April 16, 2009

The Honorable Thomas R. Carper
Chairman, Subcommittee on Clean Air
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am pleased to provide a summary of actions taken by the NRC in response to recommendations contained in various U.S. Government Accountability Office (GAO) reports that address NRC activities. The enclosed summary describes the progress made in addressing recommendations remaining open as of, or not included in, our last summary report of March 28, 2008.

Sincerely,

/RA/

Dale E. Klein

Enclosure: Summary of NRC Actions

cc: Senator David Vitter

Identical letter sent to:

The Honorable Thomas R. Carper
Chairman, Subcommittee on Clean Air
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510
cc: Senator David Vitter

The Honorable Edward J. Markey
Chairman, Subcommittee on Energy
and Environment
Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515
cc: Representative Fred Upton

The Honorable Peter J. Visclosky
Chairman, Subcommittee on Energy and
Water Development
Committee on Appropriations
United States House of Representatives
Washington, D.C. 20515
cc: Representative Rodney Frelinghuysen

The Honorable Byron Dorgan
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
United States Senate
Washington, D.C. 20510
cc: Senator Robert F. Bennett

The Honorable Edolphus Towns
Chairman, Committee on Oversight
and Government Reform
United States House of Representatives
Washington, D.C. 20515
cc: Representative Darrell Issa

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510
cc: Senator James M. Inhofe

The Honorable Henry A. Waxman
Chairman, Committee on Energy
and Commerce
United States House of Representatives
Washington, D.C. 20515
cc: Representative Joe Barton

The Honorable David R. Obey
Chairman, Committee on Appropriations
United States House of Representatives
Washington, D.C. 20515
cc: Representative Jerry Lewis

The Honorable Daniel K. Inouye
Chairman, Committee on Appropriations
United States Senate
Washington, D.C. 20510
cc: Senator Thad Cochran

The Honorable Gene Dodaro
Acting Comptroller General of the United States
U.S. Government Accountability Office
441 G Street, NW
Washington, D.C. 20548
cc: Mark Gaffigan, GAO

The Honorable Peter Orszag
Director, Office of Management and Budget
725 17th Street, NW
Washington, D.C. 20503

SUMMARY OF NRC ACTIONS

RESPONSE TO GAO REPORTS

Enclosure

GAO Report - Nuclear Security: Federal and State Action Needed to Improve Security of Sealed Radioactive Sources
August 2003
(GAO-03-804)

The U.S. Government Accountability Office (GAO), in its report "Nuclear Security: Federal and State Action Needed to Improve Security of Sealed Radioactive Sources," made specific recommendations to strengthen the NRC's security inspection program. The recommendation that remained open as of the U.S. Nuclear Regulatory Commission's (NRC's) last report and a report of progress from 2006 through 2008 are provided below.

Recommendation 2

Determine, in consultation with the Agreement States, the costs and benefits of requiring owners of devices that are now generally licensed to apply for specific licenses and whether the costs are commensurate with the risks these devices present.

Status:

Using a risk-informed, graded approach, the NRC and Agreement States have regulated sources and devices in accordance with the Atomic Energy Act of 1954, as amended, by issuing specific licenses, providing provisions in its regulations for general licenses, and providing provisions in its regulations for exemption from licensing (e.g., smoke detectors). The NRC and Agreement States have identified and cataloged the sources of greatest concern; i.e., high-risk sources defined by the International Atomic Energy Agency's (IAEA's) Code of Conduct as Category 1 and Category 2. While some generally licensed devices may include radionuclides defined in the Code of Conduct, the quantities are typically orders of magnitude less than the Category 1 and Category 2 threshold quantities. An inventory of radioactive sources above one tenth of the Category 3 threshold was begun in 2006 and was completed in November 2007. The data were analyzed to support the FY 07 data collection rulemaking.

In a December 2000 rulemaking regarding registration of generally licensed devices (10 CFR Parts 30, 31, and 32), the NRC decided not to convert certain general licensees to a new category of specific licensees. Instead, the revisions that were made in the rule were designed to improve control and accountability of devices used under the general license (GL) provisions, especially for certain devices that are required to be registered. Devices used under the GL are designed to be inherently safe to use so that a license application process to evaluate the prospective licensee would not be necessary. Making all general licensees, which number over 100,000 nationwide, become specifically licensed would be a major change in the requirements for this group of licensees and would require the significant expenditure of resources by the NRC, Agreement States, and the licensees. The safety and security risks posed by most devices used under the GL would not warrant such an expenditure of resources.

However, the NRC initiated a rulemaking in FY 2007 to examine the delineation between general licensing and specific licensing for byproduct materials. A rulemaking working group, including two State representatives, was formed and prepared a draft proposed rule in spring 2008. A copy of the draft proposed rule was provided to the States in May 2008 so they could have an early opportunity for review and comment. In addition, the GL program was discussed during the August 2008 Organization of Agreement States, Inc., (OAS) annual meeting. The Agreement State concerns and comments have been considered and reflected in the proposed rule (SECY-08-0137), which was submitted to the Commission in September 2008, requesting

its approval to publish the proposed rule for public comment. The proposed rule would place a limit on the quantity of byproduct material that can be in a generally licensed device and set that limit at 1/10th of the IAEA Category 3 threshold levels. The proposed rule is currently being considered by the Commission.

After 9/11 and the issuance of the Code of Conduct, the NRC performed a review of its Sealed Source and Device (SSD) Registry and determined that all IAEA Category 1 sources are already specifically licensed by the NRC and Agreement States. Additionally, with the exception of one type of generally licensed device, all Category 2 source devices are also specifically licensed. The NRC and the Agreement States have identified all devices of this type currently in use under a GL. On a case-by-case basis, the security of these devices is being evaluated and controlled. As the rulemaking discussed above proceeds, the NRC will work with the general licensees and the holders of the SSD certificates.

Furthermore, NRC regulations also require a specific license for all distributors of devices to general licensees. Additionally, NRC regulations under 10 CFR 31.5 require that any person who acquires, receives, possesses, uses, or transfers a generally licensed device must maintain the records of compliance with these requirements; notify the manufacturer and the NRC or Agreement State of any device failure, damage, loss, or theft; not abandon or export the device; and transfer the device only in accordance with specific restriction. The NRC continues to work with the Agreement States to identify sources of concern.

This GAO recommendation remains open.

GAO Report - Nuclear Regulatory Commission: NRC Needs to Do More to Ensure That Power Plants Are Effectively Controlling Spent Nuclear Fuel
April 2005
(GAO-05-339)

The U.S. Government Accountability Office (GAO), in its report “Nuclear Regulatory Commission: NRC Needs to Do More to Ensure That Power Plants Are Effectively Controlling Spent Nuclear Fuel," made two recommendations to improve the effectiveness of nuclear reactor licensees' material control and accounting programs for spent nuclear fuel. The recommendations that remained open as of the U.S. Nuclear Regulatory Commission’s (NRC's) last report and a report of progress from 2006 through 2008 are provided below.

Recommendation 1

Establish specific requirements for the control and accounting of loose spent fuel rods and rod segments and nuclear reactor licensees' conduct of their physical inventories.

Status:

As stated in the NRC's comments on the draft GAO report, the NRC believes the regulations related to material control and accounting (MC&A) are clear and do not need revision to address this specific recommendation, although the regulations regarding MC&A are being revised to address other issues. However, as stated in the following paragraph, there is a need for more specific guidance in the MC&A program. Under 10 CFR 74.19, each licensee is required to keep records of receipt, shipment, disposal, and inventory (including location) of all special nuclear material in its possession and to perform annual physical inventories of all special nuclear material. In this context, all special nuclear material includes irradiated nuclear fuel in all forms and includes rods and pieces. This regulation was the basis for a Severity Level II violation and a civil penalty assessed against the licensee for the Millstone Unit 1 for the missing fuel rods incident.

