**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: Application of the graded approach to the long-term management of low level long lived waste : Preliminary outcomes of a seminar of the IGSC “graded approach” group** | |
| **Abstract (300-500 words):**  The radioactive waste repository programmes have acquired considerable experience in developing and updating safety cases for the disposal of low-level short-lived waste (LLW-SL) in near surface disposal (NSD) and for deep geological disposal (DGR) of intermediate and high-level long-lived waste. While many of these disposals are either operational or close to implementation, some countries are still facing the disposal of specific waste types, such as low-level long-lived waste (LLW-LL), characterized by low specific activities, the presence of long-lived radionuclides and the production in large volumes. LLW-LL includes graphite waste, radium or uranium bearing waste, depleted uranium or waste generated from non-nuclear activities. The long-term management of this category of waste leads national programs to optimise/revise the safety concept of their existing disposal facilities or to investigate specific disposal concepts, such as shallow or intermediate depth disposal.  Although these programs are making progress technically, international guidance regarding the development of supporting safety cases for LLW-LL remains limited. Challenges lie at different levels: from the high-level, strategic requirements to the design specifications, including societal, institutional and sustainability considerations. To address these issues, the concept of the "graded approach," outlined in IAEA standards and documents (e.g. IAEA Safety Glossary, GSR-part 1, TECDOC-1740) emerges as instrumental. This approach tailors safety measures to the risk posed by the waste, ensuring proportionate control and implementation measures.  Acknowledging the need for international collaboration and guidance on the long-term management of LLW-LL, an initiative was launched by the Integration Group for the Safety Case (IGSC).  The goal of the activity is to:  • document how IAEA graded approach guidance can be applied to LLW-LL disposal;  • document how the safety case methodology and which of its elements can be applied to LLW-LL disposal concepts, among which shallow/intermediate depth disposal.  An ad-hoc expert group has been created gathering representatives from waste organizations and a first seminar has been held (with representatives of France, Belgium, UK, Czech Republic, Canada, Sweden and Hungary) with the objective to share the national background the challenging issues and plans of future actions.  This presentation will reflect the preliminary outcomes from a seminar held by the ad-hoc group in Spring 2024 on this topic. | |