

The Belgian experience on developing a near surface disposal facility in partnership with the local stakeholders

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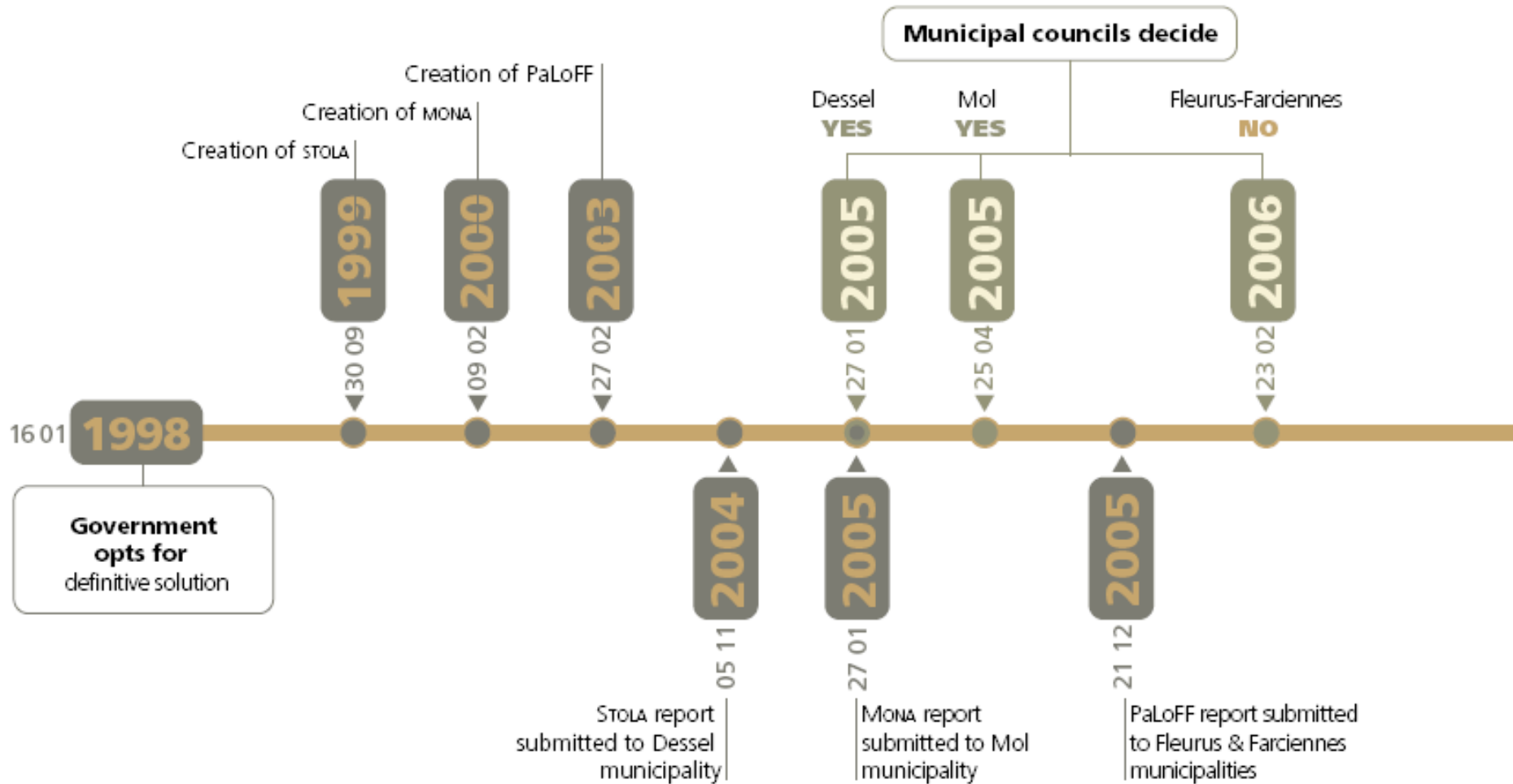
Overview

- Context – disposal programme and local partnerships
- The decision making process
- The process of information exchange, knowledge building and reporting
- The proposed site and design
- The role and point of view of the safety authorities

1. Context (1/4)

- Category A disposal programme (low- and intermediate level short-lived waste)
- Governmental strategic decision January 1998
 - LT storage abandoned
 - Missions for NIRAS/ONDRAF:
 - choice between surface and deep disposal to be prepared
 - methods & structures of dialogue with local stakeholders to be developed
 - siting activities to be limited to nuclear sites and candidate municipalities
- Pre-project phase 1998-2006
 - 3 partnerships created
 - Site characterisation and selection
 - Site specific designs for both surface and deep disposal developed + safety assessments (mainly LT)