In response to the issues at Millstone Unit 1, the NRC issued Temporary Instruction (TI) *2515/154,* "Spent Fuel Material Control and Accounting at Nuclear Power Plants," and conducted detailed inspections of MC&A programs at one decommissioning and 12 operating nuclear power plants. The NRC staff analyzed the results of the inspections conducted in 2005 and issued a report to the Commission in April 2006. Based on the results of the 13 inspections, the staff recommended that inspections of facilities' MC&A programs be conducted at all nuclear power plants and wet storage facilities. During 2006, NRC inspectors completed inspections of MC&A programs at 5 more operating nuclear power plants, 1 more decommissioning nuclear power plant, and 2 wet storage facilities, bringing the total number of MC&A inspections at power plants and wet storage sites to 21. The initial staff recommendation called for completion of the inspections at the remaining sites within 3 to 5 years. In July 2006, the NRC decided to accelerate the inspection program and committed to complete the remaining inspections by FY 2007. During 2007, NRC inspectors completed inspections of MC&A programs at 48 operating power plants, one decommissioning power plant, and two wet storage facilities. In total, the NRC completed MC&A inspections at all affected facilities, including 65 operating power reactors, four decommissioning power plants (including Millstone Unit 1), and four wet storage sites. Under the existing regulations, violations ranging from Severity Level (SL) II to SL IV were identified at 58 of the 73 sites. The NRC agrees that licensees need more specific guidance in the control and accounting of rods and pieces and the conduct of physical inventory. In January 2007, the NRC sponsored a workshop with industry

representatives to inform the industry of the inspection results completed at that time and the path forward for the remaining inspections to be conducted in FY 2007. The workshop included presentations by industry and the NRC on lessons learned from the TI inspections conducted in 2005 and 2006. The lessons learned included a discussion of findings identified in the inspections.

The NRC staff led an American National Standards Institute (ANSI) committee to revise its standard N15.8, “Nuclear Material Control Systems for Nuclear Power Plants.” The scope of the standard is to establish guidelines for the control and accounting of special nuclear material at nuclear power plants. Meetings of the writing committee, which is comprised of the NRC, Department of Energy, and industry representatives, were held in 2006 and 2007. The draft standard was presented at the workshop held in January 2007, and additional comments were received from industry at that time. During follow-up meetings of the writing committee in spring 2007, the comments were incorporated, and the draft standard was finalized and submitted for approval by ANSI. ANSI approved the new standard in February 2009. The former standard (N15.8-1974) was endorsed by the NRC in Regulatory Guide 5.29 in June 1975. The NRC is reviewing the standard for endorsement through the revision of Regulatory Guide 5.29, "Nuclear Material Control Systems for Nuclear Power Plants," and Regulatory Guide 5.49, "Internal Transfers of Special Nuclear Material."

The NRC considers this GAO recommendation to be closed.

Recommendation 2

Develop and implement appropriate inspection procedures to verify compliance and assess the effectiveness of licensees' material control and accounting programs for spent fuel.

Status:

The NRC has developed inspection procedures to assess the effectiveness of MC&A programs, including control and accounting of separated fuel rods and rod pieces. New Inspection procedure, 71130.11, “Material Control and Accounting” was issued December 10, 2008. The new inspection procedure, and its companion Significance Determination Process has been incorporated into the security reactor oversight process, and includes information inspectors collected at all sites under TI 2515/154 and other information reported by licensees in response to NRC Bulletin 2005-01.

As stated above, the NRC has conducted 73 detailed inspections under the TI and has analyzed the inspection results. The NRC included lessons learned from all inspections as it developed and issued appropriate inspection procedures to provide ongoing verification of compliance and assessment of the effectiveness of MC&A programs for spent fuel.

The NRC considers this GAO recommendation to be closed.

GAO Report - Nuclear Security: DOE Needs Better Information to Guide Its Expanded Recovery of Sealed Radiological Sources
September 2005
(GAO-05-967)

The U.S. Government Accountability Office (GAO), in its report, "Nuclear Security: DOE Needs Better Information to Guide Its Expanded Recovery of Sealed Radiological Sources," made recommendations for ensuring the control and safe disposal of sealed radiological sources. The recommendation that remained open as of the U.S. Nuclear Regulatory Commission's (NRC's) last report and a report of progress from 2006 through 2008 are provided below.

Recommendation

The Secretary of Energy and the Chairman of the NRC, in collaboration with the Task Force on Radiation Source Protection and Security, should evaluate and report on:

- The cost implications of a potential expansion of the Department of Energy's (DOE's) recovery and disposal of non-Greater-Than-Class-C (GTCC) waste from sealed radiological sources;

- Options for DOE to recoup these costs from licensees that may have no commercial waste disposal options;

- The feasibility of disposing of this waste at DOE sites; and

- How a national source tracking system can be designed and implemented to improve DOE's ability to identify and track sealed radiological sources that may need DOE recovery and disposal.

Status:

Section 651 of the Energy Policy Act (EPAct) of 2005 directs the Task Force on Radiation Source Protection and Security to report to Congress and the President on recommendations for, among other matters:

"(i) a list of additional radiation sources that should be required to be secured under this Act, based on the potential attractiveness of the sources to terrorists and the extent of the threat to public health and safety of the sources, taking into consideration -
  (I) radiation source radioactivity levels;
  (II) radioactive half-life of a radiation source;
  (III) dispersability;
  (IV) chemical and material form;
  (V) for radioactive materials with a medical use, the availability of the sources to physicians and patients for medical treatment; and
  (VI) any other factor that the Chairperson of the Commission determines to be appropriate;
(ii) the establishment of, or modifications to, a national system for recovery of lost or stolen radiation sources;
(iii) the storage of radiation sources that are not used in a safe and secure manner as of the date on which the report is submitted;
(iv) modifications to the national tracking system for radiation sources;

(v) the establishment of, or modifications to, a national system (including user fees and other methods) to provide for the proper disposal of radiation sources secured under this Act;".

On August 15, 2006, the NRC forwarded to the President, Vice President, and various members of Congress the report required by the EPAct of 2005 documenting the efforts of the interagency Radiation Source Protection and Security Task Force headed by the NRC Chairman. The report includes the Task Force's evaluation of the national system for recovery of lost and stolen sources (Chapter 8), the national system to provide for the proper disposal of radioactive sources (Chapter 9), and the national source tracking system (Chapter 11). The Task Force did not make any recommendations related to the off-site recovery program; however, it recommended that the U.S. Government further evaluate waste disposal options.

The Task Force recommended that a comprehensive analysis be conducted on the inclusion of Category 3 in the national source tracking system (NSTS), but did not recommend inclusion at this time. However, in a June 9, 2006 staff requirements memorandum, the Commission directed the NRC staff to conduct a one-time survey of licensees to obtain information on sources that contain more than 1/10th of the threshold amount for Category 3 sources and prepare a proposed rule to include Category 3 data in the tracking system. This survey was conducted as part of the FY 2007 survey of licensees for the interim database. Subsequently, the NRC issued a proposed rule for public comment on April 11, 2008, that would expand the NSTS beyond Category 2 sources to also include Category 3 and 1/10th of the Category 3 threshold values. The NRC received numerous stakeholder comments expressing a range of views on expanding the scope of the NSTS. A clear majority of stakeholders opposed expansion of the NSTS beyond Category 2 at that time, while several other stakeholders opposed expanding the NSTS scope beyond Category 2 at all. One commenter supported expansion as proposed in the draft rule. The common themes expressed by stakeholders who opposed expansion of the NSTS at that time were that the most risk-significant sources will be adequately accounted for in the first deployment of NSTS, that the expansion would be resource intensive, and that operating experience and lessons learned should be evaluated prior to expanding the scope to lower-risk radioactive sources.

At a Task Force meeting on October 1, 2008, the DOE stated that the draft Environmental Impact Statement (EIS) for GTCC low level radioactive waste (LLRW) disposal is targeted for mid-2009, and final EIS for approximately one year later. The EPAct of 2005 requires the DOE to provide a report to Congress on the cost and schedule to develop this EIS.

