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Practical Observations Regarding Knowledge Management for a Nuclear Waste Management Project

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The purpose of the paper is to share practical observations regarding knowledge management based on experience following the suspension of the proposed Yucca Mountain Project (YMP) in the United States. After its suspension in 2010, custody of YMP information systems was transferred to the U.S. Department of Energy (DOE) Office of Legacy Management. Meanwhile, Sandia National Laboratories was directed to maintain, on its own systems, the technical basis supporting the postclosure component of the 2008 Yucca Mountain Repository License Application. Because of increasing costs of hardware maintenance and increasing risks of obsolescence of some of the database software used at the YMP, the DOE has directed Sandia to develop a cloud-based information management system to serve as a generic template for any future nuclear waste management and disposal project. Generally, IT systems for large, long-term programs are developed incrementally, as needed, by separate organizations for their specific purposes. Opportunities to restructure and integrate these various systems are rare because of the disruption caused. This cloud effort is being developed using the experience and the information systems from the former YMP and its requirements while there is no ongoing scientific and engineering work, providing a unique information management opportunity to analyze, define, and potentially integrate an information architecture that meets all its needs and requirements efficiently. Key observations relevant to knowledge management include:

- (a) Observations on opportunities and challenges of migrating information to a cloud platform.
- (b) Thoughts on efficiently managing and structuring information to meet separate requirements and needs.
- (c) Observations on capturing tacit knowledge from experts and using it in information management.
- (d) Observations on knowledge recovered from legacy project software itself.
- (e) Implications on long-term management of information and records to meet regulatory requirements and to maintain useful knowledge and lessons learned for other programs and purposes.

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Country or International Organization

United States of America

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