

Expert Group for Nuclear Waste Disposal EGT

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Modus operandi and recent activities

Simon Loew
Chairman

ABG Meeting
Brugg, 14th May 2012



From KNE to EGT

- The Swiss Federal Council **changed the ordinance:**
 - Reduce of national commissions
 - Harmonize their financial compensations
- **EGT replaces KNE and officially took over KNE's role in the Sectoral Plan:**
 - Support and advise the Nuclear Safety Inspectorate (ENSI)
 - Evaluate applications for geological site investigations, proposed selection of siting regions, long term safety and engineering feasibility of repository construction
 - Participate in the Technical Forum on Safety and Regional Conferences
- **EGT has been strengthened compared to KNE:**
 - International experts
 - Full financial compensation



Constitution and modus operandi



Geoffrey Milnes



Rolf Kipfer

- International scientific-technical expert group (Switzerland, Germany, Austria)
- 8 members from research institutions, independent from the implementer
- Financial agreements between individual members and ENSI
- 4 closed meetings per year
- Working program established with ENSI
- Public statements and hearings



Simon Löw



Fritz Schlunegger



Friedemann Wenzel



Annette Johnson



Rainer Helmig



Wulf Schubert

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Recent activities

- Opinion on additional investigations proposed by the implementer (Nagra)
- Continuous participation in the Technical Forum on Safety
- Reorganisation: KNE to EGT
- EGT kick-off meeting (March 2012)
- Homepage: www.egt-schweiz.ch



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Key topics 2012 (2013)

Regional geological and surface processes

- Future climate and erosion scenarios (including ice ages)
- Future geodynamic and neotectonic evolution
- Long term earthquake characteristics and near field impacts
- Radionuclide migration and dilution in the biosphere
- 2D seismic characterizat on at proposed sites
- Tectonic framework, fault reactivation and fracturing in Tabular Jura (preferred repository siting region)

Processes in near field and host rock (clay shales)

- Gas transport processes and induced deformation
- Radionuclide transport mechanisms in clay shales
- Preferential flow paths and self-sealing of faults

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Key topics 2012 (2013)

Technical barriers

- Corrosion mechanisms of steel canisters
- Gas production rates of SMA and HAA repositories
- Layout and performance of seals

Engineering suitability

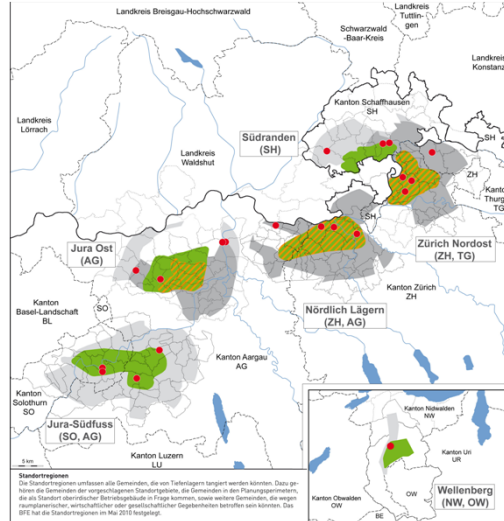
- Mechanical constitutive equations of Opalinus Clay
- Stress distribution and heterogeneity at repository sites
- Conceptualization and feasibility of repository layout and access (by shafts and ramps)

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Current Status of Sectoral Plan and Key Issues

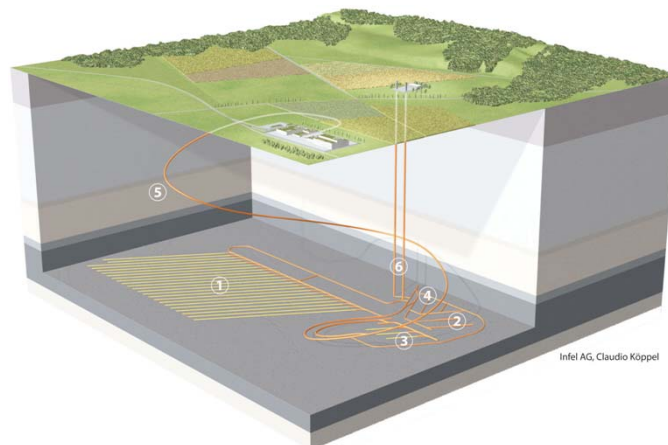


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Ongoing public discussion about locations for surface infrastructure and access ramps/tunnels

