreast of NRC's operating reactor program and activities through a variety of open meetings including Commission meetings, hearings, and staff meetings (mostly technical meetings with licensees, trade organizations and public interest groups) that are open to the public. The NRC issues communications about licensee operating events at power plants and their significance using easily understood risk comparisons, plant features, and regulatory controls to put situations into their proper context.

License Renewal

One important area of interest for the public is in the renewal of reactor licenses. As a result, the license renewal program has a consistent approach to its public outreach activities. For each license renewal application, the NRC conducts a public meeting in the vicinity of the plant shortly after receipt of the application to provide information on the license renewal process and the opportunities for public involvement. Additional meetings in the vicinity of the plants are conducted as part of the environmental review process.

As part of the public outreach and environmental review process, the NRC conducted 18 public meetings to solicit comments and to answer questions regarding the NRC's review of license renewal applications. Example of meetings held included Oyster Creek, Pilgrim, and Vermont Yankee license renewals, which drew significant interest from State and local officials, public interest groups, and members of the public. The NRC participated in small group meetings with interested stakeholders in advance of the public meetings.

Nuclear Waste

Another area of ongoing interest from the public and industry activities related to nuclear waste. The NRC responded to several requests for briefings on high-level waste activities from officials in Inyo County, California. The NRC briefed the Inyo County Board of Supervisors, met with the superintendent and staff of Death Valley National Park, and conducted a public meeting with residents of Inyo county in Tecopa, California. At each meeting, NRC staff members provided an overview of the Agency's role in the potential licensing of the geologic repository at Yucca Mountain, Nevada, and in the safe transportation of spent fuel to the potential repository.

The NRC also continued an active stakeholder outreach program on spent fuel storage and transport. For example, in FY 2006, the NRC participated in meetings of the Northeast Governors Task Force, the Midwest States Task Force, and the Western Governors Association, the Western Interstate Energy Board, and the Southern States Energy Board to discuss the NRC's safety regulations.

The NRC held public meetings with stakeholders in the national low-level radioactive waste program to solicit their views on improvements to the NRC's regulatory framework. The Agency published a notice in the Federal Register requesting comments from the public. Stakeholder views will inform a strategic assessment of the low-level radioactive waste program that is currently underway.

Decommissioning

In the area of decommissioning, the NRC routinely meets with licensees and industry groups such as the Nuclear Energy Institute and the Fuel Cycle Facility Forum to obtain stakeholder feedback and exchange ideas on enhancing program and licensee performance. The Agency periodically conducts stakeholder workshops to obtain input on improving program performance and for developing regulatory guidance to resolve decommissioning issues. The NRC has upgraded the decommissioning Webpage to make it more user friendly and to provide additional information on sites undergoing decommissioning and the NRC's decommissioning program and requirements.

Other Organizations

The NRC also meets with other organizations. For example, the NRC is an annual participant in meetings of the Organization of Agreement States and the Conference of Radiation Control Program Directors. These meetings provide an opportunity for NRC staff to exchange ideas and information with their regulatory counterparts in the States.

Effectiveness Goal: Ensure that NRC Actions Are Effective, Efficient, Realistic, and Timely

Strategic Outcome

The NRC has one strategic outcome associated with this goal that determines whether the Agency has achieved its goal to ensure that NRC actions are effective, efficient, realistic, and timely:

- No significant licensing or regulatory impediments to the safe and beneficial uses of radioactive materials.

Performance Measure Results: The first performance measure was untested in FY 2006 because the scheduled decommissioning and low level waste PART review was postponed until FY 2007. The second performance measure was missed, as the Agency was able to demonstrate efficiency improvements during FY 2006 for only one of the five processes that were selected. The third measure, of no more than one regulatory activity that unnecessarily impedes the safe and beneficial uses of radioactive materials, was achieved.

Listed below are the FY 2006 Effectiveness goal performance measures and targets stated in the FY 2006 Performance Budget.

FY 2006 Effectiveness Goal Performance Measures

MEASURE	2001	2002	2003	2004	2005	2006
1. Programs assessed during the fiscal year using PART receive a minimum score of 85 from OMB (This measure will be discontinued in FY 2007).		New Measure in FY 2005				
- Reactor Licensing (FY 2005)					74%	
- Spent Fuel Storage and Transportation Licensing and Inspection (FY 2005)					89%	
- Decommissioning and Low Level Waste (FY 2006)						Post-poned
2. 70 percent of selected processes deliver efficiency improvements.		New Measure in FY 2006				Not Met
3. No more than one instance per program where licensing or regulatory activities unnecessarily impede the safe and beneficial uses of radioactive materials.		New Measure in FY 2006				Met

Analysis of Results

1. **Programs assessed during the fiscal year using PART receive a minimum score of 85 from OMB.** The decommissioning and low level waste PART review was postponed until FY 2007.
2. **The percentage of selected processes that deliver desired efficiency improvement is greater then 70 percent.** This measure is based on five associated output measures of which four have to be achieved in order to met the seventy percent target.

The measure was not achieved since one measure showed efficiency gains, one had no results, and three output measures were not met.

A. *Reduce the average time spent conducting reactor license amendment reviews by at least five percent compared to the historical average while maintaining cost and quality at or above FY 2005 level.* The NRC utilizes a number of metrics to measure the performance and effectiveness of the Agency's reactor licensing activities. Measuring the average time to review licensing amendments against the historical average is a means to measure the effectiveness of one specific subset of Reactor Licensing activities. License amendments are typically the single largest contributor to the total number of licensing actions undertaken in a given fiscal year. Measuring performance against the historical average was chosen because the complexity of a license amendment review, much like all licensing actions reviews, varies significantly between amendments. The Agency was unable to reduce the review time this year.

