

SNETP Forum

High-level waste deep repository optimisation including closure – A strategic study within **EURAD-2**

Philipp Herold¹, Anne-Catherine Dieudonné², Valéry Detilleux³, Jiri Svoboda⁴ ¹Bundesgesellschaft für Endlagerung mbH (BGE), Eschenstraße 55, 31224 Peine, Germany; ²Delft University of Technology, Stevinweg 1, 2628 CN Delft, The Netherlands; ³Bel V, rue Walcourt 148, 1070 Anderlecht, Belgium; ⁴Czech Technical University, Jugoslávských partyzánů 1518/3, 160 00 Prague, Czech Republic

EURAD-2 Work package OPTI

Optimisation is an inherent ambition of every radioactive waste disposal programme. It is justified by the long-term nature of repository projects and the changing boundary conditions related to technical, economic, long-term safety aspects. The optimisation process should involve all stakeholders of a radioactive waste management programme.

The Strategic Study OPTI, as part of the EURAD-2 programme, aims to develop a mutual understanding of optimisation among the various stakeholders and provide recommendations on methodologies and further activities.

Project team

The project team of OPTI includes 23 organisations from 11 European countries. A broad range of stakeholders is included in the work package: nine waste management organisations, six technical support organisations, nine research entities as well as one civil society organisation (Nuclear Transparency Watch, liaising with additional CSOs) are included. Advanced programmes such as of Finland, Sweden or France are part of the work package, as well as early stage programmes.





For more information

Drivers for optimization

Optimisation is driven by various aspects. Safety is, of cause, the primary focus to achieve the overall objective of disposal for high-level radioactive waste. Safety can be divided into long-term safety, including radiological protection, but also operational safety. Other drivers relate to economic factors. Repository programmes have to be cost-effective and affordable, not only because public money is involved, but also for sustainability reasons. Other socio-technical and environmental aspects are also important.

Over the very long lifetime of a repository programme, the priorities of the drivers are likely to change. In addition, it has to be considered that different stakeholders set different priorities.

Optimisation is relevant for all steps of the repository programme, including site selection, design, construction, operation, closure, and post-closure monitoring.

All systems, structures and components of a disposal facility could be optimised. All optimisation processes are limited to a pre-defined frame or prevailing circumstances such as the regulatory framework, geological and environmental conditions, as well as scientific, technical, economic and societal limits.



JCLEAR