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Efficient Implementation of Safeguards by Design for Disposed Spent Nuclear Fuel

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Challenges for safeguarding a geological repository of spent nuclear fuel pose many high-level opportunities. First, being a relative late-comer among the various types of nuclear facilities subject to safeguards, the geological repository is an ideal candidate for applying "safeguards by design" (SBD).

Second, a repository is unlike all other nuclear facilities such that containment and surveillance (C/S) arguably should constitute the primary safeguards approach, rather than material accountancy.

Several states have already invested many years and resources toward implementing final disposal of spent nuclear fuel in a geological repository. We consider the unfolding safeguards consideration of geological repositories from the perspectives of SBD, safety, security and safeguards (3S), and C/S.

In this paper, a proposed approach for efficient implementation of Safeguards-by-Design (SBD) early into the design process of repository of spent nuclear fuel is proposed. The proposed approach describes the involved parties, their roles and responsibilities, ways of coordination and collaboration as well as main areas to be considered. International best practices in this regards are also presented and discussed

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Country or International Organization

Egypt

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