A FRAMEWORK FOR KNOWLEDGE MANAGEMENT AT THE US NUCLEAR REGULATORY COMMISSION

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Introduction and Background

The NRC is a knowledge-centric agency that relies on its staff to make the sound regulatory decisions needed to accomplish the agency's mission. In the recent past, the agency has enjoyed a stable workforce and a climate of slowly-evolving technologies that has allowed it to meet its performance goals by using an informal approach to knowledge management (KM). That environment has changed due new conditions including a substantial growth in workload and the agency must now institute a systematic approach to KM that can support the faster rate of knowledge collection, transfer, and use needed to accommodate increased staff retirements, mid-career staff turnovers, the addition of new staff, and the broader scope of knowledge needed to expand the agency's knowledge base to support growth, new technologies and new reactor designs.

Senior managers have identified KM as essential for accomplishing the agency's current and future work. Additionally, while acknowledging that the agency has a long history of informal KM activities, the senior managers determined that our programs need to change in order to keep pace with numerous factors, including the growing body of internal and external information relevant to NRC decisionmaking. Agency programs also need to look at changes in the regulatory environment and adapt innovative solutions to accelerate and improve agency decisionmaking processes through collaboration and best practices of communications and information sharing.

Recent events have created strategic drivers that have increased the imperative for knowledge management. First, the NRC is among the oldest workforce in the federal government and a large percentage of employees are eligible to retire in the next five years. Second, the demand for new talent outstrips the supply, generating a need to create an attractive environment where new and younger employees have a voice in the direction of the agency. Third, the tremendous increase in interest in nuclear energy internationally has fueled the mission of the NRC, which has in turn increased the need to hire more staff, train them, and encourage the transfer of knowledge quickly in order to meet these growing needs.

The agency, since its inception, has maintained and continuously improved the individual capabilities of its staff through numerous methods designed to transfer implicit and tacit knowledge, such as formal classroom and on-the-job training, structured qualification programs, informal communities of practice, mentoring, dual-encumbering of positions, and formal development programs. The agency has also maintained its organizational capabilities or structural knowledge largely in the form of explicit knowledge: job aids and desk references, written policies and procedures, regulatory guides, standard review plans, new regulations, regulatory issues summaries, and statements of consideration for rulemakings. Although Web-based applications and databases support and enhance KM activities, the agency primarily relies on people and not on information technology solutions to transfer knowledge.