POLICY ISSUE
INFORMATION

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FOR: The Commissioners

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SUBJECT: PROGRAM UPDATE REGARDING PROGRESS ON INTEGRATION OF
                SYSTEM ARCHITECTURE, UTILIZATION OF INFORMATION
                TECHNOLOGY TO ENHANCE SYNERGIES AMONG NRC
                PROGRAMS, AND IMPROVEMENT IN SERVICE THROUGH
                MAINTENANCE OF AN UP-TO-DATE WEB SITE

PURPOSE

In its March 15, 2005 Staff Requirements Memorandum (SRM) M050222A, the Commission
instructed the Office of Information Services (OIS) to continue its efforts to achieve efficiency
and effectiveness in its own programs and in support of other agency programs. These
activities included: (1) timely completion of the security review of materials documents and
restoration of public access to the nonsensitive documents in the Agency Wide Document
Access Management System (ADAMS); (2) the integration of system architecture throughout
the agency, wherever possible, using commercial-off-the-shelf (COTS) software; (3) the
utilization of information technology (IT) to enhance synergies among NRC programs and
improve internal communications and business processes; and (4) the improvement in service
to both internal and external stakeholders by maintaining an up-to-date Web site. Activity 1 was
addressed by the Sensitive Information Screening Project (SISP) Working Group. This paper is
being provided to address the remaining three activities.

BACKGROUND

OIS has made significant progress in the development of its IT management program, resulting
in tangible improvements in how NRC funds, implements, and utilizes technology. Specifically,
the staff has improved the alignment of IT investments with the business priorities of the
agency. System complexities have also been reduced through the implementation of common
system architectures. Additionally OIS has enhanced synergies among NRC's programs by
providing the ability to identify commonalities to include business functions, services, data, and
technologies across NRC business units. The consolidation and integration of these
commonalities are resulting in significant efficiencies and improving the overall return on
investment (ROI) related to IT initiatives. Furthermore, our accomplishments are enhancing
NRC's ability to inform the public as well as improving NRC's responsiveness to the industry.
Examples of these benefits are provided in the following sections.

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OIS primarily has focused its efforts and accomplishments on three product areas; namely:

- The development of business and technology standards and models to enhance synergies and provide guidance and direction in the development of new information technology initiatives,

- The development of processes to ensure IT investments are funded consistently with the priorities of the agency and are managed effectively, and

- The development of tools to facilitate and enhance NRC's ability to deliver timely technology solutions that are integrated and fully meet the expectations of all stakeholders.

Additionally, OIS is incorporating these three product areas into an integrated Web service, so that NRC can more effectively utilize these components. This primarily entails the further enhancement of the existing OIS Web portal. The OIS Web portal is the principal communication tool used to inform the agency's office IT coordinators of the OIS models, processes, standards, and tools that are available. By integrating these products, OIS will ensure stakeholders are provided the appropriate information at the time it is required in the development process.

OIS' approach is consistent with Office of Management and Budget (OMB) guidance and satisfies Federal directives and statutory requirements related to IT management and information security. Furthermore, OIS ensured that all of its activities are driven by the goals and mission of NRC, by soliciting and engaging NRC Offices in the development of the agency's Information Technology/Information Management (IT/IM) Strategic Plan.

Specific achievements in these particular areas are described in further detail in the following paragraphs.

DISCUSSION:

1.   Integration of system architecture throughout the agency, wherever possible using commercial off-the-shelf software.

OIS has continued to elaborate on adopted NRC IT policies, standards, and architecture models (business, service, technology) to ensure all IT solutions satisfy a defined agency need and conform to a common system architecture. A primary principle of this common architecture is to adopt and utilize COTS software solutions, to the maximum extent practicable, in order to reduce development time (i.e., "time to market") and minimize the overall life-cycle cost of an IT system or application. The use of COTS solutions is evaluated based upon defined business and functional requirements, and the suitability of COTS alternatives to satisfy these requirements in a cost-effective manner.

An example of where this principle has been utilized has been in the implementation of the Electronic Document and Action Tracking System (EDATS). NRC currently employs more than 30 ticketing systems to track work products within the agency. These systems did not adopt a common architecture, process, or IT solution for fulfilling this function. Consequently, these

systems provide limited utility to senior management attempting to access the status of various work products and their current disposition in the agency workflow. The EDATS initiative was undertaken to address these deficiencies. By implementing EDATS, the agency will consolidate these 30 disparate systems into a common architecture utilizing a COTS-based software solution. OIS currently is testing an EDATS pilot to gather additional requirements, and will develop a final business case to support agency implementation.

Another fundamental principle of our common system architecture is the development, management, and use of common objects and code. These objects and code reflect common functionality and features that are standard to many applications. This allows development teams to re-use developed code, significantly reducing development time and system complexity. An example of where OIS utilized common objects and code was in the development of the Integrated Survey Entry Application (ISEA). The ISEA is a comprehensive survey development tool that can be utilized by all offices to create, implement and report on surveys conducted by NRC. This survey tool can be used by a non-programmer to create a new customized survey within a few hours.