Based on its review of the public comments and on consideration of the current status of the NSTS, the staff submitted a Commission paper (SECY-09-0011) dated January 15, 2009, "Deferral of Rulemaking, Expansion of National Source Tracking System," and is awaiting the Commission decision on the options provided.

This GAO recommendation remains open.

GAO Report - Enterprise Architecture: Leadership Remains Key to Establishing and Leveraging Architectures for Organizational Transformation
August 2006
(GAO-06-831)

The U.S. Government Accountability Office (GAO), in its report, "Enterprise Architecture: Leadership Remains Key to Establishing and Leveraging Architectures for Organizational Transformation" (GAO-06-831), recommended that several government entities, including the U.S. Nuclear Regulatory Commission (NRC), ensure that their respective enterprise architecture (EA) programs develop and implement plans for fully satisfying each of the conditions in the GAO's enterprise architecture management maturity framework (EAMMF). A report of progress made during 2008 on the recommendation that remained open as of the NRC's last report is provided below.

Recommendation

Develop and implement plans for fully satisfying each of the conditions in the GAO's enterprise architecture management maturity framework.

Status:

During 2008, GAO reviewed the NRC EA program. The NRC is awaiting feedback from GAO for the last progress submission. As part of the August submission to GAO, the NRC designated the current NRC Chief Architect and clarified items related to plans for the NRC EA program. OMB released in December 2008 the first version of the Federal Segment Architecture Methodology (FSAM). The NRC is modifying existing EA activities to incorporate the new FSAM guidance and continues to make progress closing remaining gaps identified in GAO assessments.

The NRC has taken and continues to take actions to ensure that the NRC's EA program is developing and implementing plans to satisfy the conditions in the GAO's EAMMF. Since the last report, the NRC has completed one of the Stage 2, "Building the EA Management Foundation," core elements and made progress in satisfying the two remaining core elements:

1. The duties of the Enterprise Architecture Review Board are being phased into three working groups (Data Management, Technology, and Change Management). The Data Management Working Group and the Technology Working Group have been implemented while the Change Management Working Group is in the process of being implemented.

2. The Chief Enterprise Architect position is being performed by the Division Director of the Business Process Improvement and Applications Division. This position is responsible for integrating the planning and performance requirements associated with enterprise architecture. This core element has been completed.

3. The NRC published an IT/IM (Information Technology/Information Management) Strategic Plan, which included strategies and measures on EA progress, quality, and compliance. This core element has been completed with the exception of return on investment.

With respect to Stage 3, “Developing EA Products,” the NRC has no outstanding core elements remaining. This stage is complete.

With respect to Stage 4, “Completing EA projects,” the NRC has completed 5 of the 8 core elements and submitted evidence to GAO of the progress being made toward completing the remaining 3 core elements.

With respect to Stage 5, “Leveraging the EA for Managing Change,” the NRC has completed 3 of the 8 core elements and submitted evidence to GAO of the progress being made toward completing the remaining 5 core elements.

The NRC appreciates the GAO’s constructive review of its EA Program and remains dedicated to establishing and utilizing an effective EA Program to improve its IT management practices. The NRC understands the importance of utilizing EA to improve business processes and to ensure IT investments support the NRC’s goals and mission. To realize these benefits, the NRC is committed to utilizing government EA best practices.

This GAO recommendation remains open.

GAO Report - Nuclear Regulatory Commission: Oversight of Nuclear Power Plant Safety Has Improved but Refinements Are Needed
September 2006
(GAO-06-1029)

In its report, "Nuclear Regulatory Commission: Oversight of Nuclear Power Plant Safety Has Improved, but Refinements Are Needed," the U.S. Government Accountability Office (GAO) made recommendations for improving the NRC's ability to identify declining safety performance at nuclear power plants before significant safety problems develop. The recommendation that remained open as of the U.S. Nuclear Regulatory Commission's (NRC's) last report and a report of progress during 2008 are provided below.

Recommendation 1

Given its importance to improving the NRC's ability to identify declining safety performance at nuclear power plants before significant safety problems develop, the GAO recommended that the NRC Commissioners:

a. aggressively monitor; evaluate; and, if needed, implement additional methods or processes to increase the effectiveness of its efforts under the reactor oversight process (ROP) to assess safety culture at plants.

Status:

As noted in the GAO's report, the NRC has taken significant actions to incorporate safety culture into the ROP. These efforts have included (1) revising ROP guidance documents and inspection procedures to define more clearly key safety culture aspects and prescribe when an independent assessment of a licensee's safety culture is warranted based on licensee performance; (2) interacting with external stakeholders and giving them the opportunity to provide comments on the draft ROP documents that incorporated the safety culture changes; (3) conducting training for inspectors on the safety culture ROP changes; (4) implementing a multi-office ROP safety culture focus team to monitor the implementation of the safety culture enhancements, to resolve implementation issues, to interface with internal and external stakeholders, and to evaluate and act on lessons learned; and (5) conducting a lessons learned evaluation of the initial implementation of the safety culture enhancements.

An 18-month initial implementation period of the 2006 ROP safety culture enhancements is complete, during which time the NRC monitored and evaluated the effectiveness of the enhancements. Additional methods or processes to increase the effectiveness of the ROP are being implemented and address lessons learned resulting from this initial implementation.

One of the major ROP safety culture enhancements was an extensive modification to inspection procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input" (IP95003). Guidance was added to IP95003 to describe how the NRC will evaluate a licensee's safety culture assessment, as well as to provide guidance on how the NRC will perform its own assessment of the licensee's safety culture. The revised IP95003 was issued in October 2006, and was used for the first time at the Palo Verde site. As part of the IP95003 implementation at Palo Verde, an internal NRC lessons learned report was generated by the regional office that led the inspection. This lessons learned report was considered part of the overall process to enhance the ROP safety culture guidance as discussed below.

Early in the implementation of the ROP safety culture enhancements, the inspector and the licensee experienced instances of miscommunications about which cross-cutting aspect of the finding was being discussed. (Cross-cutting aspects are sub-elements of safety culture components that inspectors review to determine if they are a significant contributor to the performance deficiency). In addition, the ROP inspection database did not readily capture cross-cutting aspects for inspection findings. A change was made to the inspection guidance directing inspectors to assign a unique alpha-numeric designator for each cross-cutting aspect so that the cross-cutting aspect could be clearly identified during oral and written communications. Changes were made to the ROP inspection database to both retrofit the cross-cutting aspect designators to prior findings (from July 1, 2006) and to capture the cross-cutting aspect designator for future inspection findings.

Other NRC activities provided valuable insights to the safety culture lessons-learned evaluation. An internal audit was performed of a sample of 54 inspection reports representing work products from each region across a variety of report types. The audit involved evaluation of the inspection reports with respect to how cross-cutting aspects were documented for inspection findings. The audit group formulated insights with respect to inspection report writing practices and has recommended some changes to the guidance documents. The ROP guidance contained in Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports” (IMC0612), was enhanced on December 4, 2008, to address the audit group’s insights. The enhancements included additional guidance regarding the assignment and documentation of safety culture cross-cutting aspects related to inspection findings. Training on the new guidance was provided during inspector counterpart meetings that were held in December 2008.

Another internal review group evaluated implementation practices across the four NRC regions with regard to how inspection findings were identified, how cross-cutting aspects were assigned, and how substantive cross-cutting issues were characterized. The review group performed peer observations of regional inspection debriefs and mid-cycle assessments. An internal NRC report from this review was issued describing recommended changes to the inspection program guidance and to identify regional best practices. As described below, IMC0305, “Operating Reactor Assessment Program” guidance was enhanced to address the recommendations.

