**Integration Group for the Safety Case (IGSC) Symposium 2024***MOVING TOWARDS THE CONSTRUCTION OF A SAFE DGR – GETTING REAL*

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| **Abstract Title:**  **Developing a Safety Case for a Low-Level Radioactive Waste Disposal Facility** | |
| **Abstract (300-500 words):**  Canadian Nuclear Laboratories (CNL) proposes to develop a Near Surface Disposal Facility (NSDF) at the Chalk River Laboratories (CRL) site in Ontario, Canada, for the disposal of Atomic Energy of Canada Limited (AECL) radioactive Low-Level Waste (LLW). Safety arguments presented in several technical supporting documents were integrated into the Safety Case, demonstrating the operational and long-term safety of the proposed Near Surface Disposal Facility in a format that facilitates stakeholder communications.  Canadian Nuclear Safety Commission (CNSC) regulatory requirements and International Atomic Energy Agency (IAEA) guidance for radioactive waste disposal were used to prepare the disposal facility Safety Case. The NSDF Safety Case was developed during the same period when the CNSC was updating their regulatory documents related to developing a long-term safety case for radioactive waste disposal. This regulatory update presented a unique challenge for CNL; to ensure that the Safety Case was comprehensive enough to meet the requirements of regulatory documents that were in a state of revision. The NSDF Safety Case is the first document of its kind prepared to meet CNSC REGDOC-2.11.1, Volume III: Safety Case for the Disposal of Radioactive Waste.  The NSDF Safety Case is structured to align with IAEA guidance, including sections discussing the introduction, safety strategy, system description, safety assessment, iteration and design optimization, management of uncertainties, limits, controls and conditions, integration of safety arguments, and the management system.  Feedback from Independent Third-Party reviews was incorporated into the NSDF Safety Case. Valuable feedback from the public and Indigenous communities was used to develop targeted  safety arguments addressing their key concerns.  The NSDF Safety Case summarizes and integrates the results of the pre-closure and the post-closure safety assessments. The NSDF Safety Case was developed to support the Licence to Construct submission, and in January 2024, CNL received authorization for the construction of the NSDF. | |