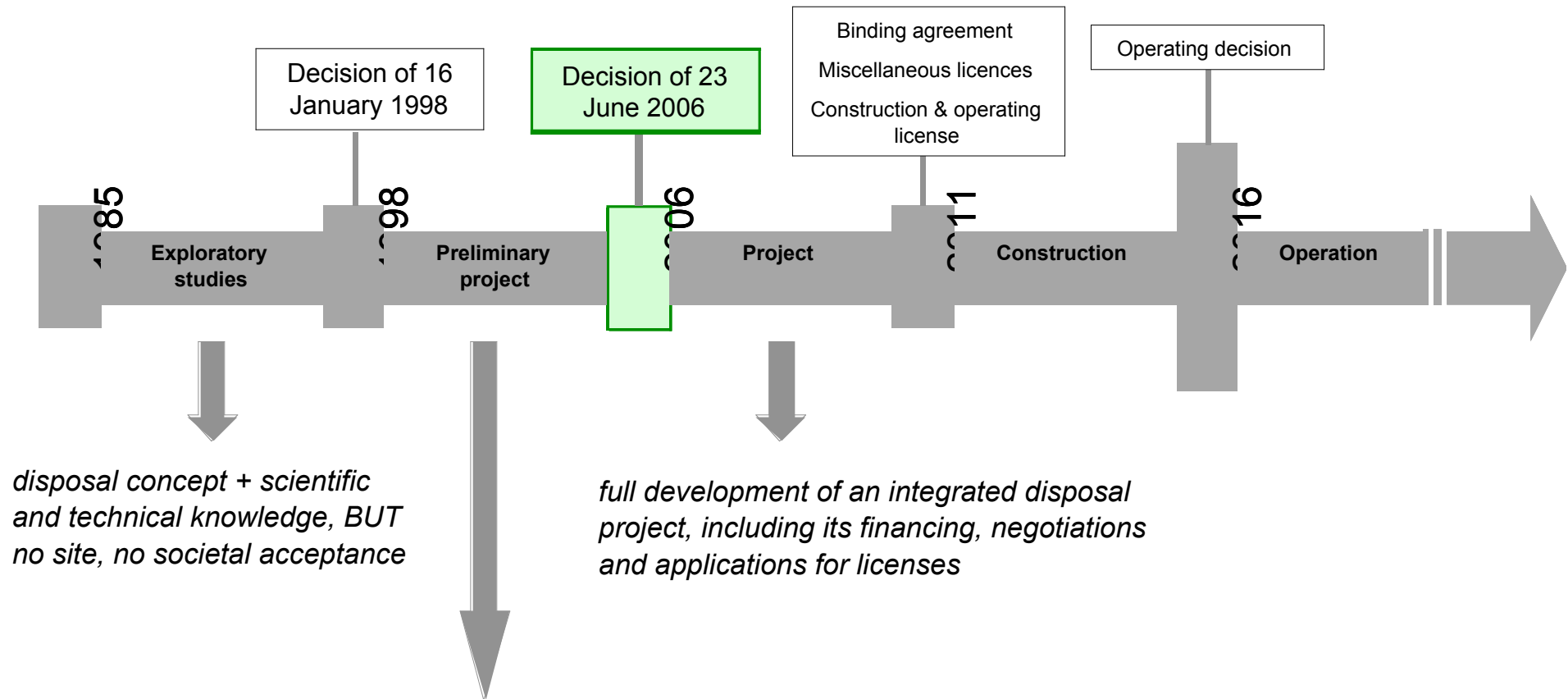
1. Context (2/4)



1. Context (3/4)

- Decision Federal government 23 June 2006
 - Near-surface disposal in Dessel to be developed → preparation of licence application
 - Continued dialogue with local stakeholders (Dessel and Mol)

1. Context (4/4)



4 integrated disposal projects (= 4 "site + preliminary disposal facility project + conditions" packages) enjoying good local support (2 STOLA -Dessel, 2 MONA)

2. The decision making process (1/2)

- Two levels
 - National decisions (Federal Government) 1998 and 2006
 - Local process of dialogue and decision 1998-2005
 - Project phase 2007 – ...
- Why was the local process in Dessel and Mol successful ?
 - **Focus on Dessel experience**

2. The decision making process (2/2)

- Well-defined objectives and scope (1998 national decision)
- Academic experts developed concept of partnerships and prepared its local creation and organisation
- Municipality council negotiated and approved creation of partnership
- Broad local representation and independent membership
- Local empowerment
 - Discussion of ALL siting and design elements (working groups)
 - Veto right
- Reach out efforts to local population
- Two level acceptance required : both at partnership (working groups, council, general assembly) and municipality council level
- Timing flexibility allowed (2 ⇔ 6 years !)

