

EVALUATION REPORT

Inspector General's Assessment of the
Most Serious Management and Performance
Challenges Facing NRC

OIG-09-A-21 September 30, 2009



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

OFFICE OF THE
INSPECTOR GENERAL

September 30, 2009

MEMORANDUM TO: Chairman Jaczko

FROM: Hubert T. Bell /RA/
Inspector General

SUBJECT: INSPECTOR GENERAL'S ASSESSMENT OF THE MOST
SERIOUS MANAGEMENT AND PERFORMANCE
CHALLENGES FACING NRC (OIG-09-A-21)

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

Each of the seven challenges identified this year also appeared on my 2008 list. The single difference between the 2008 and 2009 lists is that the new list excludes prior challenge 3, *Implementation of a risk-informed and performance-based regulatory approach*. This challenge was included in my first list of challenges, issued to Congress in January 1998, and remained on the list each year since, with slight variations in wording. I removed the challenge from my list this year because the risk-informed and performance-based regulatory approach is now mature and reflected throughout the agency's regulatory framework.

We appreciate the cooperation extended to us during this evaluation. The agency provided comments on this report, which have been incorporated as appropriate. If you have any questions, please contact Stephen D. Dingbaum, Assistant Inspector General for Audits, at 415-5915 or me at 415-5930.

Attachment: As stated

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EXECUTIVE SUMMARY

BACKGROUND

The *Reports Consolidation Act of 2000* requires the Inspector General (IG) of each Federal agency to annually summarize what he or she considers to be the most serious management and performance challenges facing the agency and to assess the agency's progress in addressing those challenges.

PURPOSE

In accordance with the act, the IG at the U.S. Nuclear Regulatory Commission (NRC) updated what he considers to be the most serious management and performance challenges facing NRC. The IG evaluated the overall work of the Office of the Inspector General (OIG), the OIG staff's general knowledge of agency operations, and other relevant information to develop and update his list of management and performance challenges. As part of the evaluation, OIG staff sought input from NRC's Chairman, Commissioners, and management to obtain their views on what challenges the agency is facing and what efforts the agency has taken to address previously identified management challenges.

RESULTS IN BRIEF

The IG identified seven challenges that he considers the most serious management and performance challenges facing NRC. The challenges identified represent critical areas or difficult tasks that warrant high-level management attention.

The 2009 list of challenges reflects one change from the 2008 list:

- Prior challenge 3, *Implementation of a risk-informed and performance-based regulatory approach*, was removed as a standalone challenge. This challenge was included in the IG's first list of management challenges, issued to Congress in January 1998,¹ and has remained on the list each year since, with slight variations in wording. Although this regulatory approach – which incorporates risk analysis into regulatory decisions so that NRC and licensee attention can be focused on areas of highest

¹ In December 1997, prior to the Reports Consolidation Act of 2000, Congressman Armeij requested that Inspectors General independently identify the 10 most serious management problems in their respective agencies to help Congress target key problem areas for attention. NRC's IG complied with the request in January 1998. For subsequent lists, congressional members changed the word "problems" to "challenges." The Reports Consolidation Act of 2000 made this an annual reporting requirement for Federal Inspectors General.

risk – is expected to continue evolving in the years ahead, the approach is now mature and reflected throughout the agency's regulatory framework. Therefore, the IG removed the challenge from the 2009 list and, instead, addresses the issue in narrative about the other challenges, as appropriate.

The chart that follows provides an overview of the seven most serious management and performance challenges as of September 30, 2009.

Most Serious Management and Performance Challenges Facing the Nuclear Regulatory Commission * as of September 30, 2009 <i>(as identified by the Inspector General)</i>	
Challenge 1	<i>Protection of nuclear material used for civilian purposes.</i>
Challenge 2	<i>Managing information to balance security with openness and accountability.</i>
Challenge 3	<i>Ability to modify regulatory processes to meet a changing environment, to include the licensing of new nuclear facilities.</i>
Challenge 4	<i>Oversight of radiological waste.</i>
Challenge 5	<i>Implementation of information technology and information security measures.</i>
Challenge 6	<i>Administration of all aspects of financial management.</i>
Challenge 7	<i>Managing human capital.</i>
<p><i>*The most serious management and performance challenges are not ranked in any order of importance.</i></p>	

CONCLUSION

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

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

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ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
CIP	Construction Inspection Program
COL	combined operating license
CUI	controlled unclassified information
FAIMIS	Financial Accounting and Integrated Management Information System
FOIA	Freedom of Information Act
FY	Fiscal Year
IG	Inspector General
IT	information technology
ITAAC	inspections, tests, analyses, and acceptance criteria
MC&A	material control and accounting
NMMSS	Nuclear Materials Management and Safeguards System
NRC	U.S. Nuclear Regulatory Commission
NSTS	National Source Tracking System
OIG	Office of the Inspector General
ROP	Reactor Oversight Process
T&L	Time and Labor

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I. BACKGROUND

On January 24, 2000, Congress enacted the *Reports Consolidation Act of 2000*, requiring Federal agencies to provide financial and performance management information in a more meaningful and useful format for Congress, the President, and the public. The act requires the IG of each Federal agency to annually summarize what he or she considers to be the most serious management and performance challenges facing the agency and to assess the agency's progress in addressing those challenges.