The staff meets periodically with industry representatives at public meetings where feedback is provided from the licensees' perspectives on how the ROP safety culture enhancements were implemented. The industry membership organization, the Nuclear Energy Institute (NEI), has performed surveys to gather insights on the program implementation. The survey results were shared with the NRC for consideration during the lessons learned evaluation process.

During 2008, the staff conducted the lessons learned evaluation of the ROP safety culture initial implementation. Based on the results of the evaluation, the staff identified follow-on changes that were needed in ROP guidance documents to improve their effectiveness and efficiency. The staff interacted, as appropriate, with internal and external stakeholders, including the industry, public, and nongovernment organizations, to obtain and consider their input and comments on potential changes to the ROP guidance documents.

A revision was issued to IMC0305 on January 8, 2009, that included a number of safety culture related changes. The more significant change involved additional guidance for regional offices regarding the inspections that can be performed to gather insights on how a licensee is addressing its repetitive substantive cross-cutting issue(s).

On January 15, 2009, the staff issued a significant revision to IP95003. Extensive changes were made to provide guidance on how the NRC will perform a graded safety culture assessment. The staff will first evaluate the licensee's safety culture assessment methods and then later the results to determine an appropriate application of NRC safety culture assessment resources in a graded manner. The staff will not duplicate the licensee's assessment, but rather focus on outlier aspects and areas where the staff has concerns about the adequacy of the licensee's assessment. Some additional changes in response to recommendations resulting from the Palo Verde IP95003 inspection recommendations included clarifying the flexibility of inspection timing, adding consideration of an outage inspection component, and adding consideration to perform the additional inspection guidance contained in the Emergency Preparedness attachment for each IP95003 inspection.

The staff is working to complete a revision to IP71152, "Identification and Resolution of Problems," which will provide additional guidance for inspectors to use when following up on independent safety culture assessments that are performed by the licensee at the NRC's request.

In addition to the NRC's efforts to assess safety culture under the ROP and in response to Commission direction in February 2008, the NRC formed a Safety Culture Policy Statement Task Group and Steering Committee to update and expand the Commission's policy on safety culture to articulate better the Commission's safety culture expectations for all licensees and certificate holders to address the unique aspects of security, and to accomplish this with stakeholder involvement. Once approved by the Commission, NRC oversight programs may need additional enhancements to address the Policy Statement expectations. In response to further Commission direction in April 2008, the NRC has formed a Task Force to look for ways to increase awareness of the NRC's internal safety culture and outline potential initiatives that could improve it.

The Commission's direction to the staff to update and expand the Commission's policy statement on safety culture was informed by lessons learned from the implementation of the ROP safety culture enhancements as well as from events world-wide in the nuclear industry and other high reliability industries (e.g., chemical processing, fuel fabrication, space, transportation) that identified weaknesses in safety culture as a root or contributing cause of the events.

Based on the significant safety culture enhancements made to the ROP, the NRC considers part a of this GAO recommendation to be closed.

b. in addition to periodically evaluating the effectiveness of its safety culture efforts, the NRC may also be able, through its performance indicator program, to develop specific indicators to measure important aspects of plants' safety culture. Trends in these performance indicators could be useful feedback to the NRC on its safety culture activities. The indicators could also provide useful information to the public and other NRC stakeholders on the safety culture at plants.

Status:

The NRC believes that the annual ROP self-assessment process and performance metric report, rather than the ROP performance indicator program, are the better tools to gather and assess feedback on the safety culture enhancements. The NRC will use these feedback tools to provide useful information to internal and external stakeholders and make the ROP more efficient and effective in identifying declining licensee performance. The NRC has added a Web

page that presents consolidated and comprehensive data on the plants that have open substantive cross-cutting issues, (http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/SCCI_SUMMARY.html).

The NRC revised Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program," to add a specific measure to determine the effectiveness of this important initiative. In support of this effort, specific questions were added to the internal and external ROP self-assessment surveys to solicit feedback on the safety culture effort. Information from prior surveys was considered as part of the lessons learned evaluation process. The most recent ROP survey responses are being consolidated and analyzed, and the results will be presented in the annual performance metric report and discussed in the annual ROP self-assessment, which is reviewed by the Commission.

The internal and external stakeholder surveys also provide additional insights that the staff considers to improve the ROP safety culture program further. The information gathered from prior surveys was considered as part of the lessons learned evaluation of the initial 18-month implementation period, as previously discussed above in the response to Recommendation 1.a.

The ongoing effectiveness evaluations resulting from the revised IMC0307 metrics and internal and external stakeholder surveys, in addition to ROP safety culture guidance revisions made in response to the lessons learned evaluation from the initial 18-month implementation period, are adequate for measuring the NRC's safety culture activities. These efforts are also adequate for providing useful feedback to both internal and external stakeholders about the NRC's safety culture activities. The NRC considers part b of this GAO recommendation to be closed.

The NRC considers this GAO recommendation to be closed.

GAO Testimony - Nuclear Security: Actions Taken by NRC to Strengthen Its Licensing Process for Sealed Radioactive Sources Are Not Effective
July 2007
(GAO-07-1038T)

In its report, "Nuclear Security: Actions Taken by NRC to Strengthen Its Licensing Process for Sealed Radioactive Sources Are Not Effective," the U.S. Government Accountability Office (GAO) made recommendations to correct weakness in the U.S. Nuclear Regulatory Commission's (NRC's) materials licensing program that were identified during GAO's testing of the licensing program using covert investigative methods. The recommendations and a report of progress during 2008 are provided below.

Recommendation 1

To avoid inadvertently allowing a malevolent individual or group to obtain a license for radioactive materials, NRC should develop improved guidance for examining NRC license applications. In developing improved screening criteria, NRC should consider whether site visits to new licensees should be mandatory. These improved screening criteria will allow NRC to provide reasonable assurance that licenses for radioactive materials will only be issued to those with legitimate uses.

Status:

The Pre-Licensing Guidance Working Group enhanced existing pre-licensing guidance that requires site visits for new licenses and adds enhanced screening criteria. The revised guidance provides instructions on processing new license applications to determine which applicants are unknown entities that will require further checks to determine legitimacy, as well as a site visit. It provides instructions on the process for performing additional screening checks on applicants, including more formal additional checks using existing NRC Office of Investigations' database resources. The guidance clearly identifies the roles and responsibilities of NRC Offices that will assist in the checks and provides additional guidance on the conduct of pre-licensing site visits to determine the legitimacy of applicants. After the completion of a 3-month pilot period and the incorporation of comments from NRC Regional Offices and the Agreement States, the revised guidance was issued on September 22, 2008. NRC Regional Offices immediately implemented the revised guidance. Agreement States were permitted a 6-month grace period, starting at the date of issuance of the guidance, to incorporate the essential elements of the pre-licensing guidance into their licensing processes. The implementation of the essential elements of the pre-licensing guidance is, and will continue to be, evaluated during Integrated Materials Performance Evaluation Program (IMPEP) reviews of the NRC Regional Offices and Agreement States.

The NRC considers this GAO recommendation to be closed.

Recommendation 2

NRC should conduct periodic oversight of license application examiners so that NRC will be assured that any new guidance is being appropriately applied.

Status:

The NRC's primary method of oversight of license reviewers and their adherence to established practices is through the IMPEP process. IMPEP is used to evaluate the performance of NRC Regional Offices and Agreement State programs using established criteria under a series of performance indicators. Typically, IMPEP reviews occur every 4 years for an individual program; however, the reviews may be conducted more frequently if there are existing performance issues in a program. Approximately 10-12 IMPEP reviews are conducted annually. During an IMPEP review, a review team spends approximately 1 week in the applicable office interviewing technical staff, accompanying inspectors in the field, and reviewing documentation. The review team evaluates the NRC Regional Office's or Agreement State's implementation of any new guidance or initiative, such as the Pre-Licensing Guidance, to ensure its proper application. Based on the findings in comparison to the evaluation criteria in NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," the review team makes an assessment of the overall program performance, as well as for each indicator. A report is provided on the performance of the Agreement State or Regional Office. Corrective actions, such as program-wide training, are implemented for any weaknesses identified by the review team. When performance issues that require NRC oversight are identified, States may be placed on Heightened Oversight or Monitoring. Heightened Oversight is a formal process that requires the State to develop a Program Improvement Plan. The status of the Program Improvement Plan is discussed during bimonthly conference calls between the NRC staff and Agreement State program management. States on Heightened Oversight typically have a followup IMPEP review approximately 1 year after the original IMPEP review that identified the performance issues. Currently, there are three States on Heightened Oversight. Monitoring is a less formal process that involves quarterly conference calls between the NRC staff and Agreement State program management to discuss the status of any open performance issues. Currently, there are four States on Monitoring.