3. Information exchange, knowledge building and reporting (1/3)

- Main question for partnerships: under what conditions is a repository for category A waste in the municipality acceptable?
- 4 working groups
 - siting and design
 - safety
 - environmental protection & health
 - local integration of the project

3. Information exchange, knowledge building and reporting (2/3)

Three main phases

1) Information acquirement period

- Little or no familiarity with the issue of disposal
- Heterogeneous working groups (a lot of “nuclear” experience)
- Information sessions, technical visits, invitation of external speakers, participations in workshops...
- +/- 1 year

3. Information exchange, knowledge building and reporting (3/3)

2) Study and evaluation period

- Site and design group as a leading WG
 - Concrete issues → animated discussions
 - Process and factors of site selection
 - Process of assessing NIRAS/ONDRAFs reference design
 - main components of the repository
 - main phases of repository development
- Final proposal of site and of a modified design

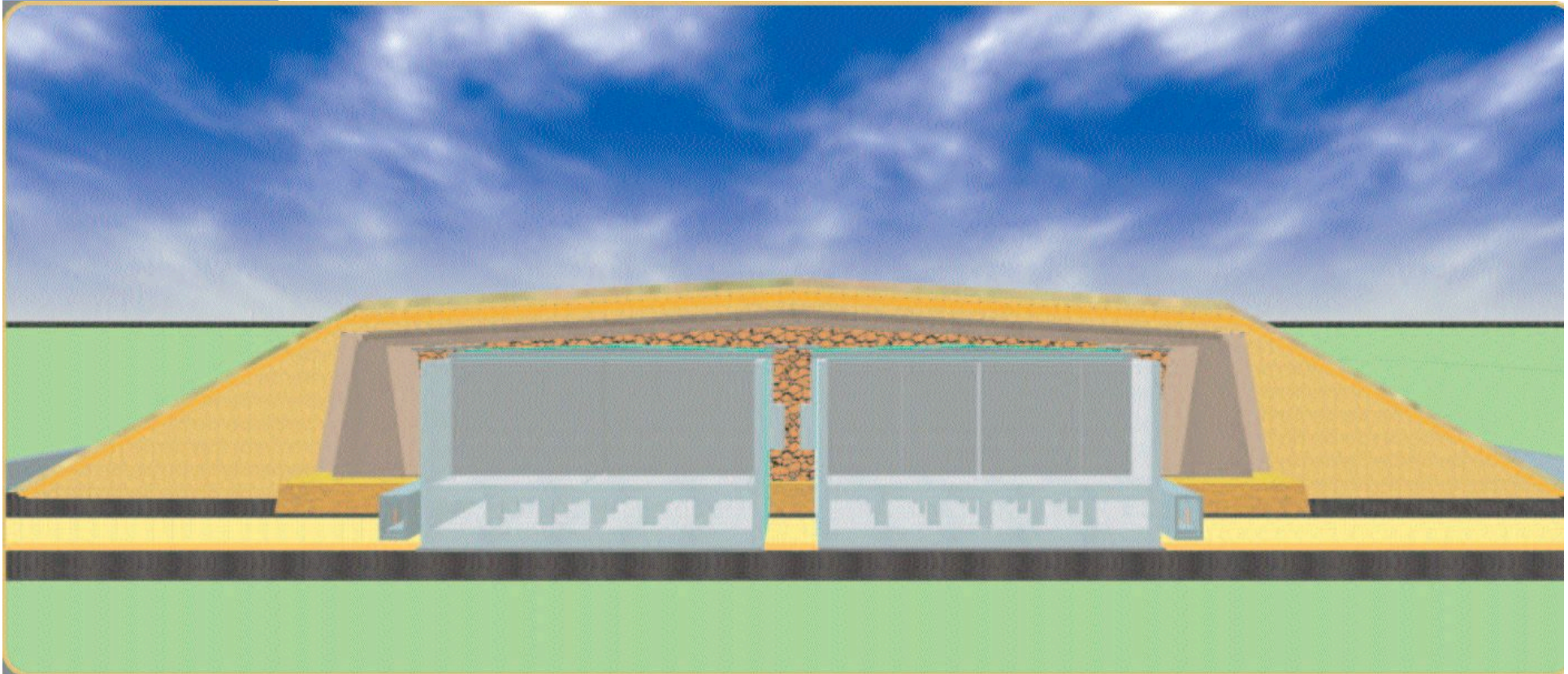
3) Conclusive discussions and repository

