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

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| **Abstract Number: 1** | **Session 8.4** |
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| **Abstract Title:**  **IGSC MeSA-2 initiative: Repository implementation and safety assessment – towards a holistic approach** | |
| **Abstract (300-500 words):**  Post-closure safety assessment, standing at the core of each safety case, is an important means for demonstrating repository safety and for informing safety-related programme decisions. While the details of assessment methods vary dependent on regulations, programme context, and the safety concept under consideration, the general methodology for demonstrating safety is established and well understood as evidenced, inter alia, in IGSC’s report on “Methods for Safety Assessment of Geological Disposal Facilities for Radioactive Waste. Outcomes of the NEA MeSA Initiative” (2012).  As national programmes advance, they focus increasingly on technical implementation, governed and informed by requirements. The linkage between requirements and safety assessment, or in other words, the linkage between *achieving* safety and *demonstrating* safety, thus becomes increasingly important: Each statement or claim made in a safety assessment has to be substantiated by assurance that a particular site or the waste to be disposed of has the features supporting that claim, and / or that the engineered components are designed and will be produced in a quality-assured manner so that the claim will be fulfilled. Or vice versa: From the safety assessment arise criteria that the waste and the site must fulfil and technical and design requirements to comply with. Requirements management systems are important tools for achieving a consistent and comprehensive handling of requirements within a national repository programme.  To address this interplay in a holistic and systematic manner, the IGSC established the ‘MeSA-2’ initiative aimed at embedding the existing MeSA framework into the wider context of actual requirements for implementation. Such requirements arise not only from post-closure safety, but also from other aspects such as technical feasibility, operational safety or security. The MeSA-2 work is based on the development of flowcharts describing (i) the role of safety assessment in the wider context of the safety case and repository development and explaining the role of requirements in this context, (ii) the assessment methodology itself, and (iii) the evolution of the safety case over time. An explanation of general terms and processes as well as examples from national programmes will support the flowcharts.  The initiative will result in a report supplementing and in part updating the MeSA report (2012) with respect to the interplay described above, accounting for national experience gathered from actual implementation. Special consideration will be given to the relationship with IGSC’s GeneSiS project addressing the evolution from generic to site specific Safety Cases as well as with the ongoing EURAD work on requirements management.  The list of initiative members and, thus, co-authors is too long to be reproduced here, but their work and contributions is herewith highly appreciated and acknowledged.  === end of abstract ===  Ideally, the presentation of the MeSA-2 initiative should be given orally, with two supporting poster presentations on the flowchart work by J. Kindlein et al. (on items (i) and (ii) from above) and by L.  Bailey, L. Gray, T. Kämpfer and S. Voinis (item (iii)).  Since the themes covered in the initiative are rather broad-ranging, the authors believe that the presentation might fit into topics 5, 1 or 6. | |