In addition, the NRC Regional Offices perform periodic audits of licensing and inspection documentation to ensure that procedures and guidance are being followed. Branch Chiefs discuss errors and omissions with individual reviewers, and corrective actions are taken at the division level for any generic issues that are identified The NRC encourages all Agreement State programs to use self-assessments as a tool for the State to evaluate its own performance. While the NRC understands that some states do use these tools, these self-assessments are not required. IMPEP teams do not use the results of a program's self-assessment in its evaluation of the program; however, the results of a program's self-assessments may be discussed during periodic meetings that take place between IMPEP reviews. Periodic meetings are not formal evaluations, like IMPEP reviews, but are open, interactive discussions of program status and performance. Periodic meetings aid in the early identification of performance issues.

The NRC believes the IMPEP process adequately addresses the GAO recommendation. However, the NRC directed the Materials Program Working Group and the Independent External Review Panel to examine the IMPEP policies and procedures for periodic oversight of license reviewers to identify potential enhancements. Both groups offered recommendations and suggestions focused on enhancing the NRC's existing processes for oversight of license reviewers. These recommendations and suggestions are currently being prioritized for implementation, as resources allow.

The NRC considers this GAO recommendation to be closed.

Recommendation 3

NRC should explore options to prevent individuals from counterfeiting NRC licenses, especially if this allows the purchase of more radioactive materials than they are approved for under the terms of the original license.

Status:

The Materials Program Working Group (MPWG) evaluated options to prevent counterfeiting of radioactive materials licenses and improve license verification. The Working Group concluded that properly implemented measures for license verification and material tracking will render the physical counterfeiting of a paper license ineffective. The Working Group instead recommended that the NRC and the Agreement States develop, in conjunction with the source tracking capabilities of the National Source Tracking System (NSTS), mechanisms to verify licensee authorizations and inventory compliance. On December 31, 2008, the NSTS was deployed and made available to NRC and Agreement State licensees for the tracking of risk-significant sources. The NRC is working with the Agreement States to develop a secure nationwide web-based license (WBL) verification system whereby licensees and other authorized individuals will be able to verify that radioactive material transactions are authorized and do not exceed license limits. Because transactions will be verified against the regulator's licensing data, the NRC does not plan to implement any specific anti-counterfeiting measures for radioactive materials licenses.

This GAO recommendation remains open, pending implementation of the WBL verification system.

GAO Report - Nuclear Energy: NRC's Workforce and Processes for New Reactor Licensing Are Generally in Place, but Uncertainties Remain as Industry Begins to Submit Applications
September 2007
(GAO-07-1129)

In its report entitled "Nuclear Energy: U.S. Nuclear Regulatory Commission's (NRC's) Workforce and Processes for New Reactor Licensing Are Generally in Place, but Uncertainties Remain as Industry Begins to Submit Applications," the U.S. Government Accountability Office (GAO) made four recommendations to help the NRC workforce better manage its new reactor application workload and to ensure that its processes more efficiently and effectively facilitate these reviews. The recommendation that remained open as of the NRC's last report of progress and a report of progress from 2007 through 2008 are provided below.

Recommendation 2

Provide the resources for implementing reviewer and management tools needed to ensure that the most important tools will be available as soon as is practicable, but no later than March 2008.

Status:

To assist the review of design certification (DC) and combined license (COL) applications, the NRC in FY 2007 completed updates to key infrastructure documents, such as the standard review plan and regulatory guidance for applicants preparing COL applications. The staff has developed templates to assist reviewers in preparing the written safety evaluation reports (SERs) for COL applications associated with different reactor designs. The templates, applications, key reference documents, and project management tools are available on an electronic platform that provides an integrated work space for the NRC staff.

In addition, the staff has been provided with the resources needed for implementing reviewer and management tools to ensure that the most important tools will be available as soon as is practicable. For example, the agency has provided training to staff on the use of the Enterprise Project Management (EPM) system, a software tool to help manage the review of new reactor projects (early site permits, DCs, and COL applications). This system provides comprehensive information technology tools that integrate resource and schedule planning functions with the actual tracking of resource hours expended on a project. EPM is designed to facilitate efficient workflow and schedule management for the agency. Management and staff have loaded resources and hours into the EPM and are using the tool to manage and track resources and review status for the new reactor projects. The agency continues to provide training to improve staff's skill with EPM. In addition, procedures have been provided that guide all levels of users in the operation of EPM.

The staff has developed additional tools to assist in the review of DC and COL applications. One is a knowledge management tool designed to assist the reviewers in accessing important reference documents. Another tool is an electronic work flow system for preparing, processing, and managing the approval and issuance of requests for additional information for licensing application reviews. These additional tools are currently in use by the staff.

The NRC considers this GAO recommendation to be closed.

Recommendation 3

Clarify the responsibilities of NRO's Resource Management Board in facilitating the coordination and communication of resource allocation decisions.

Status:

The staff has revised the New Reactor Licensing Program Plan to clarify the roles and responsibilities of NRO's Resource Management Board (RMB) and, as the RMB continues to evolve, the staff will further define responsibilities of the RMB.

The NRC considers this GAO recommendation to be closed.

Recommendation 4

Enhance the process for requesting additional information by (1) providing more specific guidance to staff on the development and resolution of requests for additional information (RAIs) within and across design centers, and (2) explaining forthcoming workflow and electronic process revisions to COL applicants in a timely manner.

Status:

The staff uses various administrative tools to ensure that the review process works efficiently and that RAIs do not unreasonably delay the completion of the staff's review. Upon receipt of an application, the staff has been trained to perform an acceptance review to ensure that the application includes sufficient information to docket the application. To ensure that questions posed during the review have a nexus to the ultimate agency decision regarding an application, the NRC has structured a format for RAIs. Each question is reviewed and approved by management before a formal request is sent to an applicant.

In addition, to ensure that applications contain the necessary information in a consistent format, and to reduce the number of RAIs, the staff has issued various guidance documents for use by applicants. The NRC staff continues to hold routine meetings with the industry to discuss issues of content and format of applications.

The NRC has developed and trained the staff on a structured format for RAI development and has issued various guidance documents to the applicants to ensure that applications contain the necessary information. The RAI tracking tool (discussed in recommendation 2) is currently in use by the staff.

The NRC considers this GAO recommendation to be closed.

GAO Report - Nuclear Security: DOE and NRC Have Different Security Requirements for Protecting Weapons-Grade Material from Terrorist Attacks
September 2007
(GAO-07-1197R)

In its unclassified summary report, "Nuclear Security: DOE and NRC Have Different Security Requirements for Protecting Weapons-Grade Material from Terrorist Attacks," of a classified report about the same topic, the U.S. Government Accountability Office (GAO) made recommendations to address the differences in actions to protect Category I special nuclear material at Department of Energy (DOE) sites and U.S. Nuclear Regulatory Commission (NRC) licensees. The recommendation that remained open as of the NRC's last report of progress is provided below.

Recommendation 2

NRC should expedite its efforts to ensure that its licensees have the same legal authorities to acquire heavier weaponry and use deadly force as DOE sites currently have to protect such material.

