

What we need to know and what is important for end-users Introduction to radioactive waste management

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The development of a disposal facility for radioactive waste is a step-by-step process in which the broad concept and more detailed design are developed iteratively, in defined stages, over a number of years. Possible concepts and designs are evaluated, refined and, if necessary, revised in the light of increasing knowledge, including the findings of safety and feasibility assessments. At a given stage of the development a safety and feasibility case is produced in order to obtain a certain decision in the repository development. A safety and feasibility case is an integration of scientific and technological arguments and evidence that describe, substantiate and, if possible, quantify the safety and feasibility of, and the level of confidence in, the proposed long-term management solution

In order to obtain such a soundly underpinned safety case, an interaction between different groups of scientists, including phenomenology and performance assessment, is needed. The aim of this talk is to illustrate, first at a general level, the different aspect of a safety case and safety assessment and the necessary mutual interaction between “pure science” and performance assessment. In a second step, the aforementioned aspects will be applied with some more detail on the thermo-hydro-mechanical aspects in clays, which is the major topic of the TIMODAZ project. Eventually, the recommendations of the TIMODAZ end-user group will be used as a final illustration of the expected output of a THM project like TIMODAZ.