II. PURPOSE

In accordance with the act's provisions, the NRC IG updated what he considers to be the most serious management and performance challenges facing the agency. The IG evaluated the overall work of OIG, the OIG staff's general knowledge of agency operations, and other relevant information to develop and update his list of management and performance challenges.

In addition, OIG sought input from NRC's Chairman, Commissioners, and management to obtain their views on what challenges the agency is facing and what efforts the agency has taken or planned to address previously identified management and performance challenges.

III. EVALUATION RESULTS

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, promote the common defense and security, and protect the environment. Like other Federal agencies, NRC faces management and performance challenges in carrying out its mission.

Determination of Management and Performance Challenges

Congress left the determination and threshold of what constitutes a most serious management and performance challenge to the discretion of the Inspectors General. As a result, the IG applied the following definition in identifying challenges:

Serious management and performance challenges are mission critical areas or programs that have the potential for a perennial weakness or vulnerability that, without substantial management attention, would seriously impact agency operations or strategic goals.

Based on this definition, in 2009, the IG revised his list of the most serious management and performance challenges facing NRC. The challenges identify critical areas or difficult tasks that warrant high-level management attention. The following chart provides an overview of the seven management challenges. The sections that follow the chart provide more detailed descriptions of the challenges, descriptive examples related to the challenges, and examples of efforts that the agency has taken or are underway to address the challenges.

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Changes to Management Challenges

The IG identified seven challenges that he considers the most serious management and performance challenges facing NRC. The challenges identify critical areas or difficult tasks that warrant high-level management attention.

This year's list of challenges reflects one change from last year's list:

- Prior challenge 3, *Implementation of a risk-informed and performance-based regulatory approach*, was removed as a standalone challenge. This challenge was included in the IG's first list of management challenges, issued to Congress in January 1998,² and has remained on the list each year since, with slight variations in wording. Although this regulatory approach – which incorporates risk analysis into regulatory decisions so that NRC and licensee attention and activities can be focused on areas of highest risk – is expected to continue evolving in the years ahead, the approach is now mature and reflected throughout the agency's regulatory framework. Therefore, the IG removed the challenge from the 2009 list and, instead, addresses the issue in narrative about the other challenges, as appropriate.

² See footnote 1 for a description of management challenges lists developed in response to congressional requests prior to the Reports Consolidation Act of 2000.

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CHALLENGE 1

Protection of nuclear material used for civilian purposes.

NRC is authorized to grant licenses for the possession and use of radioactive materials and establish regulations to govern the possession and use of those materials.

NRC's regulations require that certain material licensees have extensive material control and accounting (MC&A) programs as a condition of their licenses. All other material licensees (including those requesting authorization to possess small quantities of special nuclear materials) must develop and implement plans that demonstrate a commitment to accurately control and account for radioactive materials.

NRC may relinquish its authority to regulate certain radioactive materials and limited quantities of special nuclear material to States. After these States demonstrate that their regulatory programs are adequate to protect public health and safety and are compatible with NRC's program, the States enter into an agreement assuming this regulatory authority from NRC and are called Agreement States.

The issues facing NRC and the agency's actions to address each issue include the following:

Issue: Implement the National Source Tracking System (NSTS), Web-Based Licensing,³ and the Licensing Verification System⁴ to ensure the accurate tracking and control of byproduct material, especially those materials with the greatest potential to impact public health and safety.

Action: NSTS became operational early in 2009. Furthermore, the agency is working to meet its goal of getting Web Based Licensing on line by late 2009 or early 2010. NRC continues to work on the development of the Licensing Verification System.

Issue: Ensure that radioactive material is adequately protected to preclude its use for malicious purposes.

³ A Web-Based Licensing system is intended to serve as a repository for nationwide license information from both NRC and Agreement States.

⁴ A License Verification System is planned to interface with NSTS and the Web-Based Licensing system to provide secure, online verification of license and inventory information.

Action: NRC staff recently proposed a final rulemaking to amend its regulations to expand the current NSTS to include Category 3 materials.⁵ The staff in its proposal concluded that improving the accountability of certain lower level sources could reduce the possibility of these sources being aggregated to higher activity levels for potential malevolent use. In June 2009, the Commission was unable to reach a majority decision on the staff proposal to expand NSTS to include additional specific licensees that possess sealed sources containing Category 3 threshold quantities of radioactive material. Therefore, the proposed action was not approved.