Status:

The Energy Policy Act of 2005 provided the NRC new authority by adding section 161A to the Atomic Energy Act of 1954 (AEA) (42 U.S.C. § 2201a), which permits the use of enhanced weapons by licensees designated by the Commission. The NRC had sought this enhanced authority after the September 11, 2001 terrorist attacks and supported the Congressional enactment of the legislation. Since October 2005, the NRC and the U.S. Department of Justice (DOJ) have worked closely on the complex task of developing the firearms guidelines that Congress required the Commission to issue, with the Attorney General's approval, before this statutory provision took effect. The draft Guidelines are now before the Attorney General for approval. Pending Attorney General approval of the Guidelines, the NRC will publish proposed implementing regulations for public comment.

Regarding GAO's issue on the use of deadly force authority for Category I licensees similar to DOE sites, the NRC cannot revise its regulations to confer upon licensee security personnel the authority to use deadly force that has been conferred upon security personnel at DOE sites. This is because section 161(k) of the AEA (42 U.S.C. § 2201(k)) does not currently provide the NRC such authority. The DOJ has opposed the enactment of legislation that would revise section 161(k). The DOJ has asserted that:

> [C]onstitutional separation-of-powers principals would be violated if Congress were to provide licensees of the NRC and their contractors with the statutory authority to use deadly force in the course of protecting nuclear power plants against threats posed by violation of federal law.[1]

This same DOJ logic would also apply to NRC-licensed Category 1 facilities. Therefore, the NRC is unable to address GAO's recommendation on deadly force.

[1] Letter to the Honorable W. J. Tauzin, Chairman, Committee on Energy and Commerce, U.S. House of Representatives, from William E. Moschella, Assistant Attorney General, Office of Legislative Affairs, U.S. Department of Justice, dated October 10, 2003.

NRC issuance of a final rule to establish implementing regulations permitting Category I licensees to obtain enhanced weapons is pending the Attorney General's approval of the firearms guidelines.

This GAO recommendation remains open.

GAO Report - Nuclear Security: Action May Be Needed to Reassess the Security of NRC-Licensed Research and Test Reactors
January 2008
(GAO-08-403)

The U.S. Government Accountability Office (GAO), in its report, "Nuclear Security: Action May Be Needed to Reassess the Security of NRC-Licensed Research and Test Reactors," made recommendations for the U.S. Nuclear Regulatory Commission (NRC) to reassess the consequences of terrorist attacks on NRC-licensed research reactors. The recommendations and status are provided below.

Recommendations

To understand better and prepare for the potential consequences of a terrorist attack on NRC-licensed research reactors, GAO recommended in an October 2007 classified report (GAO-08-156C) that the Chairman of the NRC reassess the consequences of terrorist attacks on NRC-licensed research reactors using assumptions that better reflect a fuller range of outside expert opinion on the security of reactors and the capabilities of potential terrorist forces.

If the NRC found that the consequences of an attack on a research reactor are more severe than previously estimated, GAO recommended that the Chairman of the NRC take the following three actions:

- ensure that the security requirements for research reactors are commensurate with the consequences of attacks,
- reexamine emergency response requirements to address whether evacuation plans should be included, and
- require that first responders to alarms at research reactors be armed.

Status:

As discussed in a March 28, 2008 letter from the Chairman of the NRC to appropriate congressional committees, the NRC does not agree with many aspects of the GAO report ("Comments from the Nuclear Regulatory Commission" Appendix I to the GAO report) and plans no further actions specifically to respond to the report's recommendations.

In summary, the NRC believes the security assessments and radiological consequence analyses conducted after September 11, 2001, considered the full range of credible adversary characteristics based on a logical, well-defined threat assessment process. The assessments and analyses used reports from several national laboratories, which were peer-reviewed and fully vetted, for its security and radiological consequence assessments. With these technically sound, credible inputs, the NRC assessed research and test reactors (RTR) security using the U.S. Department of Homeland Security (DHS) guidance "Risk Analysis and Management for Critical Assets Protection (RAMCAP)." Based on the results of the assessments, additional requirements were adopted where needed. The NRC finds that the security at these facilities provides adequate protection of the public health and safety and the common defense and security. The NRC continues to inspect and evaluate RTR security, as well as safety, and will take additional actions as necessary.

In addition, there is continued interagency cooperation to ensure that the public health and safety and common defense and security are adequately protected at RTR facilities. For example, the RTR community and the U.S. Department of Energy, DHS, NRC, and other Federal agencies continue to coordinate efforts to gain additional, voluntary security enhancements at the NRC-licensed RTRs.

The NRC considers this GAO recommendation to be closed.

GAO Report - Nuclear Security: NRC and DHS Need to Take Additional Steps to Better Track and Detect Radioactive Materials
June 2008
(GAO-08-598 and GAO-08-839SU)

In its report, "Nuclear Security: NRC and DHS Need to Take Additional Steps to Better Track and Detect Radioactive Materials," the U.S. Government Accountability Office (GAO) assessed the progress the U.S. Nuclear Regulatory Commission (NRC) has made in implementing recommendations from GAO's 2003 report, "Nuclear Security: Federal and State Action Needed to Improve Security of Sealed Radioactive Sources" (GAO-03-804), and other steps NRC has taken to improve its ability to track radioactive materials. GAO made recommendations to ensure priority attention is given to implementing new tracking and licensing systems, and to include additional radioactive sources in its tracking systems. The recommendations and a report of progress during the remainder of 2008 are provided below.

Recommendation 1

The Chairman of the NRC take steps, consistent with sound systems development practices, to ensure that priority attention is given to meeting the current January 2009 and summer 2010 target dates for launching the National Source Tracking System, Web-Based Licensing System, and the new License Verification System, respectively.

Status:

The Commission has placed a high priority on the deployment of these systems. Senior managers from all involved offices meet weekly on these projects to ensure that appropriate focus is maintained, that challenges to success are systematically identified and addressed, that progress is properly communicated throughout the organization, and that tasks and resources are coordinated and prioritized.

In accordance with Office of Management and Budget guidance, the NRC has employed sound system development practices. The NRC has (1) assigned professionally certified project managers to the National Source Tracking System (NSTS), Web-Based Licensing (WBL) System, and License Verification System (LVS) projects; (2) set reasonable performance baselines and integrated project schedules for each of these projects; (3) employed earned value management on the NSTS project; and (4) plans to employ earned value management on the WBL and LVS projects once development contracts are in place.

The high priority placed on the successful deployment of these systems was recently demonstrated as the NSTS neared its December 2008 launch date. As issues and challenges that could impact the NRC's ability to deploy the system were identified, multiple offices within the NRC worked together to address the issues to bring about acceptable resolutions. Daily status meetings were held with the development and implementation contractors, and senior managers were apprised of the status of significant issues through the above weekly meetings and more frequently when needed. On December 31, 2008, the NSTS was deployed and made available to NRC and Agreement State licensees for the tracking of risk-significant sources. NRC and Agreement State licensees were required to report initial inventories of Category 1 and Category 2 sources, and begin reporting all related transactions (manufacture, transfer, receipt, disassembly, or disposal of these sources) to the NSTS by January 31, 2009. NSTS is being populated as data is received. A heightened level of effort has continued after

deployment to ensure a successful initial implementation and to resolve any remaining or newly identified issues.

The NRC staff completed its evaluation of alternative solutions for the WBL in the 2nd quarter of FY 2009, and is proceeding toward procurement approval for the selected alternative. The NRC's goal is to have an initial operational capability of WBL deployed no later than 24-months following the award. For the LVS, the NRC staff has initiated two contracts to assist in the development of the initial architecture design and security categorization of the system, has established a working group with Agreement State participation to identify a process for including Agreement-State license data in a national warehouse for license verification purposes, and is proceeding with preparation of the documentation needed for procurement. The NRC's goal is to have an initial operational capability of LVS deployed no later than 12-months following the award.

The NRC considers this GAO recommendation closed for NSTS.

