The French geological disposal project

CIGEO

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A research law

- Passed in 1991
  - For a 15 years research period
  - Study of alternative options

- Technical and scientific approach
  - Partitioning and transmutation
  - Geological disposal, reversible or non-reversible
  - Long-term storage

- Governance
  - Responsibilities
  - Control bodies
  - Support to the territories
Major management options for HLW in France

- Safety of the population and protection of the environment is the first priority

- Reprocessing of used fuel and reuse of valuable material

- Reversible geological disposal (Cigéo Project) is the reference solution for the high-level waste
A variety of radioactive waste forms to be disposed of in the geological repository

- **French Nuclear fleet**
  - 59 units

- **Processing of UF**
  - HLW: 10,000 m³
  - IL-LLW: 70,000 m³

- **Technology waste, research activities and legacy waste**
  - A variety of waste types
Siting: a converging approach

1- Siting started in 1992 with a National call for volunteering; URL licensed 1998

2- Transposition zone of URL results (proposed 2005)

3- Area defined for location of repository U/G facilities after local consultation (2009) and detailed geological survey from the surface

Additional above-ground geological survey 2007-2008

4- Location of repository surface facilities to be presented during the Public Debate

Detailed survey in 2010

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CIGÉO FACILITIES

2 surface facilities:
- Receiving, inspecting, and preparing packages
- Tunnelling and construction work

Underground facility in clay (500m depth)
Basic concept for high-level waste

Access gallery  Vitrified HLW package  HLW disposal cell
The Meuse and Haute-Marne districts volunteered in 1992 for a research laboratory.

Continuous and increasing support to the local development, based on the steps taken for the project.

Development plan to be discussed: it will contribute to make ready the rural territory to the needs for Cigéo.
Four major changes

- More progressivity in regard to the facility start-up with an industrial pilot phase
- A long term visibility based on a regularly revised master plan for disposal operations
- More involvement of the civil society in the project
- Clarification of the calendar
A proposal regarding reversibility

- Phased approach

Commitments

- Safety first
- Local development with local stakeholders, taking care of their quality of life and of the environment
- Control costs without reducing safety
A modification of the project timetable

Construction Licence Decree

Preliminary design studies

Detailed design studies

DAC assessment

Subject to approval of license

Safety options report

Retrievability technical options report

Draft operation master plan

Final License Application (DAC)

Start of repository construction works

Start of pilot industrial phase

Pilot industrial phase review

Update of operation master plan

Preparation of local amenities

Closure ~ 2140

Closure

Construction Licence Decree

2015 2017 2020 2025

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Schedule set by the 2006 French Act, operation determined by the inventory

2006 Planning Act

2015 License application

2025 Commissioning

2150 Closure and dismantling