Issue: Ensure adequate inspections to verify licensees' commitments to their MC&A programs.

Action: NRC is enhancing its inspection programs. Currently, in response to an OIG audit,⁶ NRC is working on documenting how risk insights were applied to its reactor MC&A program to determine what types and quantities of materials must be inspected and the frequency of those inspections. Fuel cycle facility MC&A inspections have become a shared responsibility between the Office of Nuclear Material Safety and Safeguards and Region II. The agency is training staff to ensure that there are two MC&A inspectors in headquarters and two in Region II.

Issue: Ensure reliable accounting of special nuclear materials in the NRC and Department of Energy's jointly managed Nuclear Materials Management and Safeguards System (NMMSS).

Action: NRC has been working since 2003 to resolve MC&A issues in response to OIG-03-A15, *Audit of NRC's Regulatory Oversight of Special Nuclear Materials*. On February 7, 2008, NRC approved a final rule that amended its regulations in Title 10, Code of Federal Regulations (10 CFR), Parts 40, 72, 73, 74, and 150, to improve the accuracy of material inventory information maintained in NMMSS. The amendments, effective January 1, 2009, lower the threshold of reportable quantities of special nuclear material and certain source materials to NMMSS, modify the

⁵ Consistent with guidelines established by the International Atomic Energy Agency, NRC categorizes nuclear materials into five groups based on radioactivity level. Category 1 materials pose the greatest potential for radiological consequences and Category 5 the least.

⁶ OIG-03-A-15, *Audit of NRC's Regulatory Oversight of Special Nuclear Materials* (March 23, 2003).

types and timing of submittals to NMMSS, and require licensees to reconcile any material inventory discrepancies that NRC identifies in the NMMSS database. NRC anticipates that these changes to NMMSS reporting requirements will improve the accuracy of material balance (inputs/outputs) information.

Issue: Ensure that Agreement State programs are adequate to protect public health and safety and the environment and are compatible with NRC's program.

Action: NRC conducts about eight reviews per year of Agreement State radiation control programs under NRC's Integrated Materials Performance Evaluation Program using performance indicators to ensure that public health and safety is being adequately protected and that Agreement State programs are compatible with NRC's program. NRC plans to perform a self-assessment of its evaluation program by July 2010.

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CHALLENGE 2

Managing information to balance security with openness and accountability.

NRC employees create and work with a significant amount of sensitive information that needs to be protected. Such information includes sensitive unclassified information and classified national security information contained in written documents and various electronic databases.

In addressing continuing terrorist activity worldwide, NRC continually reexamines its information management policies and procedures. NRC faces the challenge of attempting to balance the need to protect sensitive information from inappropriate disclosure with the agency's goal of openness in its regulatory processes. Over the past year, NRC has made various efforts to improve public access to information while protecting sensitive information, including security-related information, from inappropriate disclosure.

The issues facing NRC and the agency's actions to address each issue include the following:

Issue: Be responsive to the numerous information requests from State and local governments, as well as the public, to ensure openness and accountability within the resource constraints of the agency.

Action: The staff have conducted a number of stakeholder outreach efforts to include public meetings on specific regulatory issues and with elected officials regarding issues at facilities within their jurisdiction.

Issue: Manage information in accordance with new Federal Government policies for designating, marking, safeguarding, and disseminating controlled unclassified information (CUI).

Action: In May 2008, the White House issued a Presidential Memorandum conveying requirements for the designation and sharing of controlled unclassified information. The memorandum also established a framework for designating, marking, safeguarding, and disseminating terrorism-related CUI that originates in departments and agencies. Under the CUI framework, all CUI will be categorized into one of three combinations of safeguarding procedures and dissemination

controls, which will be indicated through one of three identified markings: (1) Controlled, Standard; (2) Controlled, Specified; and (3) Controlled Enhanced, Specified.

The CUI framework was created to standardize "Sensitive But Unclassified" practices and thereby improve information sharing. NRC has until 2013 to implement new CUI policies and procedures. Safeguards Information⁷ is exempt from the new regulations; therefore, NRC will continue to manage Safeguards Information according to current policies.

Issue: Ensure that sensitive information is handled in accordance with agency policies and procedures for public disclosure.

Action: NRC recognized weaknesses in contracts regarding personal information such as social security numbers and dates of birth, and implemented the use of a contract clause for protecting personal information that may be provided, collected, used, possessed, or processed in the course of performing work under an NRC contract.

Action: NRC implemented new Freedom of Information Act (FOIA) procedures based on guidelines issued in January 2009. In a memorandum to heads of executive departments and agencies, the Attorney General instructed Government workers to apply "a presumption of disclosure" when handling FOIA requests. According to the new guidelines, agencies also need to take affirmative steps to make information public and not wait for specific requests from the public.