2.   Utilization of information technology to enhance synergies among NRC programs and improve internal communications and business processes.

OIS has developed numerous tools to enhance its ability to identify the potential for collaborative development efforts, data sharing, and process improvements among NRC programs. One such tool is the Enterprise Architecture Repository System (EARS), which provides a comprehensive inventory of all NRC IT systems and applications. This repository also provides a myriad of information related to each system and application to include the functions and processes they support, the data architecture, interfaces with other systems, and the technologies employed. EARS is the principal communication tool to inform NRC offices of potential collaboration efforts regarding IT initiatives. NRC's offices have direct access to this repository through the OIS Web Portal.

An example of where EARS proved beneficial to enhancing synergies among NRC programs was in the collaborative development effort known as the Case Management System (CMS). When complete, CMS will consolidate several existing applications, namely the Enforcement Action Tracking System (EATS), Allegation Management System (AMS), and the Office of Investigation's Management Information System (MIS) into a common technical framework. Additionally, OIS is developing a Web interface known as iWeb that will allow direct and timely access to information related to adjudicated and ongoing investigations and cases.

In addition, various NRC offices and committees use EARS to support additional functions and reporting requirements. For example, the Office of the Chief Financial Officer uses EARS to support its software capitalization reporting requirements.

Additional examples of systems in which synergies and business process improvements are being achieved include:

- The High Level Waste Meta System (HLW-MS) - The HLW-MS is a collection of independent applications integrated into a common system to satisfy the IT and IM requirements for the Yucca Mountain proceeding. This system integrates

nine distinct systems, including the Electronic Information Exchange (EIE), ADAMS, High-Level Waste Collection HLW Enhancements System, and Licensing Support Network.

- Agency Lessons Learned System (ALLS) - When completed this system will act as a centralized tracking and information repository. Its purpose will be to capture findings, recommendations, and actions related to lessons learned selected for special attention.

- Integrated Survey Entry Application (ISEA) - As discussed above, the ISEA is a comprehensive survey development tool that all offices can use to create, implement, and report on surveys conducted by NRC. This system has improved business processes, substantially reduced cost, and eliminated redundancies by simplifying the creation and analysis of NRC surveys. Furthermore, this system has improved internal communications by enabling the use of surveys across organizational boundaries. Based upon previous agency expenditures, OIS estimates that ISEA has resulted in savings of $250K annually in contractor survey support. Agency survey costs were averaging between $50K to $150K per survey.

3.   Improve service to both internal and external stakeholders by maintaining an up-to-date Web site.

The staff has undertaken numerous initiatives to improve our service to both internal and external stakeholders. Our efforts related to internal stakeholders have focused primarily on the development of Web tools and Web enabled information repositories that facilitate collaboration among offices. The aforementioned EARS system is an example of one such tool. Another tool that OIS is implementing to support internal stakeholders is a Project Management Information System (PMIS). This system will be used to collect all relevant information pertaining to an application or system development project. OIS anticipates that, once fully implemented, this system will be the primary communication tool used to inform internal stakeholders of progress and issues related to IT projects.

External system development efforts have focused on improving dissemination of information to the public as well as the agency's responsiveness to the industry. The new Public Meeting Notice System (PMNS) is an example of a Web application that was implemented to improve service to the public and industry. The system employs a structured search engine. This feature enables the public and external stakeholders to search upcoming and past meetings by location, date, and facility as well as other criteria. Additionally in fiscal year (FY) 2005, OIS supported the Office of Nuclear Materials Safety and Safeguards to create a new public Web site for facilities undergoing decommissioning. This Web site provides information on 96 facilities within the United States.

OIS has implemented various processes and systems to ensure NRC's Web site is usable, current, and accurate. For example, to improve the accuracy of the information on our public Web site, OIS has implemented a content management process. This process ensures that posted information and Web site modifications are reviewed and approved through a formal procedure. Additionally, OIS has implemented a survey tool to solicit feedback from the public

and external stakeholders regarding NRC's Website. OIS will use information from this survey to continuously improve and ensure NRC Web-based systems are meeting the expressed needs of these individual groups.

CONCLUSION

OIS continues to improve its ability to support and deliver IT solutions that are driven by the business priorities and requirements of NRC offices. OIS also continues to enhance its existing models, processes, and tools to permit NRC offices to more effectively collaborate on similar or related IT systems and applications. Additionally, OIS is effectively monitoring and maintaining NRC's external Web sites to improve and enhance the agency's service to the public and industry. Furthermore, OIS developed, in conjunction with the offices, a detailed IT/IM Strategic Plan that ensures OIS IT initiatives are aligned with the goals and objectives in NRC's Strategic Plan. The IT/IM plan will ensure OIS efforts are consistently focused on the priorities of NRC and its internal and external stakeholders.

COORDINATION

The Office of the General Counsel has reviewed this package and has no legal objection.

                                          /RA/

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