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English - Or. English

NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

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Vision for the RWMC Project on "Preservation of RK&M Across Generations"

*In this document a vision for the RWMC project on "Preservation of RK&M across generations" is described covering the period 2011-2014. The document represents the shared vision of the project members as of March 2010 and incorporates learning in the project so far. It is understood that it will be necessary to update this document regularly in the course of the project.
This REV1 document cancels and replaces the earlier document of 4 March, 2011.*

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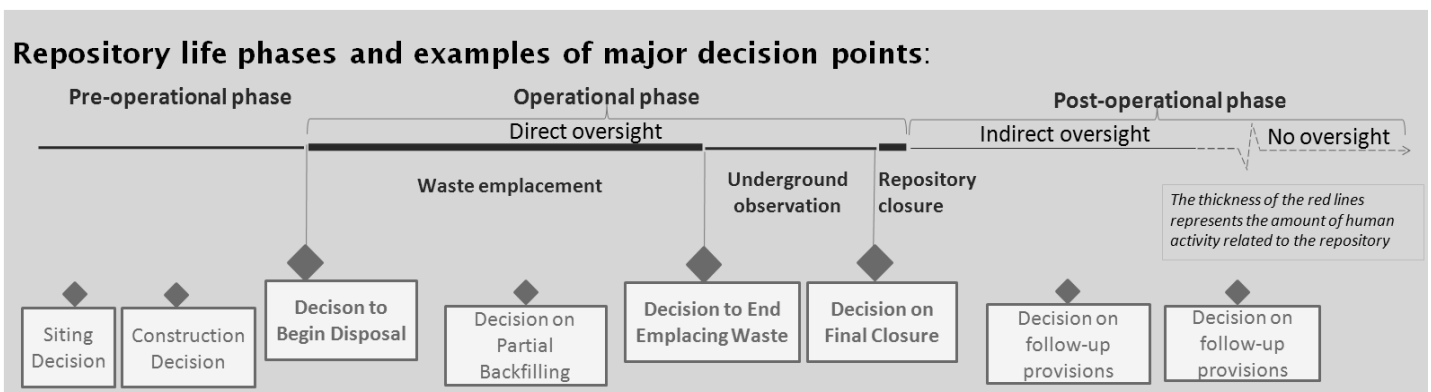
English - Or. English

Preamble

Disposal of long-lived radioactive waste in engineered facilities built in stable, deep geological formations is the reference means for permanently isolating the waste from the biosphere. Although this management method is conceived to be intrinsically safe and final, i.e., not depending on the presence and intervention of man for fulfilling its safety goal, there is no intention to forgo, at any time, knowledge and awareness either of the repository or of the waste that it contains. As repository development is reaching industrial maturity, means are being studied to maintain indirect forms of oversight once the repository is closed including monitoring, applying safeguards according to international agreements, maintaining records, and ultimately maintaining memory. Institutional arrangements need be integral part of those provisions, as continuity of records, knowledge and memory (RK&M) will require, in the first place, identifying a chain of responsibilities. At the same time, novel methods ought also to be studied and applied that are less vulnerable to changes in socio-economic conditions and may be less reliant on institutional presence. Overall, this is a multidisciplinary work area in which much learning is expected over the coming years.

CONTINUITY OF RK&M; CONTINUITY OF RESPONSIBILITIES

Preservation of RK&M across generations is a cross-cutting issue and set of themes. It applies across timescales. Namely, to the relatively long period of operation of a repository – which may extend to a couple hundred years; to the longer term, possibly many hundreds of years, when the repository is closed and in a state of indirect oversight; and even to the period when oversight may falter and knowledge of the repository may need to be reconstructed. (Fig. 1)