Action: In April 2009, NRC issued Management Directive 3.17, *NRC Information Quality Program*, to implement the NRC Information Quality Program, and thereby ensure the quality of information it relies on for decisionmaking or

⁷ Safeguards Information is a special category of sensitive unclassified information authorized by Section 147 of the Atomic Energy Act of 1954, as amended, to be protected. Although Safeguards Information is sensitive unclassified information, it is protected similar to Government classified confidential information and significantly more than other sensitive unclassified information. Disclosure of Safeguards Information could reasonably be expected to have a significant adverse effect on the health and safety of the public and/or the common defense and security by significantly increasing the likelihood of theft, diversion, or sabotage of materials or facilities subject to NRC jurisdiction.

disseminates to the public. The directive includes guidance on how to make an information correction request and a description of the NRC process for processing Information Correction Requests and appeals.

NRC also revised Management Directive 3.4, *Release of Information to the Public*, to reflect current guidance on the timing of release of documents to the public, add consolidated guidance on the withdrawal of documents from the Agencywide Documents Access and Management System Public Library, and reflect the agency's revised policy on protection and disclosure of information. As part of the revision, NRC separated from the Directive and placed on NRC's internal Web site specific guidance for staff concerning which documents should routinely be released to the public. Placement of this guidance on the Web is intended to allow for frequent updating by all offices and regions.

Issue: Provide external stakeholders with clear and accurate information about regulatory programs and facilitate public participation in the regulatory process.

Action: The staff solicited public input concerning how NRC could increase public access to security information (e.g., security inspection reports) and held four public meeting around the country to acquire opinions. This information was considered by the NRC staff in preparing SECY-08-0185, *Options for Security Openness, Transparency, and Reactor Oversight Process Improvements*, which was presented to the Commission in late 2008. The Commission reviewed the three options presented in SECY-08-0185, two of which would have made more security information available to the public, and considered the staff's recommendation for one of those two options. The Commission was unable to reach a majority decision on the staff's recommendation; therefore, the proposed action was not approved.

Issue: Review and strengthen programs to protect licensee, vendor, and Government-owned assets (e.g., facility designs, technology descriptions, dual use material and components, classified information) from compromise by foreign sources and industrial espionage and increase awareness of the relationship of these assets to the Nation's economic and industrial base and energy infrastructure.

Action: NRC has recognized the need to ensure technological data involving licensee, vendor, and Government-owned assets is fully protected against potential loss to adversaries. NRC has promulgated orders that provide additional security measures for the protection of these assets.

NRC employees and contractors are required to have a baseline level of security awareness upon entry on duty and the receipt of a security clearance. Others, depending on their job and involvement in the creation and use of protected information, are provided various "role based" training programs, such as classifier's training, training for administrative personnel, declassification training, Secret Internet Protocol Router Network users training, and Sensitive Compartmented Information Access training. The training is layered, targeted, and recurring for those who have specific responsibilities for various types of protected information.

In addition, NRC has increased its information security awareness through the issuance of a variety of agencywide announcements informing staff of the methods employed by those targeting NRC information systems and the corresponding need for employees to heighten their computer security information protection posture.

CHALLENGE 3

Ability to modify regulatory processes to meet a changing environment, to include the licensing of new nuclear facilities.

NRC faces the challenge of maintaining its core regulatory programs while adapting to changes in its regulatory environment. NRC must address a growing interest in licensing and constructing new nuclear power plants to meet the Nation's increasing demands for energy production. As of June 2009, NRC had received 18 Combined Operating License (COL) applications. NRC expects to receive an additional five COL applications through FY 2011.

While responding to the emerging demands associated with licensing and regulating new reactors, NRC must maintain focus and effectively carry out its current regulatory responsibilities, such as inspections of the current fleet of operating nuclear reactors and fuel cycle facilities. NRC intends to increase its safety focus on licensing and oversight activities through risk-informed and performance-based regulation.⁸

The challenges facing NRC and the agency's actions to address each challenge include the following:

New Facilities

Issue: Implement the new Construction Inspection Program (CIP). This includes (1) risk-informing CIP activities to ensure the safe operation of newly constructed nuclear facilities and (2) ensuring that the NRC staff has the necessary knowledge and skill to successfully implement the CIP.

Action: The Office of New Reactors has developed the new CIP in accordance with 10 CFR Part 52. The newly developed inspections, tests, analyses, and acceptance criteria (ITAAC) have been integrated into the Part 52 licensing process to create a design-specific, pre-approved set of performance standards that the licensee must meet and that the Commission must find have been met, before the licensee can load fuel and operate the plant.

⁸ Risk-informed performance-based regulation incorporates risk analysis into regulatory decisions. This approach is intended to improve the regulatory process by focusing both NRC licensee attention and activities on the areas of highest risk.

