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Implementation of a Nuclear Knowledge Management Program on Decommissioning of NORM Facilities

Nuclear Knowledge Management (NKM) at the project, organizational and national levels is an integrated and systematic approach applied to all stages of the knowledge cycle, including its identification, sharing, protection, dissemination, preservation and transfer. Knowledge management systems support nuclear organizations in strengthening and aligning their knowledge. Knowledge is the nuclear energy industry's most valuable asset and resource, without which the industry cannot operate safely and economically. Nuclear knowledge management practices enhance and support traditional business functions and goals such as human resource management, training, planning, operations, maintenance, projects, innovation, performance and risk management, information management, process management, organizational learning and information technology support. In the organizational context, nuclear knowledge management supports the organization's business processes, and involves applying knowledge management practices. These may be applied at any stage of a nuclear facility's life cycle: research and development, design and engineering, construction, commissioning, operations, maintenance, refurbishment and life time extension, waste management, and decommissioning.

Naturally-occurring radioactive material (NORM) is the term used to describe materials containing radionuclides that exist in the natural environment. The most important for the purposes of radiation protection are the radionuclides in the U-238 and Th-232 decay series. Long-lived radioactive elements such as uranium, thorium and potassium and any of their decay products, such as radium and radon are examples of NORM. All minerals and raw materials contain radionuclides of natural origin.

There are large numbers of NORM facilities utilizing radioactive material, some of which are coming to the end of their operating lives and will require decommissioning. These facilities were built in many States, and the extent of local nuclear experience varies widely.

Many Factors affecting the choice of decommissioning strategy of NORM facilities such as: financial requirements, human resources, safety, waste management. Decommissioning of such facilities may be made more difficult due to limitations in the availability of the necessary resources. The resources required for decommissioning are varied in nature and go beyond simply numbers of people or amounts of available funding. This paper discusses the implementation of nuclear knowledge management program on decommission of NORM facilities.

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