   Action to address missed measure: The staff is currently evaluating the measurement techniques and results to determine the possible causes for missing the measure. This is a new measure, and the Agency set an aggressive annual target that reflects its commitment to continuous improvement.

B. *Ten percent reduction in the average enforcement processing time for Handling Discrimination Allegations.* To date, no enforcement for discrimination allegations have been issued in FY 2006.

C. *For the next cycle of license renewals for Category III fuel cycle facilities, reduce time spent conducting these renewals by 25 percent as compared to the historical averages with the ultimate goal to eliminate renewals for these licenses.* The Commission has approved a proposal to extend the license term up to 40 years for fuel cycle facilities subject to 10 CFR Part 70, Subpart H. The applicable regulatory infrastructure to support this change is under development. When completed, the next cycle of Category III fuel cycle licensees would receive a 40-year license, based on approval of the licensees' Integrated Safety Analysis. Realistically, a savings would not be realized until FY 2009 or later, and therefore, no efficiency result was realized for FY 2006.

D. *Improve the timeliness of the review process for nuclear power reactor License Termination Plans by at least 30 percent over 3 years as compared to the historical average.* This efficiency measure began in 2006 for a three-year period, after which time the improvement in efficiency will be assessed. Therefore, no efficiency result was realized for FY 2006.

E. *Reduce resources expended in support of each interAgency exercise by five percent while still accomplishing Agency goals for each exercise.* The NRC's emergency preparedness and incident response activities ensure that the Agency is capable of responding effectively to events at license facilities and that adequate protective measures can and will be taken to mitigate plant damage and minimize dose to members of the public. The Agency uses a variety of techniques to meet these goals, including (1) maintaining a fully staffed incident response center and organization, (2) participating as a key Federal partner with the Department of Homeland Security, other State and Federal agencies, and local law enforcement and tribal organizations in policy making activities such as the national response plan,(3) conducting and participates in exercises with its licensees and other external stakeholders, and (4) conducting licensing reviews and inspections over its licensees emergency preparedness plans and activities. In FY 2006, the Agency met its efficiency goal of improving the efficiency of its participation in external exercises by five percent while meeting all of the Agency's requirements in the exercise.

3. No more than one instance per program where licensing or regulatory activities unnecessarily impede the safe and beneficial uses of radioactive materials.

This performance measure is designed to capture instances where NRC programs may have unnecessarily impeded the use of radioactive materials, but where the instance did not meet the requirements of the strategic outcome for a "significant" impediment. Examples include missing a key timeliness measure, or not adjusting the regulatory framework to support new technologies or otherwise respond to significant changes in the regulatory environment. The NRC met this performance measure in FY 2006.

Effectiveness Activities

The NRC recognizes that it must find ways to become more effective and efficient with the resources at its disposal. Recognizing the need to increase the Agency's efficiency and effectiveness, the NRC continually evaluates its regulatory processes to find ways to enhance efficiency in its processes while maintaining safety and security.

Risk-Informing Regulations

The Agency instituted a risk-informed, performance-based alternative (NFPA 805 Rule) to the deterministic fire protection requirements in FY 2006. This new alternative will allow licensees to use newer state-of-the-art methods and risk insights to improve compliance with NRC safety regulations. As of June 21, 2006, 40 nuclear units have volunteered to adopt this risk-informed regulatory process. This new alternative will improve safety compliance while reducing the regulatory burden on the industry and make NRC actions more efficient and effective.

The NRC began a multi-year effort to risk-inform the spent fuel storage and radioactive material transportation standard review plans to focus NRC reviews on more important aspects of design, analysis, material, fabrication, inspection and testing of licensing information in the areas of confinement, structural, shielding, criticality and thermal safety. This risk-informed focus will make the reviews more effective in achieving the objectives of the regulations, including safety and environmental protection, security, and openness.

Reducing Regulatory Burden

The NRC published a proposed rule to reduce administrative and information collection burdens associated with certain areas of regulated activity found to be of low risk significance. The proposed rule would limit routine reporting to workers of annual doses that do not exceed the threshold for requiring instructions to workers.

Improved Licensing Processes

All pressurized water reactor licensees have submitted license amendment applications to change their technical specifications in accordance with TSTF-449. The staff has approved and issued amendments for nine PWRs. The new requirements also promote efficiency for the NRC and the industry. NRC efficiency will be improved, reducing the need for negotiating ad hoc measures with affected utilities when new or unanticipated problems in the field are encountered. Industry efficiency will improve because the new requirements allow licensees the flexibility to employ the most cost effective measures necessary for ensuring tube integrity.

During FY 2006, the NRC continued to improve its oversight of decommissioning of nuclear facilities through implementation of the Integrated Decommissioning Improvement

Plan. The Integrated Decommissioning Improvement Plan employs realistic risk-informed approaches for site decommissioning. It incorporates a structured process of continuous improvement for increasing the efficiency and effectiveness of the program by adopting lessons learned from experience and updating the plan to include all regulatory and program management improvements.

Management Goal: Ensure Excellence in Agency Management to Carry Out the NRC's Strategic Objective

Strategic Outcomes

The NRC has two strategic outcomes associated with this goal that determine whether the Agency has achieved its aim to ensure excellence in Agency Management.

- Continuous improvement in NRC's leadership and management effectiveness in delivering the mission.
- Maintenance of a diverse, skilled workforce and an infrastructure that fully supports the Agency's mission and goals.

