EF8 technical break out session

Technical topic
‘Technical Issues in Support of Retrievability’
Implementing Geological Disposal of Radioactive Waste
Technology Platform

Introduction

Technical presentations

– Knowledge and experience on Retrievability of SF/HLW waste packages - Phillip Herold, BGE TEC (Germany)
– UK’s approach to Retrievability - Neil Carr, RWM (United Kingdom)
– Demonstrator of HLW disposal canister retrieval - Jean-Michel Hoorelbeke, Andra (France)
– Canister retrieval – status of work at SKB - Anni Fritzel, SKB (Sweden)

Technical discussions: state of art and remaining needs

– Removal techniques of buffer, plugs, seals and backfill (bentonite clay based, cementitious based, other...)
– Retrieval techniques of waste packages within disposal cell
– Knowledge of the phenomenological state of disposal cells (monitoring, modelling, KM)
– Management of contamination and/or activation products if any
– Lessons that could be learned on technical aspects from dismantling nuclear facilities

Wrap up
NEA Reversibility and Retrievability Concepts

Figure 2: Potential outcomes of options assessment, including reversal

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NEA Reversibility and Retrievability Concepts
### Reversibility in Cigéo Project

- Incremental development and progressivity of construction
- Flexibility of operation
- Adaptability with regard to potential changes in spent fuel and waste management policy and strategy
- Retrievability
- Continuous improvement of knowledge
- Transparency, participation of Society in decision making
Retrievability of waste packages can be provided to support operational safety, more particularly in accidental situations. Regardless of operational safety needs, it may also be a regulatory requirement in a number of national programs, potentially incorporating consideration of some aging.
The session addresses scientific and technical knowledge and potential issues associated to the implementation of retrievability as well as relating RD&D axes. This includes the ability to model and monitor the evolution of waste packages and disposal rooms over time during operating period, the technical provisions that can be included in the design to enhance retrievability, the retrieval techniques. Phenomenological processes that may need to be taken into account include temperature increase, desaturation / saturation, gas accumulation, mechanical stress-strain, corrosion, radiolysis...
Implementing Geological Disposal of Radioactive Waste Technology Platform

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