**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:**  **The role of the safety case in the implementation of the Hungarian National Programme** | |
| **Abstract (300-500 words):**  Public Limited Company for Radioactive Waste Management (PURAM) operates two repositories in Hungary: the Radioactive Waste Treatment and Disposal Facility (RWTDF) and the National Radioactive Waste Repository (NRWR). PURAM also responsible for selecting the site for a geological disposal facility for high-level and/or long-lived waste. The new category of very low level waste (VLLW) has been introduced in the Hungarian legislation, so PURAM will be responsible for selecting a proper site for that waste stream as well.  The **RWTDF** was commissioned in 1976. It is situated at **Püspökszilágy**, 40 km north-east of Budapest. The repository is a typical near-surface facility, composed of concrete trenches (vaults) and shallow wells for spent sealed sources. The facility currently receives only radioactive waste of institutional origin, and provides final disposal for the solid, short lived low and intermediate level waste, satisfying the waste acceptance criteria for final disposal. The facility also provides interim storage of long-lived wastes, sealed radiation sources and nuclear material. After the establishment of PURAM in 1998 the company took over the licensee reliability over RWTDF and under its coordination a series of safety cases were carried out. These safety cases confirmed that, the safety of RWTDF is guaranteed until the end of the active institutional control period. In the passive institutional phase when the information on the existence of the closed repository can lost, some inadvertent human intrusion type of scenarios can result dose consequences in that range, where intervention is justified. Based on the findings of the safety cases PURAM initiated a **safety enhancement programme**, including the retrieval of some waste types.  The **NRWR** as the final disposal facility for low and intermediate level wastes generated by the nuclear power plant, is located about 60 km south from Paks NPP, in the administration territory of **Bátaapáti** municipality. The first safety cases justified the operational and post-closure safety of the facility, and assisted to **derive the relevant requirements** for the disposal system and waste acceptance criteria. In parallel with the operation of the facility, **optimization** of the disposal system was initiated. The safety case was used to demonstrate that the safety functions are fulfilled with the new disposal concept as well, and the safety level of the facility remained the same.  Concerning the planned **VLLW repository**, a generic safety assessment and hydrogeological modelling with conservative assumptions was used as an important tool to **define the** **necessary properties of a potential site**, which could host such a repository.  Based on the Hungarian legislation, licensing of the site selection of a deep geological disposal facility can be carried out in two steps. First, a site investigation framework programme has to be compiled, which cover all the phases of the surface-based investigations. For each individual phase a site investigation programme has to be licensed. At the end of each phase. results of the investigations have to be synthetized in a final investigation report and a preliminary safety case. The main role of this preliminary safety case is not to compare the results with the safety targets (dose or risk constraint), but more the **integration of the results of different disciplines** and to support the **prioritization of R&D needs** for the next investigation phase. | |