Performance Measures

Results: The table below lists the performance measures and targets for the FY 2006 Management goal, as stated in the FY 2006 Performance Budget. The Agency accomplished the first performance measure target but missed the second performance measure target. Actions to address the missed target are discussed in the analysis of results section below.

FY 2006 Management Goal Performance Measures

MEASURE	2001	2002	2003	2004	2005	2006
1. 70 percent of selected NRC management programs deliver intended outcomes		New Measure in FY 2005			60%	80%
2. 70 percent of selected support processes deliver efficiency improvements		New Measure in FY 2006				50%

Analysis of Results

1. **Seventy percent of selected NRC management programs deliver intended outcomes.** This measure is based on the following five associated programs of which four have to be achieved in order to meet the target of seventy percent.

   A. *Infrastructure Management Program:* Infrastructure activities maintain a healthy, safe, secure, and accessible work environment as well as provide equipment, facilities, and administrative services needed by employees. Five activities support this program: the occupancy rate, satisfaction with building services physical security, survey of staff satisfaction with administrative services, contract action timeliness, and information technology service availability. The infrastructure management output measures met all of their targets.

   B. *Financial Management & Budget and Performance Integration Program:* Financial management activities provide accurate, timely, and useful financial information to managers for decision-making and ensures that the NRC's financial assets are ad-

equately protected consistent with risk. Budget and performance integration activities improve the linkage of individual and organizational performance standards to the NRC's Performance Budget. Six activities support this program. Four of the activities: timely submission of the budget, timely submission of the Performance and Accountability Report, timely payment of salaries, timely payment of non-salary payments were met. However, two activities were not met: (1) NRC receive an unqualified opinion on the financial statement audit with no material weaknesses and, (2) NRC meets Governmentwide requirements (substantial compliance) for Agency financial systems. While the Agency did receive an unqualified opinion on its financial statements, one material weakness was identified with NRC's fee billing process and one was identified with Agency system-wide security controls. The NRC was determined to be in substantial noncompliance with the Federal Financial Management Improvement Act for one reason: the Fee Billing System did not meet government financial system requirements. As a result of not meeting these two activities, only 67 percent of the measures were met, causing the target to be missed for this management program.

Action to address missed measures: As a short-term solution to the material weakness issue, the NRC has identified and is in the process of implementing additional controls to strengthen the fee billing process. For the substantial noncompliance with Federal Financial Management Improvement Act, the NRC review has determined that the expenditure of resources and time necessary to bring the antiquated Fee Billing System into compliance is not justifiable. The Agency has determined that replacing the Fee Billing System is the only viable solution for complying with Federal Financial Management Improvement Act. Also, Agencywide plans have been developed and progress has been made to address the system-wide security control matters that caused the noncompliance with Federal Financial Management Improvement Act.

C. *Expanded Electronic Government Program:* Expanded electronic government activities meet government requirements to conduct business electronically, manage information effectively, and to ensure Agency information security. The NRC has four activities and met its target by achieving three, which included the OMB e-gov scorecard, preliminary testing and validation for IT Project Management Methodology through pilot testing, and review major IT investments in its Portfolio Management System. The fourth activity that did not meet its target was the rate of compliance with the Federal Information Security Management Act across all of the NRC's major applications and general support systems. While information at the NRC is secure, changing requirements under the Act resulted in a compliance rate under NRC's target. To meet the NRC Federal Financial Management Improvement Act activity measure, the Office of Information Services has refocused the NRC's certification and accreditation program to perform certification and accreditation activities for those IT systems that are considered a high priority based on mission criticality and/or potential security risk. In addition, the refocused program will include more fully documented certification and accreditation procedures, development of detailed documentation templates, and technical support to project managers and technical staff. The Agency expects to reach 100 percent certification and accreditation in FY 2008. As a result, the NRC met its target for expanded electronic government by achieving three out of four or 75 percent of its activity measure targets.

D. *Recruitment and Staffing Program* - Recruitment and staffing activities relate to using innovative recruitment, development and retention strategies to achieve a high-qual-

ity, diverse workforce with the skills needed to achieve the Agency's mission. The effectiveness of the Agency in meeting its recruitment and staffing goal is measured by five activity measures: staffing within authorized ceiling, retention of new hires, strategies to close skill gaps, score for Federal Human Capital survey, and professional hires at entry level. All of the activity measure targets were met.

E. *Internal Communications Program* - The Agency's internal communications activities are intended to foster and support a culture of openness and innovation. The Agency's Office of the Inspector General conducted a safety culture and climate survey of the staff in 2005. The survey measured management and staff satisfaction regarding their work environment in a variety of categories such as communication, management leadership, empowerment and organizational change. The most significant gains were in the areas of communication, which was a high-priority area for the NRC since the last survey in FY 2002. In FY 2006, offices and regions have begun collaborating with their staff and taking actions to address areas for improvement revealed by the survey. The Agency met its internal communications activity measure target.

2. Seventy percent of selected support processes deliver desired efficiency improvements. This measure is based on the following four associated output measures of which three have to be achieved in order to meet the seventy percent target.

A. *Drug testing procedures: Ten percent reduction in time it takes to add or remove employees from the drug testing pool.* The NRC met this measure, reducing the time to add or remove employees from the drug testing pool from 20 days to 18 days.

B. *Budget Formulation Process: Five percent reduction in Agency staff used to develop and submit the FY 2008 and FY 2009 performance budget.* The purpose of this measure is to reduce the level of effort spent to develop the Agency's performance budget. The NRC did not meet this measure in FY 2006 because of a delay in the implementation of the new budget formulation system to ensure FISMA compliance, which has taken longer than originally planned.

