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

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| **Author:**  Lehikoinen, Jarmo; Guerfi, Reda; Kyllönen, Jarkko  Radiation and Nuclear Safety Authority, Jokiniemenkuja 1, FI-01370 Vantaa, Finland  [**jarmo.lehikoinen@stuk.fi**](mailto:jarmo.lehikoinen@stuk.fi) | |
| **Abstract Title:**  An “out-of-the-box” look into scenarios  Radiation and Nuclear Safety Authority, Finland, e-mail: jarmo.lehikoinen@stuk.fi | |
| **Abstract (300-500 words):**  In this piece, we take a closer look at a critical part of demonstrating the post-closure safety of the disposal of nuclear waste, scenario analysis. Scenarios not only represent plausible future visions of a disposal system but also inform quantitative safety analyses and test the robustness of the argument for the post-closure safety. Traditionally, safety assessments have relied heavily on model calculations at the expense of a broader envisioning of possible future developments of a disposal system.  We explain why the notion of information asymmetry, i.e., the ‘technology-and-industry-know-best’ orientation, is not applicable to a situation where “informed enough” stakeholders (incl. a regulator) wish to challenge an operator’s safety case with their own scenarios. This stems from the relational nature, i.e., subjectivity, of the futures knowledge negotiated in scenarios, which provides a unique opportunity for such “informed” stakeholders to participate in a public discourse in a meaningful way – an aspect that has so far largely remained unaddressed in the present context. Due to the relationality of the futures knowledge created, scenarios constructed by “informed” stakeholders can provide an inquiry into the future that complements the one by an operator rather than being at odds with it in any way whatsoever.  Finally, we touch briefly upon some methodological advances made by the futures studies community that have found their way into safety cases to but a very limited extent and from which the nuclear waste management community at large could greatly benefit in terms of the systematicity and comprehensiveness of these methods to help produce a robust safety case for decision making. However, even with these methods, the challenge remains how to deal with the temporal resolution and quantification of scenarios for very long assessment time frames, which calls for a closer collaboration of the nuclear waste management community with the futures studies community. | |