Information Management System for a Generic Nuclear Waste Program Based on Cloud Technology

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Generic Nuclear Waste Program: Plan for Efficient IDKM in the Cloud

- Background on the project

- Developing tools for capturing, preserving and transferring technical information

- Capturing and preserving tacit knowledge

- Understanding and replicating the processes to use the captured information
  - Understanding and documenting how the information was used in the past
  - Replicating functions, especially as technology changes

- Dedicating the necessary resources for maintaining and updating the information systems

United States Federal Requirements

Nuclear Regulatory Commission (NRC) Regulatory Requirements
- NRC Information collection requirements are binding on all persons and organizations who apply for or receive a license from NRC to use nuclear materials or operate nuclear facilities
  - Management Directive 3.53 - NRC Records and Document Management Program
  - NUREG – 0910, Rev 4 NRC Comprehensive Records Disposition Schedule

National Archive and Records Administration (NARA)
- 36 CFR, Subchapter B, Records Management
  - NARA specifies policies for Federal agencies' (including the Department of Energy (DOE)) records management programs relating to proper records creation and maintenance, adequate documentation, and records disposition
  - Federal agencies are responsible for establishing and maintaining a records management program

General Services Administration (GSA) Federal Regulations
- GSA Order - OAS P 1820.1, Records Management Program
  - This Directive establishes principles, authorities, responsibilities, and requirements for managing GSA's records

Challenges & Needs for Efficient IDKM

- Codification of tacit knowledge

- Key individuals with critical institutional knowledge approaching retirement or move to other projects

- Suspended project does not provide a means for continuous knowledge transfer

- Data and systems in cold standby on an isolated local area network
  - Occasionally used to respond to requests for information, but not on a continuous basis

- Existing hardware is not up to today's IT technology; many manual processes

Status of IDKM for the Project

- What We've Done During the Project's Hiatus:
  - Kept key individuals readily available while engaged in related generic R&D to the extent practicable

- Current Activities:
  - Developing a cloud-based environment to house the archived information and systems to make the data easy to access and automate manual processes
  - Developing workshops and videotapes involving both senior staff and early career staff with open discussion

Lessons Learned

- Knowledge management needs to be a deliberate effort with adequate resources

- Requires both technical experts that develop and used the information and understand the interconnectivity between different types of information, as well as IT experts working as an integrated team

- It is a challenge to keep hardware and software updated during a hiatus in a nuclear waste management project; It can be very costly

- Making changes to IDKM systems in a highly regulated environment can be difficult

Q&A

- Questions/Discussion