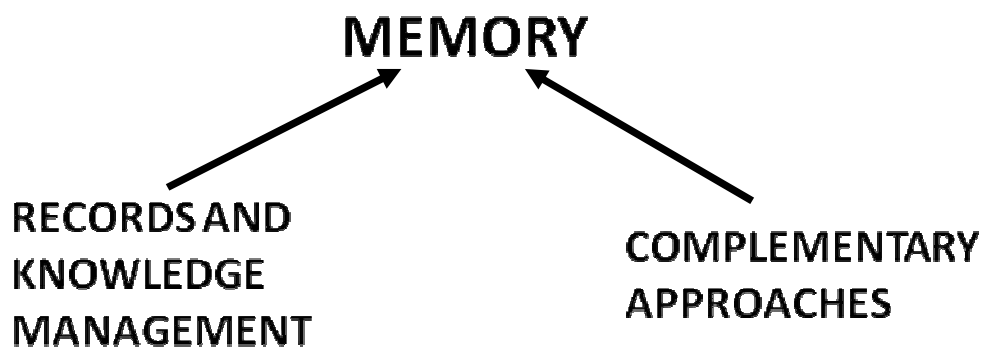
Preservation of RK&M is the responsibility of many different players with a different role to play over time. Namely: implementers, regulators and governments. Affected municipalities have also voiced a strong interest in this area and may become long-term actors in the preservation of RK&M. Key questions for the institutional actors are:

- Which records and what kind of information need to be maintained?
- For what purpose?
- Over which timescales?
- By whom?
- For whom?

- What can be done now – from a managerial, technical, legal, regulatory viewpoint – to provide maximum continuity of records, of message, and accessibility?
- How much effort and of what kind is it reasonable to invest, now or later?

While continuity of records and knowledge and continuity of institutional presence and attention as long as possible is one important path towards memory keeping, avenues that rely on complementary approaches ought also to be explored, e.g., building a relationship between the host region and the facility, or devising, from early on, special markers with specific functions. (Fig 2) Both strategies should be investigated in order to build robust and proportionate solutions on the various timescales.

Fig. 2 Complementary strategies to memory keeping



THE RWMC PROJECT

Because of the experience accumulated by the advanced national programmes represented within the RWMC and the breadth of its high-level initiatives, the Committee is uniquely placed internationally to combine resources and help form state-of-the-art understanding and guidance. The multi-affiliation forum provided by RWMC offers an important venue for exploring and helping to develop guidance on regulatory, policy, managerial, and technical aspects of long-term preservation of RK&M that are germane to waste disposal programmes. It is understood, however, that the RWMC has to reach even wider than in the past, as the new reflections must incorporate lessons learnt in sciences not typically represented in waste management organisations, such as history and philosophy, or even biology.

In the context of fostering knowledge consolidation and transfer (KCT), the RWMC has identified – in its reference document¹ – the area of *inter-generational* transfer of knowledge as an area needing developing.

Setup and modus operandi

The programme of work is installed as a series of projects or lines of actions opened by the RWMC and supervised by its Bureau. Each is set up to require meeting at most twice a year; emphasis is on inter-sessional work as much as possible. In this approach, an advisory group proposes direction of work along

¹ NEA/RWM(2009)7: Preserving information and memory across generations: proposal for a dedicated initiative and a specific project, NEA/RWMC, 5 March, 2009.

the indications of the RWMC; the work is co-ordinated by the NEA Secretariat and steered by the RWMC Bureau; one or more consultants to the Secretariat are hired; findings are reported and discussed within the project and at RWMC meetings and thereafter documented. A budget is determined for each working period of one or more years. The amount of the needed financial contribution per organisation depends on the number of participants and on programme of work. At the same time organizations also engage themselves to perform in-house work as agreed within the project.

In organising the programme of work, the projects should be practice-oriented where possible.

- Current experience should be examined with a view to identify strengths and weaknesses, and gaps in knowledge
- Practical suggestions such as peer reviews, joint memory networks, etc. should be considered
- Agreed results/statements are important deliverables
- Concrete recommendations are welcome
- Visibility of products vis-à-vis all publics will be important

In organizing the work programme, it must be accepted as well that addressing and trying to master, in its entirety, is a too ambitious task. The system of RK&M preservation over the various time scales of interest is a task that requires a large degree of abstraction that, in turn, can only take inspiration from a well-established practice, which does not exist today.

Initially, it appears a good working method to scope the issue of preserving RK&M across generations and then organise a series of workshops, e.g., to investigate specific themes deeper while, at the same time, bringing-in additional audiences to those in the project. This will require project members to prepare documents and presentations in view of those workshops, sometimes working in small groups. Distilling lessons will be done in project meetings; consultants will help prepare the relevant documents and discussions.

Advantage will also need to be taken of other groups, within the NEA and outside, that are working on similar themes. Of special relevance, is the work of the Forum on Stakeholder Confidence in the area of building a sustainable relationship between a facility and its locality and surrounding region.