Additionally, the agency has issued and revised a number of Inspection Manual Chapters and procedures to implement the new ITAAC process.

NRC has revised Inspection Manual Chapter 1252, *Construction Inspector Training and Qualification Program*, to ensure that the agency is effectively preparing inspectors to implement the new CIP. The agency will monitor the effectiveness of the training program as inspections of the new construction projects begin.

Issue: As the public's demand for new energy sources continues, NRC must ensure that the process for reviewing applications for new facilities focuses on safety and effectiveness.

Action: NRC's preparations have been focused on issuing reactor design certifications, revising the regulation that governs early site permits, and engaging in ongoing interactions with nuclear plant designers and utilities regarding prospective new reactor applications and licensing activities. In April 2009, the Office of New Reactors developed a set of goals with the purpose of enhancing the agency's ability to plan and implement its reviews more effectively in a dynamic environment resulting from changes in the applicants' business strategies.

NRC is taking a "design-centered review approach" to optimize the COL application review process. Part of the license review process includes conducting performance-based vendor inspections and quality assurance/quality control audits.

Existing Fleet

Issue: NRC's license renewal and power uprate review processes must effectively focus on an applicant's ability to ensure the continued safe operation of the plant.

Action: For planning purposes, NRC continues to work with plant licensees to develop a schedule of anticipated requests for license renewals and power uprates. The agency has also implemented a number of recommendations to improve the license renewal review and power uprate processes to include closer management oversight. For license renewal reviews, the agency has updated report-writing guidance to include management expectations and report-writing

standards. For power uprate reviews, the agency has developed a training module for technical reviewers and project managers that is specifically focused on writing or contributing to a safety evaluation.

Issue: Respond to a heightened public focus on license renewals resulting in contested hearings.

Action: NRC has open dialogs with the industry, licensees, and stakeholders, and appropriate comments have been incorporated into new inspection procedures. Additionally, the license renewal process allows stakeholders to request a hearing in order to present their concerns.

Issue: Ensure the ability to identify emerging operating and safety issues at all plants including issues associated with license renewal and power uprate; consistently apply regulatory and review changes in response to these emerging issues across the existing fleet of reactors.

Action: NRC continues to make changes to its regulatory programs based on emerging operational and safety issues related to license renewal and power uprate. For example, as a result of identified weaknesses in the power uprate program, Inspection Procedure 71004 was revised to provide additional guidance on inspection planning, implementation, and documentation. Annually, agency staff communicate the status of the license renewal and power uprate programs to the Commission.

Issue: Establish and maintain effective, stable, and predictable regulatory programs or policies for all programs.

Action: NRC continues to interface with stakeholders, develop regulatory policy, update rules and technical guidance, provide technical leadership and management for the Reactor Oversight Process (ROP), and support the development of programmatic changes when needed. Additionally, the ROP features an annual assessment process which is used to revise the process as necessary.

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CHALLENGE 4 ***Oversight of radiological waste.***

NRC regulates spent nuclear fuel generated from commercial nuclear power reactors, which is referred to as high-level radioactive waste. NRC faces significant issues involving the potential licensing of the proposed Yucca Mountain repository for storing high-level radioactive waste. Additional challenges in the high-level waste area include the interim storage of spent nuclear fuel, certification of storage and transportation casks, and the oversight of decommissioned reactors and other nuclear sites.

Additionally, the amount of low-level waste continues to grow; however, no new disposal facilities have been built since the 1980s and unresolved issues will multiply as the once-operational disposal facilities shut down.

The challenges facing NRC and the agency's actions to address each challenge include the following:

Issue: Address increasing quantities of radiological waste requiring interim or permanent disposal sites.

Action: NRC developed and implemented a risk-informed decisionmaking framework in connection with a wide range of nuclear waste storage issues. The NRC has conducted reviews using the framework for dry cask storage systems and concluded that such systems provide a safe means to store spent nuclear fuel with exceedingly low risk. NRC has met with Agreement States and industry to discuss guidance on interim storage of Class B/C waste.⁹ Stakeholder outreach is an integral part of NRC's low level waste strategic assessment.

Issue: Address issues regarding the license application to construct a high-level radioactive waste repository at Yucca Mountain.

Action: The NRC is continuing to review the Yucca Mountain license application submitted by the Department of Energy in June 2008, and is conducting high-level waste licensing activities to ensure public health and safety and protection of the environment. Due to the unprecedented

⁹ Classes A, B, and C radioactive waste present increasing levels of risk of disposal, with Class C waste posing the greatest risk.

number of contentions filed, the Department of Energy's decision not to submit the required Environmental Impact Statement, and the staff's limited resources, the agency has stated that the review proceedings will not meet the 10 CFR Part 2, Appendix D schedule. In 2009, NRC issued the final requirements in 10 CFR Part 63 to align agency regulations to new Environmental Protection Agency standards for radiation protection at a high-level waste repository.

