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

|  |  |
| --- | --- |
| **Abstract Number: 58** | **Session 3.2** |
| **Author:**  **Barbara Pastina\*, Lasse Koskinen, Ville Heino, Anne Kontula, Antti Poteri, Juho Kuusisto, Pekka Kupiainen, Susanna Aro, Lauri Parviainen and Tiina Jalonen (Posiva Oy)**  \*Contact email: barbara.pastina@posiva.fi | |
| **Abstract Title:**  The safety case at the time of implementation and optimisation of a DGR: experience from Finland | |
| **Abstract (300-500 words):**  On 30.12.2021 Posiva Oy submitted to the Finnish Government the application for a licence to operate a geological repository for spent nuclear fuel at the Olkiluoto site, on the South-West coast of Finland. A Safety Case for the Operating Licence Application (SC-OLA) was produced between 2014 and 2021 in support of such an application. For such a safety case, a requirements, design and input data freeze was applied to manage with the modelling production and documentation timeline. In 2023, a complementary memorandum was submitted to assess whether the design changes that happened after the data freeze done have an impact on the safety case results. Compared with the previous safety case and past safety assessments, implementation-related aspects and the need for sustainability have introduced the need for changes in design. Requirements definition, implementation and management has been another area where several lessons have been learned. Posiva developed a change management process which includes a process for the management of long-term safety. Lessons learned from several areas, such as design, production/installation, quality assurance as well as from the safety case itself (e.g. formulation and analysis of scenarios) is being implemented. The dialogue with the regulatory agency and other stakeholders has also produced positive improvement in the development of the safety arguments and the presentation of the safety case. A risk-based development programme is being developed to address the uncertainties that are amenable to reduction and to implement spent nuclear fuel disposal without compromising safety. | |