Action to address missed measure: The Agency is actively working to achieve FISMA compliance for the new budget formulation system in time for the system to be used in FY 2007 for formulation of the FY 2009 budget. The Agency anticipates that the implementation of the new system and resource savings from other process improvements will allow the target to be achieved in FY 2007.

C. *Infrastructure operations: Ten percent reduction in contract vehicles for wireless services.* The target was met through an 88 percent reduction in contract vehicles for wireless services.

D. *Hiring Process: Issue offer letter 80 percent of the time within 45 work days or less of the closing date of the announcement.* The purpose of this measure is to expedite the hiring process and bring potential candidates on board as soon as possible. To date, the NRC did not meet this measure, as the Agency only issued offer letters to 67 percent of its applicants within 45 working days after the closing date of the announcement.

Action to address missed measures: The Agency is streamlining its internal vacancy processes to improve its performance. The Office of Human Resources will work closely with the hiring officials in the various offices to make sure that they receive the appropriate resources to make more timely hiring decisions.

ADDRESSING THE PRESIDENT'S MANAGEMENT AGENDA

Overview

The President's Management Agenda prescribes Governmentwide initiatives to reform the U.S. Government to be more citizen-centered, results-oriented, and market-based, and to actively promote competition rather than stifle innovation. To achieve this goal, the Administration has identified five initiatives to improve Government performance in the areas of (1) strategic management of human capital, (2) budget and performance integration, (3) competitive sourcing, (4) expanded electronic government, and (5) improved financial performance. The following describes the NRC's response to these Governmentwide initiatives, and discusses Agency accomplishments during FY 2006 in each of the five areas.

Initiative 1: Strategic Management of Human Capital

Workforce Planning and Deployment

With a renewed emphasis on hiring to meet the expected increase in new reactor work, several NRC offices proposed realignments to position themselves better to handle the increase in work. Among these were the NRC's two biggest offices, the Office of Nuclear Reactor Regulation and the Office of Nuclear Material Safety and Safeguards. The Office of Nuclear Reactor Regulation realigned to emphasize the area of new reactors, and the Office of Nuclear Material Safety and Safeguards realigned to enhance cooperation with States and implement a holistic approach to fuel issues including transportation, storage, and disposal.

The changes in these two offices were made easier with the use of the NRC's strategic workforce planning tool. This tool is used to determine critical skill/knowledge gaps which enabled the offices to develop a plan to close identified gaps. The use of the strategic workforce planning tool allowed for a smoother planning process to improve workforce deployment, maintain technical capacity, and make informed decisions on human capital strategies for recruitment, development, and retention.

The strategic workforce planning process itself has evolved over the last couple of years from a tool that was at first more focused on high-level management needs to a tool that now allows first-line supervisors to obtain critical information on their employees and use it in their planning processes. The Office of Personnel Management continues to cite the NRC's strategic workforce planning process and related web-based application as an exemplary model for other Federal agencies.

Talent

The NRC uses multiple human capital management strategies to build and maintain the technical excellence of the NRC workforce, prepare for emerging work, and address identified critical skill gaps. The Agency has streamlined recruitment, relocation, and retention incentives to allow offices to extend job and incentive offers to outside applicants and positioning the Agency to handle anticipated workload growth, especially in reactor licensing reviews.

Other innovations, such as student loan repayments, waivers of dual compensation limitations, partnerships with colleges and universities, and the Cooperative Education Program, have had an equally positive impact on the Agency's efforts to recruit and retain staff with critical skills.

Leadership and Knowledge Management

The NRC uses succession planning, training and development, and knowledge management strategies to close identified critical skill gaps to ensure that NRC management and staff acquire and maintain the critical competencies needed to implement the Strategic Plan. The NRC continues to offer and expand its leadership competency development programs, such as executive leadership seminars, the Senior Executive Service Candidate Development Program, leadership training for new supervisors and team leaders, and the Leadership Potential Program.

Knowledge management is a part of the strategic management of human capital, along with strategic workforce planning, recruitment, and training and development. As part of this effort, the NRC is in the process of coordinating its efforts to implement knowledge management strategies, including the development of a knowledge management Web site. The Web site will share information on knowledge management and innovative methods being used within and outside of the NRC to capture and transfer key knowledge between employees and stakeholders.

In addition, the NRC is developing an Agencywide knowledge management plan that will serve as a framework to integrate new and existing approaches that generate, capture, and transfer knowledge and information relevant to the NRC's mission. The following are some of the near-term and long-term strategies for this plan:

- capture relevant critical knowledge of departing personnel
- recapture departed knowledge where possible
- communicate leadership's expectation for a knowledge-sharing culture
- formalize knowledge management values and principles
- incorporate knowledge management within process work flows

Accountability

The NRC continues to evaluate the Agency's success in achieving its human capital goals and desired outcomes in the areas of recruitment, staffing, retention, and training and development. In addition, the NRC staff briefs the Commission annually on the Agency's human capital efforts.

Twice each year, the NRC analyzes and reports to the Commission on the status of workforce statistics by demographic groups. The analysis includes workforce size and composition, hires, attrition, rotational assignments, performance appraisals, and awards. These statistics are shared throughout the Agency.

Initiative 2: Budget and Performance Integration

The NRC continues to make progress in achieving budget and performance integration in accordance with the President's Management Agenda. This progress includes adopting new outcome-based performance measures aligned with the Agency's Strategic Plan, accurately monitoring program performance, and integrating performance information with associated costs. To address these initiatives, the NRC has pursued and completed a number of important actions in FY 2006.

