

Preservation of Records, Knowledge & Memory (RK&M) Across Generations

An OECD/NEA Initiative
under the aegis of its Radioactive Waste Management Committee

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***We do not inherit the earth from our
ancestors; we borrow it from our
descendants***



Enabling future members of society to make informed decisions is part of responsible, ethically sound, sustainable radioactive waste management, and is in line with a prudent approach regarding safety.

(NEA RWMC Collective Statement)

- *The Records, Knowledge and Memory (RK&M) initiative of the NEA RWMC assembles an international group of RWM organisations to reflect on how best we can enable future members of society make their own informed decisions regarding a radioactive waste repository after its closure, decades, centuries and millennia from now.*
- *Phase-I: 2011-2014*
- *Phase-II: 2014-2017*
- *In Phase-I organisations from 13 countries ; in Phase-II from 12 countries. In both cases, also IAEA.*

- **Past attitude:**
 - After closure, (national) archives will preserve information about the repository
 - We may also build markers / monuments to warn people off

- **Present attitude:**

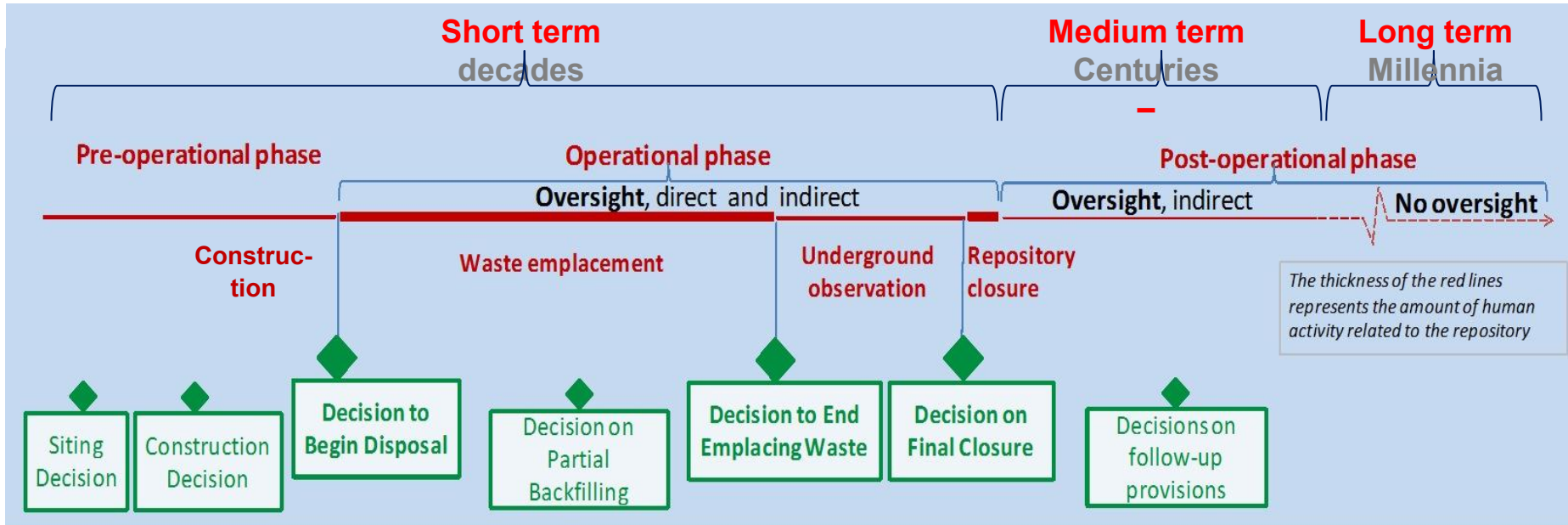
- There should be plans to maintain and foster **oversight** of the closed repository for as long as practicable.
 - **Oversight** may take many forms: from regulatory supervision, e.g., monitoring of pathways, to active memory keeping, e.g., up-keeping of the archival information, to **societal memory keeping**, e.g., through lore and local history societies
- We must have archives, but **accessibility and understandability of information are crucial**
- It may be good to have markers/monuments but a convincing case for them has not been made yet

- **To support and enhance oversight, the RK&M members support an **integrated** strategy**

- That takes into account the various time scales of interest
- That addresses both continuity and discontinuity in the functioning of society in the future (**dual track approach**), and
- Whose components complement/reinforce one another (**systemic approach**)

- It is useful and productive to think in terms of time scales. Hence the structure of this conference in three time periods
 - Short-term (up to repository closure)
 - Medium-term (up to 1,000 years, say)
 - Long-term (beyond 1,000 years)
- These time periods align to repository life phases and to periods and types of oversight.

