Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

21-Mar-2014

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English - Or. English

NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

Expert Group on Preservation of Records, Knowledge and Memory across Generations

Summary Record of the Sixth Meeting of Records, Knowledge and Memory (RK&M) Across Generations

5-6 February 2014, Issy-les-Moulineaux, France

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JT03354802

THE PRESERVATION OF RECORDS, KNOWLEDGE & MEMORY ACROSS GENERATIONS (RK&M)

SIXTH MEETING
5-6 FEBRUARY 2014, ISSY-LES-MOULINEAUX

SUMMARY RECORD

Introduction

This is a summary record of the 6th meeting of the RK&M initiative. The presentations and list of participants will be available on the internal RK&M webpage.

Please note that the actions and decisions from this meeting were sent separately to the group shortly after the meeting.

Summary Record

1. Introduction *(C. Pescatore)*

1.1 Welcome and opening remarks

C. Pescatore welcomed the participants and in particular new participants from Rosatom and BfS. He explained that P. Maupai would be leaving the NEA secretariat by the end of March and introduced two new RK&M project assistants R. Botez and M. Formentini.

1.2. Review and adoption of the agenda

The group decided to also discuss the question of funding during the meeting. The agenda was then approved.

1.3. Aim of this meeting

The aims of the meeting were defined as follows: (1) review, finalise and approve Phase-I work, in particular the Wiki, (2) discuss the Verdun 2014 Conference, (3) prepare Phase-II

1.4. Status report

The members of the RWMC are satisfied with the work of the project. All participating organisations are willing to proceed with Phase-II. New organisations are ready to join the project for Phase-II; we will continue to reach out to other candidates, especially in Asia. The project aims to become the focal point in the field of RK&M.

Project studies need to be edited and can then be published before the end of Phase-I. Project members are asked to review the regulatory catalogue on the Wiki. The Set of Essential Records (SER) will be discussed. 11 Strategic articles are now available, including new ones on monitoring and terminology. The SER and wiki will remain important in Phase-II. The Tsunami stones report is being improved by the NEA Secretariat, feedback from the members is requested for its finalisation.

1.5. Report from RepMet meeting

RepMet is an offshoot of RK&M; a draft collective statement has been presented to the RWMC and has received positive reviews. RK&M is focussing on timescales after repository closure. This leaves repository operation time for RepMet. This project is interacting with IGSC and RK&M. Its aims are: (1) Create sets of metadata that can be used by national programmes to manage their repository data,

information and records in a way that is both harmonised internationally and suitable for long-term management and utilization, e.g., in safety cases. (2) Formulate a consistent set of guiding principles for capturing and generating metadata. There are currently 10 organisations participating in RepMet, more are expected. RepMet members are invited to attend the Verdun 2014 conference. RK&M needs to find better definitions for data and metadata in cooperation with RepMet. RepMet will use the RK&M glossary and the wiki. Summarized, RepMet focuses on creating metadata for the operational phase, to structure and make available the huge amount of information programmes produce: RepMet is about data to find data and data to contextualize data (e.g. to build a story about a waste package). Two European sources were mentioned with regard to metadata are the INSPIRE project and CASPAR project. RepMet members will use our glossary and also have been granted access to the wiki.

2. Finalising Phase-II

2.1 Updating the SER proposal (C. Mays)

Following the September 2013 Project meeting, the Set of Essential Records (SER) Pre-pilot study report (Summer 2013) was updated to include an Executive Summary. We asked for a review of the report and a re-assessment of the April 2013 Vision Document. We received some very detailed comments on the SER, and on this basis circulated a Discussion paper for this meeting. There is a wealth of data in the pilot results. We need guidance from the group on how to proceed.

(A) Results from the Pre-pilot. Only 8 persons were interviewed, the interviews were not performed under the same protocol and conditions and therefore were not reported in detail. Answers can be analysed comparatively or by means of mental modelling (how do individuals coherently structure their answers, what is there line of thinking). For today's meeting a transversal comparison was performed on the extremely varied replies to just the two opening questions. A content analysis produced categories: whether interviewees were concerned about their present period, the past or the future, the main issue focussed in their responses, and the framing. 1) *"Your society has received information that RW was sealed deep underground 500 years ago... What would you like to know as a member of society?"* Interviewees most often wanted to know if the site is safe now. They also wanted to know what is in it. The replies were framed in terms of human health risk, environment, radiology.... To a lesser extent some wanted historical information (e.g. concerning past management decisions). 2) *"What would you like to know with your specific background?"* – Here we note a large demand for messages, again often about present safety: is the repository still effective? Is there any major danger? What effects to groundwater? A request was also heard for a surface marker.