Deliverables

The main, tangible deliverable of the project is a “Menu-driven document that will allow people to identify the elements of a strategic action plan for RK&M preservation”. This document will also contain recommendations to countries on useful practices as well as new suggested follow-on activities for the project. Target date for this document is end 2013-beginning 2014.

In proposing this document as its main deliverable, the project acknowledges the suggestion by the RWMC that an action plan for preservation of RK&M across generations – as identified in document NEA/RWM(2009)7 - is likely to be an important management tool that all institutional actors will need to develop at one time or another. The project will support the development of such an action plan.

Additionally, it is expected that national programmes will benefit from the shared, broad-based and documented understanding that will be achieved regarding the range of available methods, concepts, and projects on the preservation of RK&M across generations. Such understanding – technical, managerial, institutional, societal and culture-specific – could be used as a reference for those national programmes that are involved in siting and licensing repositories, or that are involved in other long-term projects. Such understanding will also foster the development of more robust strategies and regulations for national

radioactive waste management programmes, as well increased stakeholder confidence, whatever the stage of repository development.

Specific actions and products over the period 2010-2014

Phase-1 (2010 - mid 2011): Scoping of the issue

- Responses to the questionnaire distributed at the March 2010 meeting of the RWMC will be completed and an analysis provided. The questionnaire deals with issues that RWMC organisations face in this area.
- A glossary of terms will be started to provide common vocabulary and support project activities. The glossary may contain references for how the same term is used in the different programmes, but only one definition will be used for the current project.
- A survey will be started of the literature on long-term preservation of records, knowledge and information. The scope of the survey is limited to nuclear waste disposal.
- A draft collective statement (CS) will be produced on fundamental questions that are faced in this area, in order to build agreement amongst technical specialists and organisations in the waste area. This two page text will serve as a manifesto of the project. Intention is to eliminate/address some of the current ambiguities by identifying the important questions/topics and providing the current answers, fully recognizing that some/many of them will require further development during Phase 2 (see below). The CS would also show that the technical people are realistic in their approaches and expectations and are listening to the public voices. Reasons for and against RK&M keeping, e.g., on the subject of markers, ought to be acknowledged.
- A draft progress report will be prepared. Main observations so far are in the main body of the present text, as well as in the current draft collective Statement.

It should be possible to achieve all this before the start of the second phase of the project workshop in September/October 2011.

Phase-2 (2011 - mid 2012): Improving our understanding, thanks also to outside specialists

This second phase will be based on two project-workshops and on inter-sessional work by all members to prepare and that workshop and/or for intermediate documents. The project-workshop will take place:

- In September/October 2011
- In April 2012

It is understood that colleagues will prepare for the workshop utilising expertise also from outside the project and that experts from other fields will participate in these workshops.

Main items of the inter-sessional work till the 1st project workshop.

- Glossary: more work on defining Short-, Medium- and Long-term, as well as Marker.
- Bibliography: Updating will continue. Criteria for selecting records will be elucidated. The bibliography will be analysed for coverage of subjects also as a function of time. Goal is to have a document with analysis in it that will inform the future work of the project and that can be released publicly even if it will continue to be a working/updateable document.
- Questionnaire 1: three important questions will serve to identify who is responsible and for what on RK&M keeping in the project countries and whether current institutional arrangements/provisions are clear.

- Questionnaire 2: Colleagues will provide examples of RK&M loss and retention. In presenting histories from the past, they will also present suggested remediation. This information will be collated by the NEA in preparation of the Project's next meeting. (see later)
- Collective Statement: Finalisation
- Progress report 2010-2011: Finalisation

Main items of the inter-sessional work till the 2nd project workshop

These items will be identified at the 1st project-workshop.

Phase-3 (2012 - early 2014): Consolidating the lessons learnt and reaching out to different communities

Goal is to produce a "Menu-driven document that will allow people to identify the elements of a strategic action plan for RK&M preservation". This document will also contain recommendations to countries on useful practices as well as new suggested follow-on activities for the project. Target date for this document is end 2013-beginning 2014.

In order to arrive at that document the project will hold

- An open workshop early in 2013
- A project workshop, middle 2013

All these meetings will be preceded by inter-sessional work.

FUNDING

A project funding of € 7,000.00 per year per organization is foreseen, to be borne by a majority of participating organisations. In-kind contributions may also be envisioned. More resources may be needed in order to hold the open workshop early 2013.

The NEA will elicit a grant per organization or country according to its established practice.