Monitoring and Retrieval of High-Level Radioactive Waste

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The retrievability of high-level radioactive waste (HAW) is defined as the option to retrieve previously emplaced waste from a repository. This is a design requirement in many countries, as for example in Germany, justified by the need to react on possible failures in the repository system.

Retrievability affects the footprint of the repository (Léon-Vargas et al., 2017) and requires a monitoring program (Stahlmann et al., 2018), as the decision on retrieval should be justified on sound basis. For a holistic analysis of the design consequences of retrievability of high-level radioactive waste it is necessary to get information about the retrieval process itself. In TRANSENS, a transdisciplinary research platform for HAW disposal research, the retrieval process will be analyzed in general.

The presentation will focus on a generic repository approach based upon Stahlmann et al. (2018) modified for the analysis of the retrieval process. Main impacts of the retrieval works on the host rock were identified, as the effects of the redriven emplacement drifts on the repository system. The presentation will focus on these processes and give a short outlook on their consequences for a monitoring program.