Issue: Oversight of low-level waste disposal, including low-level radioactive waste disposal sites.

Action: NRC modified Inspection Procedure 84900 to address long-term storage of Class B and C waste. As recommended in the *Low-Level Waste Strategic Assessment*, NRC issued Regulatory Issue Summary 2008-32, which consolidated previous NRC low-level waste guidance and communicated to licensees that the NRC's staff position continues to be that low-level waste storage must meet NRC requirements and that when constructing new low-level waste storage facilities the regulations for evaluating proposed changes to facilities must be met.

Issue: Oversight of nuclear waste issues associated with the decommissioning and cleanup of nuclear reactor sites and other facilities.

Action: NRC continues to hold public meetings with stakeholders and licensees to explore safe and secure storage options associated with decommissioning of plants, such as transitioning from spent pool storage to dry cask storage. NRC continues to oversee the 14 power reactors currently undergoing decommissioning. NRC staff published NUREG-1307, *Report on Waste Burial Charges*, which provides updated low-level waste disposal costs for reference pressurized water reactor and boiling water reactor based on estimated disposal volumes.

CHALLENGE 5

Implementation of information technology and information security measures.

NRC needs to continue upgrading and modernizing its information technology (IT) and security capabilities both for employees and for public access to the regulatory process. Recognizing the need to modernize, the Office of Information Services established goals to improve the productivity, efficiency, and effectiveness of agency programs and operations, and enhance the use of information for all users inside and outside the agency. NRC also needs to ensure that system security controls are in place to protect the agency's information systems against misuse.

The issues related to this challenge and the agency's actions to address each issue include the following:

Issue: Upgrade and manage IT activities to improve the productivity, efficiency, and effectiveness of agency programs and operations.

Action: A specialized team reporting to the Director of the Office of Information Services Infrastructure and Computer Operations Division was established. This team is responsible for planning and coordination activities to ensure the agency's IT infrastructure is sufficient to support growth and program needs.

Action: In the second quarter of FY 2009, the Office of Information Services hosted a 1-day IT summit for NRC offices and regions to engage in discussions with offices and regions to provide a better understanding of the agency's IT program, raise an appreciation for the necessary and crucial planning needed to properly execute technology projects, whether they are led from a program office or the Office of Information Services, and to verify the current plans and directions for technology modernization across the agency. A variety of presentations enhanced understanding and encouraged discussion of IT project interrelationships and explained the need for a clear, agreed-upon strategy and path forward on all agency IT projects.

Action: An aggressive implementation schedule was developed to upgrade the existing IT environment and to bring new technologies to NRC. Some of the projects under

development include strategies, methods, and tools used to capture, manage, store, preserve, and deliver content and documents related to organizational processes.

Issue: Provide laptop computers with enhanced functionality, security, and support.

Action: An agency laptop standard and security policy was developed and published on the NRC intranet and distributed via an announcement. The Customer Support Center offers encrypted thumb drives as well as a laptop loaner program. Standard policies for the use of commercial wireless devices, services, and technologies have also been implemented. The IT infrastructure was expanded to support 1,000 Blackberry devices.

Issue: Ensure that information systems and assets are protected.

Action: The Computer Security Office has taken action on identified vulnerabilities. Such actions include (1) certifying and accrediting 89 percent of the agency's systems that are reported to the Office of Management and Budget under the agency's Federal Information Security Management System, (2) initiating a continuous monitoring system to evaluate IT security controls of agency IT systems to provide assurance that systems remain secure after having been authorized to operate, and (3) publishing IT security policy to address current agency needs to include encryption of data at rest, encryption of data in transmission, and use of thumb drives.

Action: The agency is providing a secure network for authorized users to access safeguards information documents electronically. This system will cut down on the need to print documents and will enable the management and collaboration of safeguards documents in a centralized electronic document management system.

Issue: Ensure that plans for a cyber security inspection program are developed and implemented.

Action: The staff plans to develop an inspection procedure for conducting cyber security inspections at nuclear power plants and hold training for NRC cyber security inspectors. The inspections are planned to be conducted between calendar year 2012 and 2016.

CHALLENGE 6

Administration of all aspects of financial management.

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

In addition, NRC's management of its expanded grant program must be conducted in accordance with Federal regulations, which includes ensuring that funds are distributed and used as intended.

The issues related to this challenge and the agency's actions to address each issue include the following:

Issue: Replace the agency's current financial systems, which are obsolete, overly complex, and inefficient.

Action: On May 8, 2009, the Chief Financial Officer announced that the agency had selected Momentum Financials as the software for the Financial Accounting and Integrated Management Information System (FAIMIS) implementation project. In June 2009, the agency began the configuration and integration phase of the project. The planned "go-live" date is October 1, 2010. To ensure that FAIMIS performs as intended, the agency will conduct final user acceptance testing and end-to-end testing in parallel with the NRC legacy systems during the 6 months prior to the October "go-live" date.