Integrating Planning and Budgeting

The NRC's planning, budgeting, and performance management process links the NRC's various budget accounts to the Agency's safety and security goals and clearly identifies the budgetary resources devoted to them. The Agency's FY 2006 budget request identifies the alignment of resources to the NRC's safety and security goals. The associated output measures are also clearly linked to the safety, security, and management and support goals and performance measures.

Budget Formulation Application

The NRC continued the development of the Budget Formulation Application in FY 2006. Once the configuration and the security requirements are completed in FY 2007, the Agency will replace the current outdated single user, desktop database. The Web browser, multi-user budget formulation application will increase efficiency by providing Agency wide access to the budget information, allowing multiple users access to the system, providing real-time aggregation of entered budget data, and providing for more robust reporting capabilities.

Full Cost Budget

NRC program managers currently receive cost reports that show the full cost of major programs. These reports allow managers to plan and manage their programs better throughout the budget year. The NRC's Performance Budget presents the full cost budget to achieve the Agency's goals. The NRC will continue to refine the integration of outputs, goals, and assignment of full cost across programs as outlined in guidance from the Office of Management and Budget.

Initiative 3: Competitive Sourcing

One of the NRC's corporate management strategies is to acquire goods and services in an efficient manner. To achieve that, the NRC established output measures associated with the implementation of the competitive sourcing initiative under the President's Management Agenda, adopted a performance-based approach to contracting, and posted procurement synopses on the Agency's Web site.

The NRC submitted its Year 2006 Federal Activities Inventory Reform Act inventory to the Office of Management and Budget on June 30, 2006. The NRC conducted three business case analyses covering six full-time equivalents during FY 2006 to determine whether the selected commercial activities were appropriate for public-private competition based on the factors outlined in the NRC's Competitive Sourcing Plan. Based upon the Source Selection Authority's review of the three business case analyses, the NRC determined that it was not cost effective and, therefore, not appropriate to initiate public-private competitions for these activities.

The NRC continues to implement performance-based contracting for facility management services, data entry, information technology, and other support services. To give vendors a better understanding of contract requirements, the NRC includes such criteria as measurable performance requirements, quality standards, quality surveillance plans, and provisions for reducing the fee or price when the vendor fails to perform services as required. The NRC continues to exceed its target for expending eligible service contacting dollars through performance-based contracting.

The NRC continues to post on its external Web site all required synopses and solicitations for acquisitions valued at more than $25,000.

Initiative 4: Expanded Electronic Government

The NRC continued to integrate and align its information technology investments with the Federal Government's Electronic Government program. The NRC uses Electronic Government services for payroll, security clearance, acquisition support, Governmentwide customer service, and recruitment, and is currently implementing support for travel and training. In addition, the NRC established procedures to avoid information technology investments that would duplicate other Federal Electronic Government programs and to take advantage of the SMARTBUY program. The NRC is participating in the Financial Management and Human Capital Lines of Business, and the Agency is well positioned to take advantage of these programs because the NRC currently receives payroll and human resource services from Department of the Interior. The NRC is also participating in the Information Technology Security Lines of Business. The Agency continues analysis of its Electronic Government implementation and alignment efforts as requested by the Office of Management and Budget and maintains key milestone dates.

The NRC emphasizes enterprise architecture in its systems development life cycle methodology and has a Project Management Methodology in place. The Project Management Methodology provides full life cycle guidance for the Agency, providing guidance for enterprise architecture, capital planning and investment control, infrastructure development, and life cycle management processes. An Information Technology Senior Advisory Council, comprising senior business managers, plays an integral role in ensuring technology investments align to the Agency's mission and goals and in establishing priorities. The NRC's National Source Tracking System has been singled out by the Office of Management and Budget, and included in its annual Electronic Government report to Congress, as an example of a highly effective cross-Agency initiative.

Federal Information Security Management Act

The NRC's compliance in FY 2005 with the requirements of the Federal Information Security Management Act issued by the House Committee on Government Reform's Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census resulted in a grade of "D." In FY 2006, the NRC has increased efforts to conduct more rigorous independent review, testing, and evaluation of major system security plans. These increased efforts revealed previously undiscovered and unidentified security risks. In response, the NRC extended some system certification schedules to ensure full and complete system certification.

The NRC has an effective information technology security awareness training program. All employees are required to complete an online information technology security awareness course, and NRC information systems security officers and other employees and support contractors with significant security responsibilities are required to complete a more advanced online technical security awareness course. The NRC maintains an information technology security Web site and provides information to Agency employees for the timely awareness of information technology security issues. The NRC has a robust incident reporting program in place and files monthly reports to the Federal Computer Incident Response Center.

E-Authentication Guidance

The Office of Management and Budget issued "E-Authentication Guidance for Federal Agencies," which updated earlier guidance under the Government Paperwork Elimination Act to ensure that on-line Government services are secure and protect privacy. This updated guidance directed agencies to conduct electronic authentication risk assessments and categorize all existing transactions and systems that require user authentication into four "identity assurance levels" by September 15, 2005. The NRC awarded a contract to complete these assessments for all electronic transactions in accordance with National Institute of Standards and Technology guidance. The NRC received an extension from OMB and completed this effort for all major information technology systems by December 2005.

NRC has identified two systems that meet the E-Gov system criteria for forward facing E-Gov systems. These systems are Electronic Information Exchange and the National Source Tracking System. Electronic Information Exchange will become fully accredited in FY 2007. The NRC will work with the Office of Management and Budget to ensure these systems meet all E-Gov requirements.