Oversight, repository phases and reference time periods



- **Oversight:** Society “keeping an eye” on the technical system and on plans and decisions
- **Removal of oversight** is not to be planned for, but planning must be made for potential loss of oversight.

RK&M preservation serves the purpose of oversight. RK&M provisions could facilitate the **recovery of oversight**

- Any **integrated** strategy for RK&M preservation over such diverse timescales must incorporate lessons from **sciences not typically represented in WM organizations**, such as history, cultural heritage, archaeology, archiving, etc.
 - RK&M has investigated mechanisms outside RWM, outside nuclear... *these need to be understood further and capitalised upon. International agreements seem especially interesting.*
 - RK&M has reflected that we need to go beyond “blind” archiving. *Is more rational archiving possible? Concept of Set of Essential Records. Working towards a standard **Key Information File**.*
 - Archaeology advises us to leave traces, many types of traces... “markers and beyond”. *Think rather of “marking” and deliberately integrating all traces so that they reinforce one another.*
- Above disciplines/topics/issues are represented at this conference. We look for insights from both the presentations and the discussion groups.

Exemple international instrument



HOBÉ GEBINTE

In 1887 ontworpen voor de koloniale tentoonstelling door de Art-nouveau architect-decorateur G. Hobé (1854-1936). Aldaar opgesteld als decor in het "Salon van de grote culturen" (rubber, koffie, cacao, tabak,...) roept het onweerstaanbaar de weelderige tropische plantengroei op.

5 GENERAL FINDINGS OF RK&M PHASE-I

- **The context has changed greatly since the 1980s, when RK&M was thought to serve the sole function of deterring intrusion into a repository.** Today, the goal is to preserve information to be used by future generations while maintaining technical and societal oversight of the repository for as long as practicable.
- **There are a number of mechanisms, outside radioactive waste management, that can foster RK&M preservation.** They constitute a potential resource for waste management organisations and governments.
- **The period of time of a few centuries that will follow repository closure is rarely specifically addressed in the literature.** Yet, this is an important period for RK&M preservation and for preparing the future. It may not be fruitful to talk about the larger timescales if we have not addressed the intermediate ones.
- **The regulatory / policy aspects of long term RK&M preservation are much in need of formulation and systematisation.** Transfer of responsibilities is an important area. Much information is lost typically during changes in project responsibilities.
- **Terminology is important when discussing long-term issues.** Attention is called to the RK&M glossary. Concepts that we use for everyday life may change quality/ meaning when used for longer times.

Proper terminology allows posing the good questions and looking for the relevant answers

RK&M Glossary

- 29 key terms defined, updated regularly
- RK&M-dedicated, internally consistent, and unambiguous
- A living document, peer reviewed by the RK&M members

Strategic Briefs

1. Archives
2. Bibliography
3. Causes of Loss of Records, Knowledge and Memory
4. Connection to Safety
5. Cultural Heritage
6. Guiding Principles
7. International Mechanisms
8. Markers
9. Regulation
10. Terminology
11. Monitoring and Oversight

<http://www.oecd-nea.org/rwm/rkm/>

OVERALL, within the RK&M group

- **We have shied away from sensationalism and futurology.** We would like to face the issues by having our feet solidly on the ground.
- **We have implemented a disciplined and comprehensive approach** for dealing with the complexity of issues and also with the potential vast amount of resources that are available.
- **We want to keep learning and share our findings with others.** Constructive links have been created with many specialists and interested parties. This conference is part of our learning strategy.
- **We feel that work under the aegis of an international agency such as the OECD/NEA is best way** for sharing issues, learning together and harmonizing approaches

This Conference

- Conceived and discussed amongst the RK&M members
- Programme committee:
 - A. Claudel (SWI), J-N Dumont (F), S. Hotzel (D), S. Turnbrant (SE), C. Pescatore, S. Wisbey (UK)
 - Assistants: M. Formentini, R. Botez
- Impossible without the local support by the Andra's teams

This Conference

Great occasion

- for cross-fertilization
 - to get to know one another
 - to create new ties
 - as a stepping stone for working together in the future
-
- 50% oral presentations ; 50% group discussions
 - 1 paper out of 4 on RK&M Phase-I findings
 - Distinguished speakers and session chairs
 - Welcomed by NEA (Th. Dujardin), CMP (M. Longuet), ANDRA (F. Gonnot)
 - Roughly 190 registered participants from 17 countries
 - Large (42) representation from local communities and associations from Belgium, France, Sweden, Switzerland
 - Exhibition by artists interested in RK&M

ENJOY