An alternative to crosswise comparison is to study the pattern of individual response. The complex "mental models" derived from two individuals' replies were displayed. People will try to follow a mental path, therefore it is important to have an interview protocol which helps them construct logically.

(B) Review of comments and discussion. Did people understand the questions, what did they think of the interview? - That kind of concern is translated in the fact that there were 18 iterations of the protocol; we also renamed the study SER instead of MSR (minimal set of records) to alleviate some interviewees' strong concern that minimal implied wilfully excluding information. Comments on the vision document will be implemented (update to reflect the name change from MSR to SER, cite example of Memory of Mankind, add steps achieved and the forward schedule for Phase II when this is decided).

Why did the framing question (the "scenario" proposed to interviewees) change from *hazardous materials* (vision document) to *radioactive waste* (interview protocol)? The drift happened before first interview. It was done in order to solve a logical problem: We had to introduce RK&M and relevant terms before starting the interview proper. It was clear that everyone was aware we were talking about radioactive waste. However, when someone first learns about an ancient underground site, it's not going to be immediately known that it is a radioactive waste repository. To avoid triggering *a priori* assumptions in our interviewees, we may have to eliminate all introductory information that the study concerns radioactive waste (including the identity of the project and interested institutions). This is the challenge - there may be other ways to deal with it. We will need to discuss this with subgroup.

The goal of the SER is not to preserve memory, but to inform safety-related decisions. The questions that follow are: "What do you need to take informed decisions?" "Where should those records be kept?" If the task is to inform, rather than warn, should we inform only about radiological safety - or also about history, about the chemical contents and the resources in the repository, about how one can plan for re-entry? It is speculative to decide what may be safety-related aspects in 500 or 1000 years. We should not limit ourselves to radiological safety issues, but at the same time it is very important to keep them in mind. History and context belong to safety. We shouldn't forget that the absence of certain records can really have consequences.

Overall it was agreed that fine-tuning of the protocol is needed to eliminate ambiguities. More people should be involved in this. All the issues mentioned will have to be discussed during the April SER meeting, which will be open to the SER subgroup and any interested project member. The secretariat will prepare a set of consultation questions for this meeting.

2.2. Updates to the Bibliography (A. Claudel)

There have only been a few additions to the bibliography since the last meeting. The supplementary list of documents is not yet on the wiki. We need to think about how to deal with those documents on the wiki. New feature: *Good reads* (suggested reading list). Members pick out interesting documents and update abstracts; document is then visible in a special section. There are currently two references in this section, the group should use this as an opportunity to review the abstracts and see how they fit with the project goals. The current abstracts were written by one person at the beginning of the project, we are learning all the time. We should update the abstracts accordingly in order to "own" them. The bibliography is a living document. Regardless of good reads, all abstracts should be reviewed by project members.

2.3. Additions to the Glossary (S. Hotzel)

Major updates were made to the following entries:

Knowledge - The old definition focussed on how to understand and use records. Knowledge is much broader; there are two different meanings: "knowing facts" and "knowing how". Our old definition was "knowing how". Knowing facts about swimming is different from knowing how to swim. Knowledge is used in a broad sense in other organisations. We don't want to take over all those uses. We want a definition that is useful for us and clear. Knowledge is the result of learning. Learning is at the heart of the process. It is not necessary to define leaning, because everybody has a general concept. The new definition starts with results of learning processes, and is action oriented. It has definition has both aspects. Knowing

is the result of learning but can also be applied to the process of learning. Knowledge and learning depend on each other. An explanation to our definition was also added: composite expressions. The IAEA defines knowledge in a much broader way; our definition is different.

International vs. supranational mechanisms - We added a definition of international mechanisms. Supranational should not be used. We have distinguished between governmental and non-governmental international mechanisms; there may be more distinctions to be made.

Long term – The word "typically in the hundreds of thousands of years" were added. This is more consistent with regulation.

Complementary approach now is systemic approach.

