



# An international perspective on geological disposal

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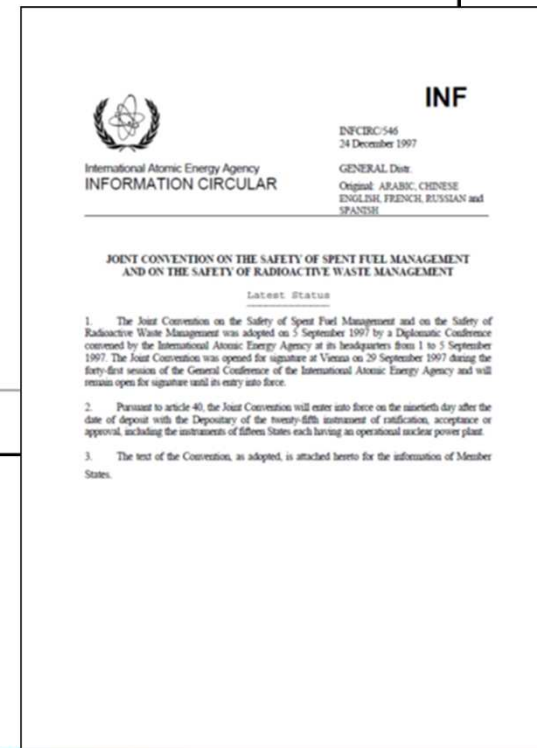
Section Head

Waste and Environmental Safety Section

International Atomic Energy Agency

# Disposal in international instruments

*“Whatever option is chosen, the disposal of high level waste, separated at reprocessing, or of spent fuel regarded as waste should be considered”*



# SAFETY FUNDAMENTALS

## General Safety Requirements

Vol.1 Governmental and  
Regulatory Framework

Vol.2 Leadership and Management  
for Safety

Vol.3 Radiation Protection and  
Safety of Radiation Sources

Vol.4 Safety Assessment

Vol.5 Predisposal Management  
of Radioactive Waste

Vol.6 Decommissioning and  
Termination of Activities

Vol.7 Emergency Preparedness  
and Response

## Specific Safety Requirements

1. Site Evaluation for  
Nuclear Installations

2. Safety of Nuclear Power Plants

2.1 Design and Construction  
2.2 Commissioning and Operation

3. Safety of Research Reactors

4. Safety of Nuclear Fuel  
Cycle Facilities

5. Safety of Radioactive Waste  
Disposal Facilities

6. Safe Transport of  
Radioactive Material

Collection of Safety Guides

# Safety Standards on disposal

## Safety Fundamentals

- “Radioactive waste must be managed...to avoid imposing an undue burden on future generations...apply safe, practicable and environmentally acceptable solutions for its long term management”

## Safety Requirements

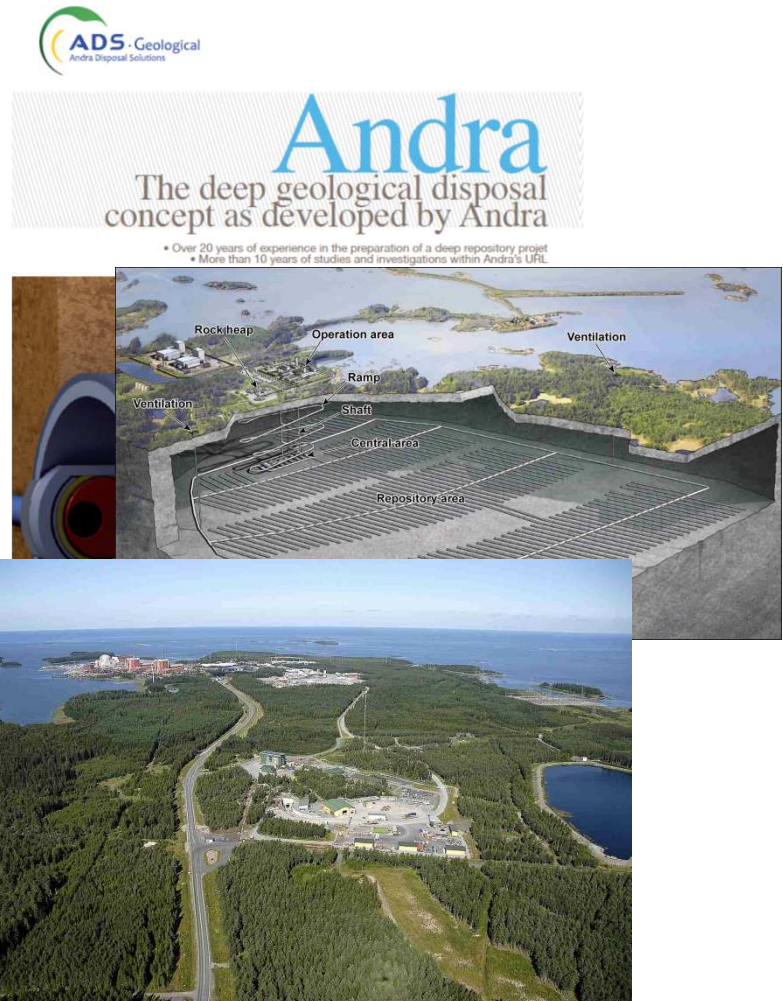
- “The preferred strategy... is to contain it...and to isolate it from the accessible biosphere”
- 26 requirements
  - Siting
  - Design
  - Operation
  - Post-closure

# Managing spent fuel

- Spent fuel is either waste or a resource
  - It is a national responsibility to decide
- Spent fuel management is a long term commitment
  - Wait and see is not acceptable
- No conflict between direct disposal and reprocessing
  - Time schedules are different
- There will always be a need for disposal
  - Consider all waste streams

# Licence applications - geological disposal

- Sweden – 2011
  - Direct disposal
- Finland – 2012
  - Direct disposal
- France – 2015
  - Reprocessing – high level waste



Illustrations: Andra, SKB, Posiva Oy

## Some success factors

- Political commitment
- Clear and stable division of responsibilities
- Early involvement of regulators
- Strong local stakeholders (volunteers, veto...)
- Stepwise siting process and decision making
- Robust funding system
- Avoid narrow framing
- International cooperation
- Patience!

Thank you!



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