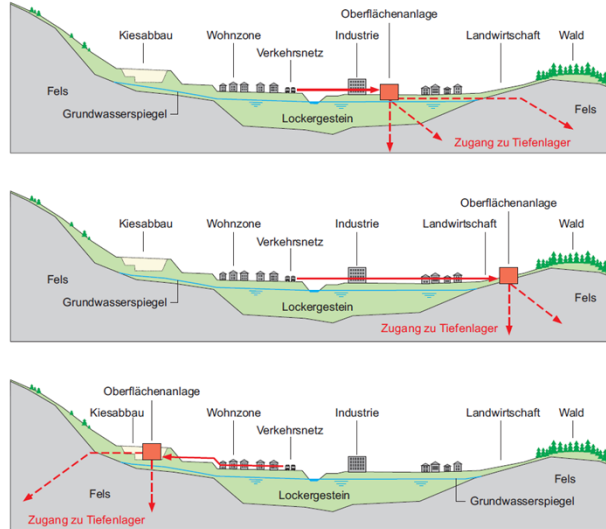


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Possible Situations of Surface Facilities



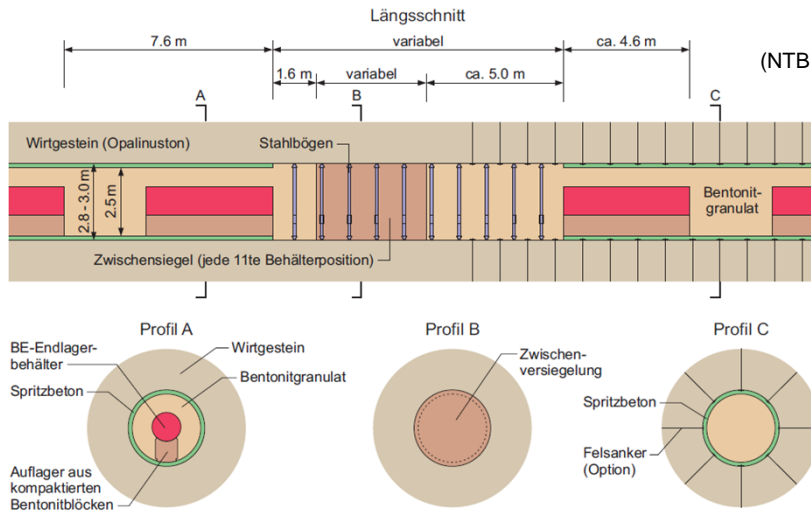
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Repository Concept for High-Level Waste



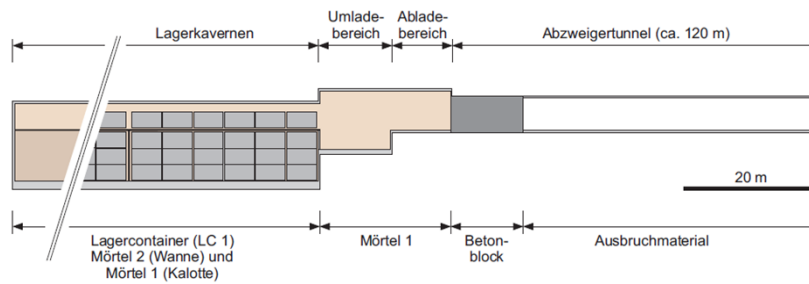
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Repository Concept for Low- and Intermediate Level Waste



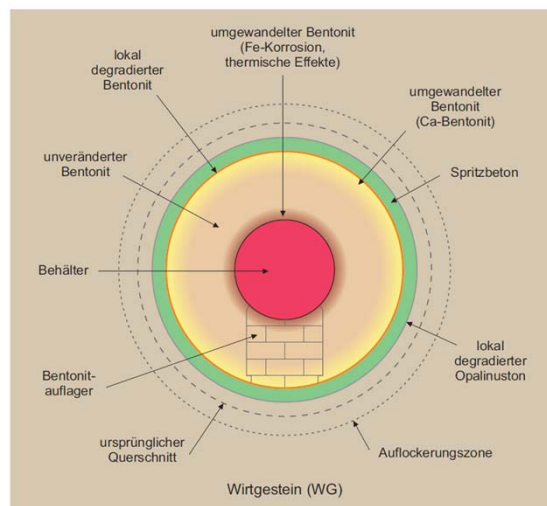
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Sketch of Bentonite Degradation Domains





(NTB 10-01)

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Planned Cavern Sizes for the High-Level Waste Repository

BE/HAA-Lagerstollen	LMA-Lagertunnel
	
LRF: 4.9 m ² LH: 2.5 m LB: 2.5 m	LRF: 77 m ² LH: 11.9 m LB: 7.6 m
1 ELB / ca. 7.4 m	7 LC2 / 2.8 m

(NTB 08-05)