Information Systems Security

The NRC established an Information Systems Security program in FY 2006 to ensure that the Agency has a comprehensive process covering certification and accreditation of its information technology systems as required by the Federal Information Security Management Act of 2002. Towards this end, the NRC awarded a multi-year, multi-million dollar Agencywide consolidated support contract to acquire expert services needed to perform all aspects of the certification and accreditation process. In addition, the NRC awarded a contract to perform self assessments of 30 major and general support systems as required by National Institute of Standards and Technology Special Publication 800-37 "Guide for the Security Certification and Accreditation of Federal Information Systems." As part of the program, the NRC has also instituted a security awareness effort that includes placing computer security awareness posters in common areas throughout the NRC. In FY 2006, NRC began developing and integrating its Information Systems Security certification and accreditation processes and procedures into the Rational Tool suite. The Rational Tool suite is an automated tool where all of the security documentation and systems inventory will reside.

Electronic Information Exchange—Minimizing the Burden on Business

The NRC maintains an electronic information exchange program, which provides for the transmission of digitally signed electronic documents to the NRC over the Internet. Information received in this manner can then be electronically disseminated directly into the Agency's information systems. The NRC's electronic information exchange program plays a major role in enabling the Agency to meet the Government Paperwork Elimination Act requirement to allow the public the option of transacting business electronically with the Agency. The electronic information exchange is the NRC's process for meeting OMB's E-Gov E-Authentication requirements.

The electronic information exchange handled approximately 87,000 electronic transactions in FY 2006. The majority of those transactions involved receiving and routing digital fingerprints from nuclear power plants through NRC security personnel to the Federal Bureau of Investigation for criminal background checks. This procedure reduces the time required for processing from 1-2 weeks to two days. The electronic information exchange is used to transmit licensing and adjudicatory documents to the NRC resulting in shorter processing times and reduced cost.

Information Technology/Information Management Meta-System

The NRC has integrated several major Agency applications Agencywide Documents Access and Management System, Electronic Information Exchange, Electronic Hearing Docket, Digital Data Management System, and Licensing Support Network and business processes to support licensing of the Department of Energy's nuclear waste disposal repository at Yucca Mountain, Nevada. In order to meet the challenges of new nuclear power reactor licensing and licensing Yucca Mountain, the NRC is performing a requirements analysis that targets implementation of new information systems and leverages much of the existing information technology and information management architecture by enhancing computer applications, upgrading computing infrastructure, and improving business processes to provide a more robust, secure, and integrated environment. This collection of business processes, computer applications, and information technology infrastructure components (formerly known as the High-Level Waste Meta-System) is now referred to as the Information Technology/Management Meta-System.

The NRC will validate Information Technology/Management Meta-System's capability to support both the high-level waste business process and the new reactor licensing business process by performing iterative exercises of the entire business process for both programs. On April 20, 2006, the NRC conducted an Operational Readiness Review that resulted in the acceptance of Release 2 of the Information Technology/Management Meta-System to support the High-Level Waste activities and adjudicatory proceedings. The Agency has scheduled a functional operational assessment of the Information Technology/Management Meta-System to support both the New Reactor Licensing program and the High-Level Waste program for November 2006.

Initiative 5: Improved Financial Performance

Financial Management Systems

The NRC's financial management systems strategy is to improve business processes, systems performance, and information access, and to reduce life-cycle costs by relying on commercial software hosted by shared service providers. A Federal shared service provider currently hosts and operates the NRC's core accounting, payroll, and human resource systems. The NRC's other financial management systems are maintained internally and interfaced with the core accounting and payroll systems. The core accounting system provides electronic access to daily financial transaction data and periodic reports. Budget, cost, and performance data from multiple financial systems are consolidated into monthly budget execution reports for distribution to senior managers.

The existing core accounting system is at the end of its life-cycle and will be replaced by a contemporary commercial software package hosted by a shared service provider. The Agency's vision is to integrate the functional requirements of core accounting, fee billing, and cost accounting into one financial management system. A new integrated financial management system will improve the efficiency and effectiveness of the NRC's business processes, provide real-time data to Agency managers, and reduce life cycle costs by eliminating the existing systems that are managed within the NRC. The NRC also began work on upgrading its time and labor system, with the long-term goal of having the system hosted and operated by a shared service provider.

Assessment of Internal Control over Financial Reporting

In FY 2006, the NRC completed the first year of implementation of the new OMB requirements for the assessment of its policies and procedures related to internal control over financial reporting. A team of NRC senior managers directed all aspects of the assessment. The Agency documented all procedures and related controls for the key processes that affected its financial statements. Testing was performed to determine if the controls in place were functioning as intended. The deficiencies noted during testing were classified as either an internal control deficiency or reportable condition. There were no material weaknesses. Corrective actions were then implemented to remediate those deficiencies. The Agency included the results of the assessment in the Federal Managers' Financial Itegrity Act statement of assurance signed by the Chairman.

COST OF ACHIEVING THE AGENCY'S GOALS

The cost of achieving the Agency's Safety goal is $650.9 million, and the cost of achieving the Agency's Security goal is $69.7 million (see Figure 16).

The NRC does not determine individual costs associated with the Openness and Effectiveness goals. Instead, each program uses these goals to guide their activities to ensure that all NRC activities are undertaken in an open, effective, and efficient manner.