On a related topic: Three papers will be presented at WM2014 in Phoenix, one of them on terminology. There is also a new strategic article about core terminology on the wiki. It includes records, knowledge, memory, oversight & control. The article doesn't repeat the glossary, but it explains why we chose definitions. Oversight & control is most complex issue, therefore it takes up half of the article.

Colleagues at Nagra provided a language and grammar check for an important part of the glossary. With the help of Simon, we will decide which of these changes will be implemented.

Terminology is very important. All documents should be coherent. In order to do this, the group agrees to have a glossary police that checks if the terms are used properly. This is also an invitation for all members to use the glossary. An open question is whether the glossary – or parts of it – should and could be translated into other languages in Phase-II. If this is to happen, it will be a task for the member organisations. A good start would be to find a translation for RK&M. (e.g. DCM in French).

3. Internal Wiki Workshop

3.1. The RK&M Wiki (P. Maupai)

P. Maupai presented the structure and features of the wiki and showed the participants how to discuss, edit and format articles. All participants are invited to review the wiki and to give comments. The secretariat is ready to answer questions about the wiki.

3.2. Updating your own country, organisation and regulatory requirement page

The country pages were updated to all have the same format, they will not need further input from the group. They include links to relevant articles on the wiki, as well as to different NEA country profiles. Most organisations have updated their organisation pages. Those that have not done so yet are invited to do so. The regulatory requirements for each country need to be reviewed. Many members have done so already, the others are invited to do so.

3.3 General discussion on the wiki

Regulatory catalogue: The information needs to be further checked and then presented to the Regulator's Forum (RF).

Bibliography: If we quote a document in an article, then we should add it to the bibliography. The secondary references will be added to the wiki by the secretariat. We need to fix a procedure to add references and focus on polishing what we have.

Easy print / report function: The secretariat will obtain a quote from the wiki consultants to install an extension that will allow users to easily export pdf or word versions of the articles that are properly formatted.

Publication of the wiki: It was decided that a read-only version of the wiki – without the history or discussion pages – will be published in April. This publication will have the status of an NEA report. Work on the wiki will continue in Phase-II. Further steps regarding publication will be discussed then.

4. Strategic Articles

All strategic articles were discussed by the participants and updated were made on the wiki. All are invited to review the articles and to provide comments. If no further comments are received, the articles will be considered final for Phase-I.

Presentation on Tsunami Stones paper *(R. Botez)*

R. Botez, who has been reviewing and updating the Tsunami Stones paper, presented recent updates. Comments on the paper were given by participants and have since been integrated into a newer version of the paper.

5. Constructing Memory – Verdun 2014 Conference

P. Maupai presented the current status of the conference programme. The idea is to have 3 external speakers for each RK&M project member speakers. Half of the conference will be dedicated to discussion

J.N. Dumont gave more details on logistical aspects. A reduced "early bird" conference fee will be offered for participants who register early. Presenters are being contacted by the Programme Committee; there will be no separate call for papers. A call for posters may be launched.

Members need a version of the programme that can be distributed to their managers in order to raise awareness. Stakeholders from local communities are invited to register and their input to the discussion will be greatly appreciated. We should think about ways to inform universities and journalists about this conference.

6. Phase-II

6.1. Discussion and final approval of Phase-II Proposal (C. Pescatore)

The Phase-II proposal was discussed, updated and approved. It was asked whether the group can we deliver something else than conceptual, theoretical work in phase II. There seemed to be an agreement that we can probably not expect this. We probably mainly aim for more detailed recommendations.

6.2. Proposal for RWMC collective statement – Flyer on guiding principles

The proposed collective statement was discussed and will be presented to the RWMC in March.

6.3. Calendar

- 26-27 March 2014: Approval of Phase-II by RWMC

- 2-3 April 2014: SER subgroup meeting

- 3 April 2014: Next Verdun PC meeting

- April 2014: Release of Wiki according to group discussion

- 27-28 May 2014: 1st Phase-II meeting:

- 15-17 September: Constructing Memory Conference + RKM Business meeting

- January/February 2015: 2nd Phase-II meeting (exact dates tbd)

7. Additional aspects

Letter for grants: an updated version of the letter is to be sent to members. It should be sent out after the confirmation by the RWMC.

SER: More people are needed to participate. We need to think about responsibilities for SER. This will be discussed during the SER meeting in April. A dedicated (external) resource is needed to work on the SER.