Action: On July 20, 2009, NRC implemented e-Travel, a governmentwide initiative to improve travel operations and management. The paperless system automates travel documentation and approval, funds certification, and booking of travel reservations. Currently, e-Travel includes local and temporary duty travel. The agency plans to implement specialized travel, such as foreign and premium class travel, by December 2010.

Action: NRC plans to implement an upgrade to the Time and Labor System (T&L) during the second quarter of FY 2010. The upgrade will provide a modern, Web-enabled version of the existing PeopleSoft T&L software. The system will also provide the capability for electronic workflow and approval of employee timesheets.

Issue: Respond to Commission direction and implement recommendations of the Advisory Group on Budget Formulation and Financial Plan Reporting (Advisory Group). This issue encompasses both budget formulation and budget execution.

Action: In response to direction from the Commission to improve the agency's budget formulation process, the agency has undertaken efforts to implement a more top-down, programmatic-based budget process. Improvements include an update of the budget structure, which is being implemented in a two-phased approach. The agency is identifying product lines and specific products for each product line during formulation of the FY 2011 and 2012 budgets, respectively. The ultimate goal of the budget structure is to integrate budget formulation, execution, and performance information to support the assessment of the efficiency and effectiveness of agency programs, products, and activities.

Action: Based on the Advisory Group's reviews and initial recommendations, the Office of the Chief Financial Officer (OCFO) and the Office of the Executive Director for Operations (OEDO) made a number of improvements to the FY 2009 budget execution process. These improvements include the CFO/EDO periodic budget briefings, an earlier mid-year review exercise, increased focus on identifying and processing deobligations, quarterly Advanced Procurement Plan updates, and the use of IT to enhance communication and efficiency. A recent Advisory Group report and Commission direction included recommendations for additional improvements to the budget execution process. In general, the level of process maturity for budget execution lags behind that of budget formulation by a few years. Additional challenges in this area may result from possible future Continuing Resolutions, which can impact the timing of receipt of future appropriations.

Issue: Manage the agency's expanded grant program to ensure funds are efficiently and effectively distributed and used as intended.

Action: In response to legislative and congressional direction over the past several years, NRC has initiated and implemented a new education grant program. In FY 2007, NRC was authorized to distribute \$5M in education grants, and for both FY 2008 and 2009, this figure increased to \$20 million. Prior to FY 2007, NRC's financial assistance program was much smaller; for example, NRC provided about \$1.5 million in assistance during FY 2006, and \$564,000 in FY 2005. To implement its expanded grant program, NRC has hired several grant experts from other Federal agencies and is working to establish and document a process for announcing grants, reviewing applications, and administering these types of grants. NRC also is conducting a Lean Six Sigma¹⁰ review of the agency's process for awarding grants to reduce the overall time for processing grants. Another Lean Six Sigma goal is to implement a formal, electronic tracking and reporting system that minimizes data inconsistencies.

In addition to the issues noted above, the agency has taken several steps to meet the challenge of administering all aspects of financial management. Those steps include completing the requirements to receive a certification and accreditation over the License Fee Billing System, instituting a new process to estimate the accounts payable balance, evaluating the expansion of the cross-servicing effort to other NRC financial activities, and streamlining the financial reports preparation process for account reconciliation and financial statement generation.

¹⁰ Lean Six Sigma is a methodology for improving business processes that combines the strategies and tools from two other business process improvement methodologies focused on (1) reducing process time and resources by eliminating unnecessary delays and steps, and (2) identifying and reducing specific sources of process variation. Combining these two complimentary methodologies, in conjunction with a successful implementation, is thought to result in a process that is faster, takes less resources, is more consistent, and, therefore, more predictable.

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CHALLENGE 7

Managing human capital.

NRC's human capital needs are changing due to the receipt of applications to construct and operate the next generation of nuclear reactors and to increase the number of fuel cycle facilities. To effectively manage human capital as these changes progress, while continuing to accomplish the agency's mission, NRC must continue to implement the following initiatives:

- Timely personnel security adjudication.
- Space planning.
- Recruitment, training, and knowledge management.
- Optimal use of resources.

The issues related to this challenge and the agency's actions to address each issue include the following:

Issue: Timely personnel security adjudication. Work start dates for NRC employees, contractors, and licensees are frequently delayed for months at a time due to the time-consuming personnel security adjudication process currently in place for granting access authorization.

Action: The agency is reviewing its hiring process for external applicants, which includes the entire hiring and security process that occurs from identification of an active vacancy through the entrance on duty date, and plans to develop recommendations to expedite the process during FY 2010.

