Regulatory Perspective about Monitoring dedicated to DGR in Switzerland

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Current Status of DGR Project in Switzerland

Project timeline with major decision points and monitoring aspects
Swiss Repository Concept

Pilot facility and test areas play a major role for the post-closure safety case
Monitoring in Pilot facility and test areas

Pilot facility
Monitoring provides information
• on safety-relevant conditions and processes
• for early recognition of unexpected developments
• to support the confirmation of the safety case

Test areas
• To test safety-relevant properties of host rock and technical barrier,
• to demonstrate safety relevant technologies,
• to proof feasibility, and
• to support safety case.
Regulatory Activities Related to Monitoring

Mont Terri URL

- continuous observation of monitoring techniques and their long-term performance
- Own experiments, e.g. technology for long-term monitoring (fiber optical sensors and cables)

Regulatory research project «Monitoring concepts and installations 2» (2018-2020)

Regulatory requirements …

- on monitoring concept/program
- on baseline-monitoring program
- for monitoring and interface between different aspects of monitoring
Requirements for Monitoring Aspects

• An integral monitoring concept / program for all phases and aspects of a DGR

• Monitoring program shall include at least
  • monitoring of the geological environments (e.g. test areas)
  • radiological environmental monitoring
  • radiological monitoring during operation
  • monitoring of the pilot facility and
  • geotechnical monitoring during construction and operation of the repository

• Start of baseline-monitoring as soon as necessary

• Monitoring may not compromise the passive safety barriers

Guideline ENSI-G03 (draft) / specifications for general license ENSI 33/649
Use of monitoring data to support decision making process

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Monitoring as a tool for dialogue with the public around nuclear facilities.

- No regulatory monitoring at the current stage of the project (primary task of implementer)

- «Independent monitoring» (experience from NPP)
  - Different organisations (e.g. ENSI, National Emergency Operations Centre, Federal Office of Public Health, Cantonal Laboratories, etc.)
  - Dose-rate monitoring network, air, water, soil, food, etc. (more Info: [http://radenviro.ch/](http://radenviro.ch/))
  - Information for public (e.g. Annual reports, measurements online)

- Similar approach for DGR-facilities
Summary / Next Steps

• Update of regulatory requirements and guidelines in process (Stage 3 of sectoral plan and ENSI-G03)

• Defining regulatory expectations regarding monitoring concept/programme
  • Outreach to other projects (regulators/implementers)
  • Industries
  • Etc.

• Regulatory review of waste management program (~2021) – focus on baseline monitoring

• Implementer will submit the first integral monitoring concept in ~2025 with general license application
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