This GAO recommendation remains open for WBL and LVS.

Recommendation 2

The NRC complete the steps needed to include all potentially dangerous radioactive sources (Category 3 and the larger Category 4 sources, as well as Categories 1 and 2) in the National Source Tracking System as quickly as is reasonably possible.

Status:

The NRC issued a proposed rule for public comment on April 11, 2008, that would expand the NSTS beyond Category 2 sources to also include Category 3 and 1/10th of the Category 3 threshold values. The NRC received numerous stakeholder comments expressing a range of views on expanding the scope of the NSTS. A clear majority of stakeholders opposed expansion of the NSTS beyond Category 2 at this time, while several other stakeholders opposed expanding the NSTS scope beyond Category 2 at all. One commenter supported expansion as proposed in the draft rule. The common themes expressed by stakeholders who opposed expansion of the NSTS at this time were that the most risk-significant sources will be adequately accounted for in the first deployment of NSTS, that the expansion would be resource intensive, and that operating experience and lessons learned should be evaluated prior to expanding the scope to lower-risk radioactive sources.

Based on its review of the public comments and on consideration of the current status of the NSTS, the staff submitted a Commission paper (SECY-09-0011) dated January 15, 2009, "Deferral of Rulemaking, Expansion of National Source Tracking System," and is awaiting the Commission decision on the options provided.

This GAO recommendation remains open.

GAO Report - Nuclear Safety: NRC's Oversight of Fire Protection at U.S. Commercial Nuclear Reactor Units Could Be Strengthened
June 2008
(GAO-08-747)

The U.S. Government Accountability Office (GAO), in its report "Nuclear Safety: NRC's Oversight of Fire Protection at U.S. Commercial Nuclear Reactor Units Could Be Strengthened," made four recommendations to help the U.S. Nuclear Regulatory Commission (NRC) better manage its oversight of fire protection at U.S. commercial nuclear reactors. In response, on September 11, 2008, the Chairman of the NRC informed the Congress about the actions that NRC plans to implement to address GAO's recommendations.

The NRC staff is implementing actions to address the key fire protection issues raised by GAO-08-747 recommendations, within the additional Commission guidance reflected in the Chairman's letter to Congress dated September 11, 2008. Many of these recommendations are being addressed and tracked by the Fire Protection Closure Plan as described in SECY-08-0171, "Plan for Stabilizing Fire Protection Regulatory Infrastructure." The Commission has directed the staff to include milestones and deliverables, as well as meaningful metrics to gauge progress of its actions in the implementation of the Fire Protection Closure Plan.

The status of the actions taken by the NRC in response to each GAO report recommendation is provided below.

Recommendation 1

Develop a central database for tracking the status of exemptions, compensatory measures, and manual actions in place nationwide and at individual commercial nuclear units.

Status:

Licensees track fire protection program deficiencies, exemptions, and deviations, including those involving compensatory measures and manual actions, at their respective nuclear plants. NRC inspectors evaluate a sample of these compensatory measures and manual actions during their routine fire protection inspections. Based on these inspections, the NRC has determined that existing compensatory measures and manual actions are sufficient to ensure adequate fire protection at each nuclear plant. The work discussed in response to Recommendations 2 - 4 provides additional confidence in this determination.

In response to the GAO's recommendation, the NRC plans to develop, by the end of 2009, a centralized database of fire protection exemptions for operating nuclear reactors. The NRC has started developing the exemption database in accordance with the Fire Protection Closure Plan as described in SECY-08-0171. Compensatory measures and manual actions are also addressed in SECY-08-0171.

This GAO recommendation remains open.

Recommendation 2

Address safety concerns related to extended use of interim compensatory measures by:

- defining how long an interim compensatory measure can be used and identifying the interim compensatory measures in place at nuclear units that exceed that threshold;
- assessing the safety significance of such extended compensatory measures and defining how long a safety significant interim compensatory measure can be used before NRC requires the unit operator to make the necessary repairs or replacements or request an exemption or deviation from its fire safety requirements; and
- developing a plan and deadlines for units to resolve those compensatory measures.

Status:

The NRC has concluded that adequate compensatory measures provide comparable protection to ensure the health and safety of the public, regardless of how long those compensatory measures are employed. The fire protection programs at nuclear power plants are built upon the concept of defense-in-depth with layers of protective features. The technical deficiencies being compensated do not invalidate the defense-in-depth approach. As discussed in the response to Recommendation 1, NRC inspectors periodically inspect a sample of each plant's fire protection compensatory measures for adequacy.

The Staff has developed a plan to address the issues contributing to the long-term use of compensatory measures in the Fire Protection Closure Plan (SECY-08-0171). The Commission has directed the staff to include milestones and deliverables, as well as meaningful metrics to gauge progress of its actions in the implementation of the Closure Plan. In addition, the staff plans to track the closure of long-term compensatory measures as part of Task # 5 of the Fire Protection Closure Plan, "Assess Regulatory Effectiveness."

In summary, the NRC has addressed Recommendation 2 in the Fire Protection Closure Plan (SECY-08-0171) as discussed above.

The NRC considers this GAO recommendation to be closed.

Recommendation 3

Address long-standing concerns about the effectiveness of fire wraps at commercial nuclear units by analyzing the effectiveness of existing fire wraps and undertaking efforts to ensure that the fire endurance tests have been conducted to qualify fire wraps as NRC-approved 1- or 3-hour fire barriers.

Status:

Since the early 1990s, the NRC has been working to address issues related to fire wraps, also known as electrical raceway fire barrier systems. Specifically, the NRC has reviewed design and test information from fire barrier vendors, observed installed fire barrier configurations at selected nuclear power plants, and performed small-scale fire barrier tests of selected fire barriers. This resulted in updated NRC guidance on fire barrier testing and acceptance criteria. In addition, the NRC conducts periodic inspections to ensure plant safety, has performed

additional fire barrier testing, issued generic communications, and in some cases issued confirmatory orders to some licensees.

Nonetheless, the NRC should have taken more timely action to investigate and resolve issues associated with the use of Hemyc and MT Fire Barrier configurations at several stages before the NRC confirmatory testing in 2005. The results of that testing indicate that Hemyc and MT fire barriers do not provide the rated level of protection. The industry, which performs qualifying tests, conducted additional qualifying tests in 2005 and 2006 with similar results to the NRC's. The NRC does not plan to conduct further tests of these materials. A major part of the NRC's efforts to resolve the remaining known electrical fire barrier systems problems (associated with Hemyc and MT materials) is the April 10, 2006 issuance of Generic Letter 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations." Based on information received from licensees' responses to this generic letter and the results of inspections, the Office of Nuclear Reactor Regulation and regional staff concluded in a memorandum dated December 17, 2008, that plants that have not committed to adopt 10 CFR 50.48(c) (NFPA 805) have resolved the Hemyc and MT fire barrier systems issues through approvals for amendments or exemptions or by completion of plant modifications to achieve compliance. Plants that are transitioning to 10 CFR 50.48(c) are maintaining safety using compensatory measures while resolving their Hemyc and MT electrical raceway fire barrier issues as part of their transition to NFPA 805.

The NRC considers this GAO recommendation to be closed.

Recommendation 4

Address long-standing concerns by ensuring that nuclear units are able to safeguard against multiple spurious actuations by committing to a specific date for developing guidelines that units should meet to prevent multiple spurious actuations.

Status:

Since the mid-1990s, the NRC has been actively working toward closure of the complex issue of fire-induced circuit failures. This effort has included inspections to ensure plant safety, circuit testing, interaction with industry, issuance of generic communications, and updated guidance. As part of this effort, on June 30, 2008, the NRC staff presented to the Commission an approach for resolving the issues (SECY-08-0093, "Resolution of Issues Related to Fire-Induced Circuit Failures)". The Commission approved SECY-08-0093 on September 3, 2008. This approach and related actions have been incorporated in the staff's "Plan for Stabilizing Fire Protection Regulatory Infrastructure" (SECY-08-0171).