COST OF ACHIEVING THE AGENCY'S GOALS
(Dollars in Millions)

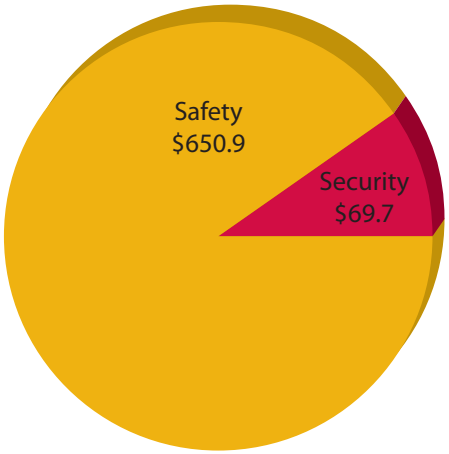

Figure 16

PROGRAM ASSESSMENT RATING TOOL

Over the past several years, the Office of Management and Budget has conducted reviews utilizing the Program Assessment Rating Tool for five of the Agency's major activities. All of the programs have been scored by the Office of Management and Budget, as either moderately effective or effective. The one area that the Office of Management and Budget recommended improvement by all programs was in developing better linkages between the Agency's goals and performance measures.

Fuel Facilities Licensing and Inspection

The Office of Management and Budget rated this activity as effective with an overall score of 89 in FY 2003, earning high scores for Program Purpose and Design and for Program Management. OMB noted that the purpose of the activity was clear, well-designed, and results-oriented. Also noted was that this activity has met all of its performance measures since the Government Performance and Results Act program reporting began in 1997. The Office of Management and Budget recommended that the program better demonstrate contributions of program activities and resources to outcomes and outputs. NRC has been reviewing its programs'operating plan format and content to improve their effectiveness as management tools. The longer-term efforts to improve the efficiency of operating plans are currently being addressed by an Agencywide working group with completion scheduled during FY 2007.

Nuclear Materials Users Licensing and Inspection

This Program Assessment Rating Tool review was conducted in FY 2004. The Office of Management and Budget rated this activity as effective with an overall score of 93. As recommended, the NRC's Office of the Inspector General conducted a review of the Nuclear Materials Users program area in FY 2006. The Office of the Inspector General issued three reports in second quarter of FY 2006 covering the National Source Tracking System, the materials licensing program, and the Agreement State program. NRC is in the process of implementing the recommendations. The Office of Management and Budget also recommended that the program better demonstrate contributions of program activities and resources to outcomes and outputs. NRC has been reviewing its programs'operating plan format and content to improve their effectiveness as management tools. The longer-term efforts to improve the efficiency of operating plans are currently being addressed by an Agencywide working group with completion scheduled during FY 2007.

Reactor Licensing

In FY 2005, the Office of Management and Budget rated the reactor licensing activity as "moderately effective," which is the second highest rating category, and gave the activity an overall score of 74, earning high scores for having ambitious goals and being well managed. One of the improvement plan items is that the program needs to determine which reactor licensing actions will be measured as well as appropriate baselines and targets; these outputs will support the overall efficiency measure for the program. In FY 2007, the program will implement process enhancements to permit improvement of rulemaking petition timeliness by five percent and achieve an average five percent reduction in license renewal resources for applications completed. Another recommendation is for the program to have regularly scheduled independent evaluations. NRC is in the process of formulating an Agencywide approach to addressing this recommendation. A final recommendation for the program to re-calibrate its targets during the FY 2007 budget process to be more ambitious and demonstrate continuous improvement.

Spent Fuel Storage and Transportation Licensing and Inspection

The Office of Management and Budget rated the activity as "effective," which is the highest rating, with an overall score of 89 in FY 2005, earning high scores for Program Purpose and Design, and for Program Management. The Office of Management and Budget noted that the purpose was clear and the program used operating plan information to manage and improve program performance. However, it was noted that the program needs to have regularly scheduled independent evaluations. NRC is in the process of formulating an Agencywide approach to addressing the recommendation.

Decommissioning and Low-Level Waste Program

The Decommissioning and Low-Level Waste Program Assessment Rating Tool review was postponed until FY 2007.

Better Linkage of Activities and Goals

For all of the programs, the Office of Management and Budget recommended including better linkage of budget requests to NRC's annual and long-term goals and the linkage of performance measures in the organization's operating plan to support the safety performance measures in the Strategic Plan.

The NRC has responded to the recommendation by defining outcomes and outputs that align with performance measures. The NRC now directly links Operating Plan performance measures to strategies in its Strategic Plan to facilitate the achievement of the Agency objectives and goals. The FY 2006 Performance Budget includes new measures that more closely tie the outcomes of the Reactor Inspection and Performance Assessment program to the Agency's Safety Goal. NRC staff will continue to evaluate performance measures in the office operating plans and the Reactor Oversight Process periodic self-assessment and revise them as necessary to support the new safety performance measures.

Costing to Goals

Additionally, the NRC is working to improve its cost management capabilities to better align its costs with outcomes. In this year's Performance and Accountability Report, the full cost of achieving the safety and security goals are presented for the Agency's two programs of Nuclear Reactor Safety and Nuclear Materials Safety. The NRC does not determine the specific costs associated with achieving the openness and effectiveness goals, as these goals are related to how the Agency does business rather than specific outcomes that it must achieve. Instead, each program uses these goals to guide their activities to ensure that all NRC activities are undertaken in an open, effective, and efficient manner.

PROGRAM EVALUATIONS

The NRC conducted a number of important self-assessments of its regulatory operations in FY 2006. The license renewal, uranium recovery, and Integrated Materials Performance Evaluation Program activities are noteworthy evaluations conducted during FY 2006. All of these assessments are designed to increase the efficiency and effectiveness of Agency operations and minimize any regulatory burden on the industry or the American public.

