

International Conference on the Safety of Radioactive Waste Management, Decommissioning, Environmental Protection and Remediation: Ensuring Safety and Enabling Sustainability



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Legacy Sites, Addressing the Past and Ensuring the Future

ABSTRACT

The rapid development of commercial and military uses of radioactive material from the early 1900's, peaking in the period from 1950's to 1980's has led to the development of many radiological and nuclear facilities worldwide. In many countries, these facilities were built and operated before the regulatory infrastructure was in place to ensure that they were effectively decommissioned and their operating sites returned to beneficial use at the end of their operational life. The legacy from this under-regulated build up is that many countries now have partially remediated or abandoned contaminated facilities or areas where spills or accidents have occurred leaving behind long-lived radioactive and toxic residues that pose substantial environmental and health concerns.

The main target of this review study paper, is to manage legacy sites in different places around the world, and to avoid the creation of new ones, strong and independent regulatory supervision is seen as a critical factor. This requires clear recognition of the separate responsibilities of operators and regulators.

Biodegradation is the use of a biological process such as microorganisms to accelerate the elimination of environmental pollution (such as an oil spill). Biodegradation is an environmentally friendly method when it comes to oil spills as it breaks down into harmless substances like carbon dioxide and water. Social, cultural and economic factors also influence management decisions and, increasingly, the engagement of stakeholders is seen as an integral part of the overall process of legacy site management.

We have to realize that the environment is our responsibility, and we have to work hard in keeping it clean and protecting it from any hazardous materials. It is for these reasons, mentioned that conducting research in the field of biotechnology is very important to discover new ways to clean the environment.

Since legacy circumstances are difficult to anticipate, it is not possible to provide regulations in advance that will be effective in all future cases. Some caution is needed to avoid prescription that could mitigate against the optimized solution in particular circumstances. However, it should be possible to set up in advance procedures and plans, including the role of regulators and all other stakeholders, to address legacies as they are recognized or arise. A similar lesson has been recognized with respect to planning for waste management after major accidents (NEA, 2016). This process should include how legacies can be recognized in a legal context, so that responsibilities can then be exercised within a proper regulatory framework.

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