**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:**  **Development of new Swedish regulations for nuclear safety and radiation protection in connection with geological disposal of spent nuclear fuel and other radioactive wastes** | |
| **Abstract (300-500 words):**  The Swedish Radiation Safety Authority (SSM) initiated an overhaul of existing regulatory requirements in 2013. The updated regulations include common principles for all nuclear facilitates (level 1), those for specific types of facilities (level 2), and those covering specific aspects of a facility (level 3). General level 1 regulations and level 2 regulation for NPPs have been finalized. This paper covers development of level 2 regulation for geological repositories for spent nuclear fuel and other radioactive wastes. A preliminary version of those regulations has been completed in 2023 and has been commented by the Swedish Nuclear Fuel and Waste Management organisation (SKB). They have also contributed to the mandatory consequence analysis. A final and more general consultation round involving all Swedish stakeholders is planned for 2024.  The new proposed regulations consist of three parts: 1) construction, 2) operation, and 3) assessment. Proposed repository post-closure requirements included in parts 1 and 3, are to a large extent based on regulations developed by SSM´s predecessors SKI and SSI (SSMFS 2008:21, SSMFS 2008:37). A fundamental change is that a large part of what was general guidance has been reformulated as requirements. SKB´s comments in general focused on clarifications and minor improvements. However, more critical comments covered SSM´s updated requirements for protection of the environment, scenario probability, use of the 10-5 criterion for protection of human health, and a requirement covering retrievability of disposed radioactive wastes.  The proposed regulations covering other aspects and operational safety are very similar to the corresponding ones for other non-NPP facilities, and indeed also similar but simplified from those in force for NPPs (SSMFS 2021:4-6). A general comment not only from SKB but also for other license holders is that the present version is too close to the NPP ones and does not sufficiently take into account the much lower potential for releases of radioactive substances during accidents. Arguments for an approach based on diversified regulations for different categories of facilities are put forward, for instance related to the adopted levels of defence-in-depth and event classification. It is also suggested that a stricter application radiological acceptance criteria has not been justified and substantiated. Finally, SKB dispute SSM´s legal mandate to issue regulations for construction, which was an issue addressed also in connection with the finalisation of construction regulations for NPPs. SSM is currently addressing those comments in the preparation of the general consultation version. | |