8. Review of Decisions and Closure of the Meeting

The decisions (see below) were reviewed and the meeting was adjourned.

Summary of Decision and actions

General decisions

- Participation by phone is difficult to manage during meetings. For instance, it makes it difficult to make changes to the agenda. Participation by phone is discouraged by the group and should be restricted in the future.

- All should think about joining the SER and, for those in the SER, all should consider taking heightened responsibilities.

1.5 Report from RepMet Meeting

- Glossary: from the RepMet materials, introduce a better definition of Data and Metadata in the RK&M glossary

2.1 Updating the SER Proposal

- Date for April SER meeting: **2 April 2014** (one full day at NEA)

- Secretariat will prepare set of questions for April meeting. All: provide a reply to the Secretariat questions for meeting.

2.2 Updates to the Bibliography

- Secretariat: Add secondary references to the Wiki

2.3 Additions to the Glossary

- Secretariat: Send newest version of WM14 Terminology paper to group

- All: Keep in mind the possibility of translating parts of the glossary (or at least RK&M) in Phase-II

- Glossary Police & S. Wisbey:

  – All articles and other documents should use words consistently with the RK&M glossary, if they are defined in the glossary. "The Glossary Police" (Anne, Claudio, Stephan) will check as well.

  – S. Wisbey to review English grammar comments to the glossary by Nagra personnel.

3.3 General discussion on Wiki

- All: review regulatory catalogue entries for their country, Secretariat: update those countries for which comments have been received (e.g. Sweden)

- <u>All:</u> use footnotes (not brackets) for references, <u>Secretariat:</u> change article references to footnotes

- <u>All:</u> review entire Wiki in view of publication, <u>Secretariat:</u> publish read-only, anonymized version of wiki (just text, no discussions or history, etc.) as deliverable of Phase-I

- <u>Secretariat:</u> Get quotes from consultant for (a) creating a report writing function, (b) fixing bibliography search

4. Strategic Articles

- <u>Secretariat:</u> fix references in all articles

4.1 Guiding Principles

- <u>Secretariat:</u> update Guiding Principles on Wiki according to feedback from the meeting.

- <u>Secretariat:</u> update sentence on the future of RK&M on the Verdun web page.

4.5 Connection to safety

- <u>Secretariat:</u> add link to international mechanisms

4.7 International Mechanisms

- <u>Secretariat</u>: add note to report on supranational mechanisms to explain that new, correct term is international. Add link to International Society for Photogrammetry and Remote Sensing and to the EC Safeguards = http://ec.europa.eu/energy/nuclear/safeguards/safeguards_en.htm

4.7b Markers

- <u>Authors and Glossary police:</u> work on the glossary definition of markers (visibly, non-visibly)

- <u>Secretariat:</u> fix markers study download link.

4.9a Terminology

- <u>Secretariat:</u> Add Figure 1 from glossary,

- <u>Authors:</u> shorten the section on control and make it similar to other parts, add other example on control.

- Narrow the article down to why a glossary is important. E.g. add a difference with IAEA terminology, highlight that RK&M is more than markers, etc.

- Does the connection to monitoring need to be made?

- Should control and oversight be a separate article?

4.9b Monitoring

- Author (Secretariat): Fix national regulator / regulator issue (check with Andra); add "for instance" to introduce French example; update the article to include oversight

- Delete summary or add what has been done over the whole phase

- Elaborate on oversight

- This article reflects the complexity of "regulatory functions"

- Make connection to R + K + M

Tsunami Stones Report

- Author (Secretariat): Update report according to comments from meeting and other info, and then send out to group for comments.

5. Verdun 2014 Conference

- Secretariat: Update program and send clean version to group for comments.

- All: Think of ways to advertise conference to universities, press etc…

6. 1. Phase-II Proposal

- Secretariat: check if OECD overhead is 6.3%, update grant letter (Phase-II will last 3 years), check with budget section if grants should be paid before or after approval. If necessary, send sentence "payment depends on approval of Phase-II" and then send to group

- Secretariat: send final phase-II proposal to group , All: comment on proposal, Secretariat: when all agree, make sure that Phase II documents says the same as avenues for further inquiry in articles

6.2 Calendar for Phase-II

- All: Phase-II kick-off meeting will take place 27-28 May 2014

- Secretariat: Find and propose dates for January/February 2015 meeting.