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Abstract Submission Form

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1st	Modelling (Performance assessment and safety cases)
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THE ROLE OF PERFORMANCE ASSESSMENT THROUGH THE MULTIPLE PHASES OF A NUCLEAR WASTE MANAGEMENT PROGRAM

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Regulations in many countries for the management of nuclear wastes require a performance (safety/risk) assessment to demonstrate the safety provided by the sites/facilities proposed for handling, storing and disposing of the wastes. However, performance assessment can play a bigger role than demonstration of compliance with applicable safety standards in support of a regulatory decision (i.e., licensing of a waste management facility). Performance assessment can be an effective management tool during the phases of a waste management program, from development of national nuclear waste management policies to site selection, characterization and licensing.

International experience has demonstrated that nuclear waste management programs are long, lasting two to three decades from initial policy development to licensing and commencement of operation of waste management facilities. These experiences have also demonstrated that consistent attention and integration of component studies are necessary to provide the comprehensive total system analyses for programmatic environmental impact assessments and for licensing.

For nearly 40 years, Sandia National Laboratories has developed and applied a performance assessment methodology in numerous US and international nuclear waste management programs. These applications range from development and testing implementation of health standards to preliminary evaluation of waste disposal sites to the basis for demonstration of compliance to informing licensing decisions. In many of these applications performance assessment methodology has served as a management tool for research and development investments.

This paper presents examples to illustrate how performance assessment can be used as an effective management tool through multiple phases of a nuclear waste management program.

Performance assessment, safety, risk, licensing

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