In accordance with the Commission directives to include milestones and deliverables in the implementation of the Fire Protection Closure Plan (SECY-08-0171), the NRC has committed to complete the guidance to address long-standing concerns regarding multiple spurious actuations by the end of fiscal year 2009.

This GAO recommendation remains open.

GAO Report - Telecommunications: Agencies Are Generally Following Sound Transition Planning Practices, and GSA Is Taking Action to Resolve Challenges
June 2008
(GAO-08-759)

The U.S. Government Accountability Office (GAO), in its report "Telecommunications: Agencies Are Generally Following Sound Transition Planning Practices, and GSA Is Taking Action to Resolve Challenges," made two specific recommendations to reduce the risk that transition delays could lead to disruptions in service and increased costs. The status of the two recommendations is provided below.

Recommendation 1

The Chairman of the U.S. Nuclear Regulatory Commission (NRC) should direct the Chief Information Officer (CIO) to establish measures of success based on the transition objectives that the agency plans to develop.

Status:

As stated in the NRC response to the original recommendation made by the GAO, the transition objectives and their associated measures of success were established. These have not progressed as the initial Fair Opportunity decision has not yet been made. The agency is in the process of making its Fair Opportunity decision with respect to the transition of telecommunications services from the existing Information Technology Services contracts to the new Networx acquisitions. The NRC expects to make its Fair Opportunity decision by the end of fiscal year 2009, at which point the Transition Manager will establish the agency transition teams and begin the process of transitioning the NRC's telecommunications services.

This GAO recommendation remains open.

Recommendation 2

The Chairman of the NRC should direct the CIO to evaluate the costs and benefits of new technology or alternatives to meeting its telecommunications needs.

Status:

The original response provided by the NRC to this recommendation was that the NRC has only one wide area network for data transmission that supports the agency's dedicated data transmission needs in total. Voice services utilize both local and long distance voice connection in various methods depending upon the specific location's voice architecture. The NRC, as part of the analysis of the General Services Administration's Networx acquisition vehicles, the agency telecommunications inventory, and the agency Information Technology (IT) Roadmap determined that there are no outstanding agency telecommunications needs that cannot be filled by the current FTS 2001 Bridge contracts. The NRC recognizes that the Networx acquisition vehicles offer Federal agencies many value-added telecommunications and IT services that are not currently offered under the FTS 2001 service contracts; however, the NRC does not currently have a business need to utilize those enhanced telecommunications service offerings. As the agency requirements for telecommunications and IT services grow

and needs are identified, the NRC will evaluate the value-added Networx service offerings and seek areas to optimize and reduce the costs associated with the agency telecommunications architecture.

The NRC considers this GAO recommendation closed.

GAO Report - Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals
July 2008
(GAO-08-925)

The U.S. Government Accountability Office (GAO), in its report "Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals," made a recommendation to address the weaknesses identified with agencies rebaselining policies. The GAO recommendation was directed to the Director of Office of Management and Budget (OMB) and to the 24 major agencies. The U.S. Nuclear Regulatory Commission (NRC) progress in addressing this recommendation during 2008 is provided below.

Recommendation

To address the weaknesses identified with agencies rebaselining policies, we are making recommendations to the Director of OMB and to the 24 major agencies. Specifically, we recommend that:

- the Director of OMB issue guidance for rebaselining policies that would include a minimum set of key elements, taking into consideration the criteria used in this report; and
- each of the heads of the 24 major agencies direct the development of comprehensive rebaselining policies that address weaknesses we identified.

Status:

GAO-08-925 assessed Federal agency conformance with five best practices, set forth in GAO's Cost Assessment Guide (GAO-07-1134SP), that are relevant to the reestablishment of information technology (IT) program and project baselines. The best practices promoted by GAO focus on the process for developing, validating, and reviewing a new performance baseline for a major IT project and require that the re-baselining process be well-documented.

Existing NRC policy guidance, issued as Management Directive (MD) 2.8, "Project Management Methodology," partially addresses these best practices. Under MD 2.8, NRC executives are responsible for managing IT investments to within 10 percent of a performance management baseline that establishes planned cost, schedule, performance, and quality goals. The NRC's Earned Value Management (EVM) Guideline requires that agency project managers use an ANSI/EIA Standard 748-compliant EVM system to manage major IT acquisitions to the performance management baseline. The baseline must be validated within 6 months of its establishment by an integrated baseline review to be conducted by the project manager and the NRC's Office of Information Services (OIS) in accordance with guidance in the National Defense Industrial Association's "Program Manager's Guide to the Integrated Baseline Review Process."

If an investment fails to meet performance standards in the validated baseline, the responsible executive must develop a corrective action plan, which may include a proposal to re-baseline the project. In accordance with MD 2.8 and the EVM Guideline, corrective action plans for major IT investments undergo successive reviews by OIS, the NRC IT Business Council (an IT executive review board), and NRC's Chief Information Officer, and must be approved by the agency's Executive Director for Operations. Both the original and the new baseline are

documented in the NRC's official repository of IT project information, and progress against the new baseline is to be monitored by OIS and periodically reviewed by the IT Business Council.

The NRC continues to examine its current process to ensure that the agency establishes reasonable and achievable baselines for projects and minimizes baseline revisions for future program efforts. The development of an NRC "Project Manager's Guide," already underway, will address the remaining key areas by consolidating and expanding guidance on EVM and the integrated baseline review process. The new guidance will require that project managers clearly justify the need for baseline revisions before they receive agency approval. This guidance will be incorporated by reference in MD 2.8 and is an integral part of the agency's comprehensive response to the GAO report. More detailed comments about the NRC's approach to each of the best practice areas emphasized by GAO follows:

1. *Describe reasons when a re-baseline is warranted*. The NRC's Office of Information Services (OIS) has established a Project Management Services Team (PMST) to define project management tools and techniques that will enable the agency to identify better the costs and value to the NRC mission of major IT projects. The "Project Manager's Guide" being developed by PMST will document the use of the integrated baseline review, integrated project schedules, and project monitoring and control processes. The policy will also provide consolidated guidance for the use of Earned Value Management (EVM). EVM combines measurement of technical, schedule, and cost performance criteria within a single integrated methodology to show the status of a project. The use of this guide within the overall policy framework will ensure that project managers document reasons for revisions to the baseline already established for their projects. At the same time, the agency is continuing its effort, in collaboration with George Washington University and ESI International, to provide formal training for all project managers toward a "Master Certification in Project Management." The certification program covers major project management tools and techniques, including cost estimating, EVM, and baseline revisions.

2. *Describe the process for developing a new baseline*. Currently, the agency uses an integrated project plan for major projects, with resources allocated on the sub-project level. The new guidance being drafted requires project managers to provide new cost estimates along with a new project plan, which details the scope of the remaining work and includes revised schedule and resource allocations at the sub-project level.

3. *Require validating the new baseline*. The agency uses an Enterprise Change Control Board, an Engineering Review Board, and a Project Specific Control Board to review and validate any changes associated with project execution, including revised project costs associated with requests for a new project baseline. These committees are staffed with the appropriate key project stakeholders and executives from the NRC Program Offices. Revised policy guidance will clarify their roles in the re-baselining process.

4. *Require management review*. Current agency guidance requires management review of corrective action plans for major IT projects. The agency is planning to strengthen its IT governance structure by implementing processes to ensure active management involvement in the review, approval, and monitoring of new or revised baseline plans.

5. *Require that the process is documented*. Guidance underway will standardize the process for documenting decisions surrounding baseline revisions and will mandate that re-baselining actions be coordinated through the PMST. Project managers will be required to inform the PMST of the reasons for the revised baseline proposal and to provide the new

project cost, schedule, and scope to the PMST for management review and approval. The agency expects to complete implementation of the new guidance by the end of the first quarter of Fiscal Year 2010.

This GAO recommendation remains open.