License Renewal

A task team completed an assessment of the NRC's implementation of the license renewal application improved safety review process. The improved process was piloted on license renewal applications for Farley, Units 1 and 2; Arkansas Nuclear One - Unit 2; and D. C. Cook, Units 1 and 2. The primary objective of the task team was to assess the effectiveness of the changes made to the process used by the staff to perform the aging management reviews and aging management program evaluations. The goal of the improved process is to maximize the potential efficiencies available with use of the current license renewal implementation guidance documents by using multi-discipline on-site review teams. Lessons learned from the pilot application of the improved process were documented and discussed in public meetings with stakeholders. As the improved process was being used on subsequent applications, many of the recommendations for improvement were already being implemented before the task team documented them in its report. The Agency is currently completing implementation of the remaining recommendations.

Uranium Recovery Program Evaluation

The uranium recovery program evaluation scheduled to be completed in FY 2006 has been delayed due to the limited availability of resources and competing higher priority activities. It is anticipated that the evaluation will be completed in early FY 2007.

Integrated Materials Performance Evaluation Program

The NRC conducted an Integrated Materials Performance Evaluation Program review of the Region II fuel cycle inspection program in FY 2006. The integrated materials performance evaluation program is an ongoing oversight program designed to evaluate the quality, adequacy, and consistency of the NRC and Agreement State materials programs using a set of common performance indicators. The team found that the Region II operations are fully satisfactory with respect to the technical quality of inspections, the status of the inspection program, responses to incidents and allegations, and technical staffing and training. A Management Review Board will meet later in the year to review the team's findings and provide recommendations.

DATA SOURCES AND QUALITY

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 NRC 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. 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 NRC developed the abnormal occurrence criteria to comply with the legislative intent of the Act to determine which events should be considered "significant." Based on those criteria, the NRC prepares an annual "Report to Congress on Abnormal Occurrences" (NUREG-0090, Vol. 26), which is available on the Agency's public Web site at www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0090.

One important characteristic of this report is that the data presented normally originate from external sources such as Agreement States and NRC licensees. The NRC believes that these data are 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 Agency has established procedures for inspecting and evaluating licensees. The NRC 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 Radiation Exposure Information Report System. In addition, nonsensitive reports submitted by Agreement States and NRC licensees are available to the public through the NRC's Agencywide Documents Access and Management System, which is accessible through the Agency's public Web site www.nrc.gov.

The NRC has established procedures for the systematic review and evaluation of events reported by NRC and Agreement State licensees. NRC's objective is to identify events that are significant from the standpoint of public health and safety based on criteria that include specific thresholds. The NRC verifies the reliability and technical accuracy of event information reported to the Agency. The NRC 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 by all applicable NRC headquarters program offices, Regional offices, and Agency management before being reported to Congress.

Data Security

Data security is ensured by the Agency's automated information security program, which provides administrative, technical, and physical security measures to protect the Agency's information, automated information systems, and information technology infrastructure. Specifically, these measures include the policies, processes, and technical mechanisms used to protect classified information, unclassified safeguards information, and sensitive unclassified information that are processed, stored, or produced on the Agency's automated information systems. Data security for information maintained outside the NRC's infrastructure is provided by the hosting contractor or organization.

For major systems, the NRC ensures compliance with Agency standards through independent reviews conducted under the Federal Information Security Management Act. The NRC's Office of the Inspector General conducted an independent assessment of the Agency's implementation of the Act and the results are available on the Agency's public website www.nrc.gov.

Performance Data Completeness and Reliability

In order to manage for results, it is essential for the NRC to assess the completeness and reliability of the Agency's 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 Chairman of the NRC to assess the completeness and reliability of the performance data used in this report. In addition, the Office of Management and Budget Circular A-11 specifically describes how Federal agencies should assess the completeness and reliability of their performance data.

Data Completeness

The Office of Management and Budget considers data to be complete if an Agency reports actual performance data for every performance goal and indicator in the annual plan. Actual performance data may include preliminary data if those are the only data available when the Agency sends its report to the President and Congress. The data presented in this report meet these requirements for data completeness, in that the Agency has reported actual or preliminary data for every strategic and performance goal measure.

Data Reliability

The Office of Management and Budget considers data to be reliable when Agency managers and decisionmakers do not demonstrate either a refusal or a marked reluctance to use the data in carrying out their responsibilities. The data presented in this report meet this requirement for data reliability in that the NRC's managers and decisionmakers regularly use the reported data on an ongoing basis in the course of their duties.

Improvements in Performance Data

The NRC analyzed the data verification procedures for the Agency's performance measures during FY 2006. This analysis consisted of an evaluation of all data collection, analysis, and reporting procedures for completeness, accuracy, consistency, and timeliness. The

analysis also included an evaluation of NRC management controls, which ensures that the reported data are valid and reliable. As a result, the NRC believes that its performance data are both valid and reliable.

A more complete discussion concerning the validation and verification of the NRC's performance measures is provided in the Agency's FY 2006 Performance Budget (NUREG-1100, Vol. 21), which the Commission submitted to Congress in February 2005. The Performance Budget is available on the NRC's public Web site at www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1100. Appendix IV to the NRC's Performance Budget provides an extensive explanation of the NRC's data verification and validation procedures for each performance measure.

The NRC makes performance data accessible to citizens through the public Web site. For example, a citizen who wanted to verify or know more about licensee event reports, which provide the raw data for most of the Agency's performance measures, could simply retrieve any or all of those reports through the NRC's Agencywide Documents Access and Management System (ADAMS), accessible through the NRC's public Web site at www.nrc.gov/reading-rm/adams.html by searching for "licensee event report."