Action: In accordance with Executive Order 13467, *Reforming Processes Related to Suitability for Government Employment, Fitness for Contractor Employees, and Eligibility for Access to Classified National Security Information* dated June 30, 2008, NRC has developed reciprocity processes and procedures to accept applicable investigations and adjudications conducted by other Federal agencies.

Action: The HR Recruitment Activity Tracking System was modified to include security processing and adjudication status information. Reports from this system are shared with the program offices to keep managers informed of the status of their new hires.

Issue: Space planning. NRC must continue to accomplish the agency's mission and communicate effectively with staff located in multiple office locations.

Action: NRC is implementing a Headquarters Strategic Housing Plan designed to meet space needs through FY 2013. The agency expects to begin consolidating staff by occupying a new permanent building in close proximity to the White Flint Complex in FY 2012. Furthermore, most NRC regional offices are seeking new office space to accommodate additional staff in order to meet increased workload demands.

Action: To ensure the agency maintains its sense of one community while employees are in multiple locations, a Staying Connected Working Group that includes representatives from various NRC Offices has been meeting regularly since 2008. Its role is to confirm that employees in interim buildings are receiving the services they need to perform their work and maintain workplace satisfaction. Among other accomplishments, the working group has facilitated onsite demonstrations of virtual meeting service for employees in interim buildings and arranged to increase shuttle service among headquarters buildings. The group also is looking at the uses of videoconferencing and other electronic methods to facilitate connectivity, and it is developing a "Staying Connected" Web page.

Action: On January 1, 2009, Region III acquired an additional 11,028 square feet of leased office space to consolidate offices and improve the readiness and capabilities by further enhancing the integration of safety and security with key emergency and communications systems.

Issue: Recruitment, training, and knowledge management. NRC must continue to address anticipated increased workload demands and retirements.

Action: NRC is refining the agency's human capital program through the following initiatives: (1) streamlining and enhancing the hiring process through use of emerging technologies such as the centralized hiring tools available through the USAJobs.Gov Web site and implementation of Lean Six Sigma process change recommendations; (2) refining work life programs intended to improve employee satisfaction and wellness; (3) implementing a Leaders

Academy that provides contemporary management and leadership training and continued development to current, future and potential NRC leaders; and (4) using advanced training methods to improve skills, target individual learning styles, reduce travel, and reduce time to competency.

Action: NRC is implementing knowledge management strategies¹¹ that include mentoring, early replacement hiring, and rehiring annuitants with or without use of a pension offset as applicable.¹² The agency also has developed a knowledge management Web site, expressly for the purpose of retaining knowledge before key employees are promoted or retire.

Action: In response to legislative and congressional direction, NRC recently implemented a \$20-million per year education grant program to support and develop the educational infrastructure necessary to allow the Nation to safely move its nuclear energy initiatives forward. Funds are used to support courses and curricula relevant to careers in the nuclear field and to provide scholarships, fellowships, and faculty development to benefit the nuclear sector. While these grants are expected ultimately to benefit the entire nuclear profession by increasing the pool of competent, qualified workers to work in the nuclear field, NRC also benefits from an increased applicant pool from which to draw.

Issue: Optimize utilization of resources to address the change in agency workload resulting from various states becoming Agreement States.

Action: Regional and program offices are working cooperatively within the budget process to assure resources are allocated to address changing workloads. The agency has also been evaluating the impacts on projected workload over the next several years.

¹¹ Knowledge management involves capturing critical information and making the right information available to the right people at the right time to assure that knowledge and experience of the current staff is passed on to the next generation of NRC staff.

¹² This flexibility allows NRC to rehire a retiree to fill a position at full pay if the agency has experienced difficulty in filling a position, or if a temporary emergency exists.

IV. CONCLUSION

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

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

SCOPE AND METHODOLOGY

This evaluation focused on the IG's annual assessment of the most serious management and performance challenges facing the NRC. The challenges represent critical areas or difficult tasks that warrant high level management attention. To accomplish this work, the OIG focused on determining (1) current challenges, (2) the agency's efforts to address the challenges during FY 2009, and (3) future agency efforts to address the challenges.

OIG reviewed and analyzed pertinent laws and authoritative guidance, agency documents, and OIG reports, and sought input from NRC officials concerning agency accomplishments relative to the challenge areas and suggestions they had for updating the challenges. Specifically, because challenges affect mission critical areas or programs that have the potential to impact agency operations or strategic goals, NRC Commission members, offices that report to the Commission, the Executive Director for Operations, and the Chief Financial Officer were afforded the opportunity to share any information and insights on this subject.

OIG conducted this evaluation from June through August 2009. The major contributors to this report were Anthony Lipuma, Deputy Assistant Inspector General for Audits; Steven Zane, Team Leader; Beth Serepca, Team Leader; Sherri Miotla, Team Leader; and Judy Gordon, Quality Assurance Manager.