- approx. 1 year
- final working group reports + final partnership report

4. Proposed site and design for surface disposal

- Siting of the facility
 - General concern of radiological and chemical contaminations in the environment after repository closure
 - Capacity to monitor and promptly detect contaminations
 - Predictability of groundwater movements
 - Safety assessments results indicating no significant impact added little weight
- Design
 - Control and surveillance phase of 200 – 300 y after repository closure
 - 70000 m³ conditioned waste (40 y operational NPPs)
 - Important emphasis on retrievability and monitoring requirements

4. Proposed site and design for surface disposal

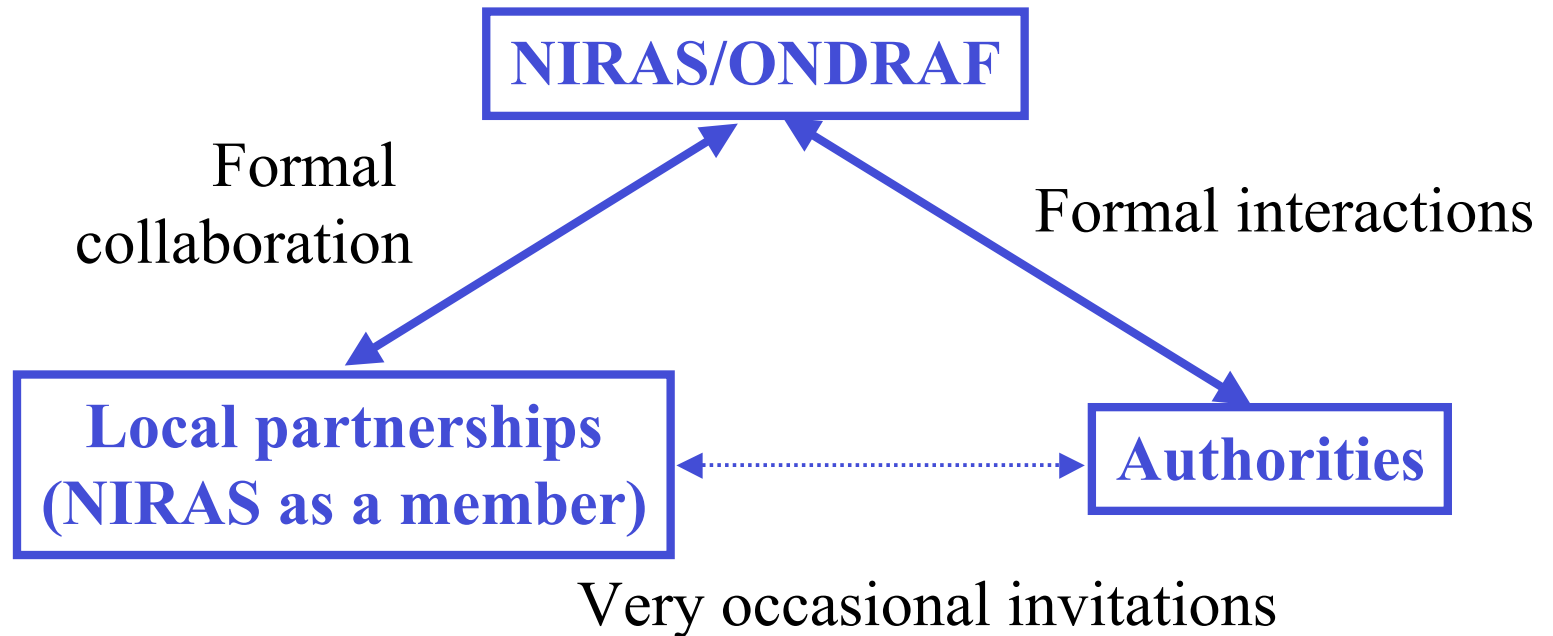


4. Proposed site and design for surface disposal

- Accessible inspection rooms under disposal vaults
 - Inspections during 200 – 300 y control & surveillance phase
 - Clear emphasis on active control during extended period
 - Consensus on disposal as a final waste management solution
 - Decision to backfill and fully close facility only at the end of this phase
 - Final step to bring system in its passive state
 - Will require decision and action by future generations
 - What if this action is not taken ? → to be assessed in the safety evaluations

5. Role and position of the safety authorities

- Since Gov. Decision 1998 are safety and environmental protection authorities involved



5. Role and position of the safety authorities

- Requirement of passive safety
 - Requirement to bring the system in its passive state as soon as possible
 - Postponing the backfilling of the inspection rooms could undermine passive LT safety
- Diverging views / requirements of local partnership and safety authorities on the timing of final closure of the facility
 - Balancing active and passive safety
- Responsibility of NIRAS/ONDRAF to prepare by mid 2010 a licence application that is accepted by all stakeholders as an optimal solution