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NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

Cancels & replaces the same document of 23 July 2014

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

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

27-28 May 2014, Paris, France

This version cancels and replaces the previous version due to an update on page 15.

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

**SEVENTH MEETING
27-28 MAY 2014, PARIS**

SUMMARY RECORD

Introduction

This is a summary record of the 7th meeting of the RK&M initiative. The presentations and list of participants are 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 (02/06/2014).

Summary Record

1. Introduction (C. Pescatore)

1.1 Welcome and opening remarks

C. Pescatore welcomed the participants and reminded them of staff changes in the Secretariat, where M. Formentini and R. Botez had replaced P. Maupai. He also introduced two new participants: J. Farias-Seifert from ENRESA (Spain) and K. Leopold from BfS (Germany). Both organisations are now fully participating in RK&M having already partially participated in Phase-I of the initiative. Eleven participants from seven countries were present at this meeting.

1.2. Review and adoption of the agenda

The group decided to invite J. Farias-Seifert (ENRESA) to deliver, during the present meeting, a short presentation on megalithic monuments and markers in Spain, with a focus on the monoliths used as markers at the site of the former Andújar uranium mill (see Item 4.4). The agenda was then approved.

1.3. Approval of the 6th RK&M meeting summary record

The Summary Record of the 6th RK&M meeting, which took place on 5-6 February 2014, was approved.

1.4. Aims of this meeting

The aims of the meeting were the following:

- Officially start Phase-II of the RK&M initiative;
- Define steps to progress with the development of the RK&M wiki;
- Review the programme of the Verdun conference, receive feedback from speakers on the “Storyboard” and encourage participation ;
- Refine work priorities in RK&M areas for Phase-II;
- Define a calendar of activities for, at least, the next six months.

2. Briefs

2.1 RK&M status (Claudio Pescatore)

C. Pescatore reminded participants that Phase-II of the initiative was approved by the RWMC at its 47th meeting on 26-27 March 2014. This phase will last from April 2014 to April 2017. The first meeting in this new phase was the meeting of the MSR/SER sub-group on 2-3 April 2014. The 28-29 May meeting of the RK&M initiative represents the first plenary meeting under Phase-II.

In the case of the Set of Essential Records, the sub-group decided to reframe the activity (cf. Item 4.1 below).

With regard to the status of reports, studies and articles on the RK&M wiki, he indicated that most of these had been published. The study on international mechanisms has been finalised and needs to be edited before publication.

Since the February meeting of the initiative, a number of strategic articles have been updated, for instance the article on oversight and monitoring. C. Pescatore underlined the usefulness of the strategic articles, which cover 11 topics, as a resource.

On the RK&M Wiki, it was noted that it had been improved further by adding new functionalities and removing some inconsistencies. C. Pescatore noted that work on the release of a public read-only version of the RK&M Wiki was ongoing. Issues related to the RK&M Wiki were discussed in detail under item 5.1.

Regarding voluntary contributions to the RK&M initiative, C. Pescatore pointed out that financial and in-kind contributions are both possible. The voluntary financial contribution amounts to 5,000 € per year (plus 6.3% OECD overhead); in-kind contributions could consist of organisations making staff available to work for the RK&M initiative in addition to regular involvement as participants.

As far as membership is concerned, it is expected that 16 organisations from 11 countries as well as the IAEA will participate in Phase-II. New organisations expected to join are Sandia National Laboratories (U.S.A.), the Federal Office for Radiation Protection (*Bundesamt für Strahlenschutz*, Germany) and the State Atomic Energy Corporation «Rosatom» (*ROSATOM*, Russia). Organisations in Japan have also been contacted and contact with Korean organisations will be made during C. Pescatore's visit to Korea at the end of June.

It was also pointed out that regulatory involvement should be sought - as members as well as in collaboration with implementing organisations already participating in the RK&M initiative. In this context, C. Pescatore asked participants to invite members of regulatory organisations from their countries to participate in the Constructing Memory conference (15-17 September 2014, Verdun).

2.2. Report from the 17th Regulators' Forum and the 47th RWMC (C. Pescatore)

C. Pescatore reported that the 47th RWMC (26-27 March), during which he gave an update about the progress of the RK&M initiative, approved Phase-II of the RK&M initiative.

He also gave an update about the 17th Regulators' Forum (24-25, March 2014). C. Pescatore noted that in case the Regulators' Forum (RF) was in favour of organising a topical session on the transfer of responsibilities and oversight after closure, the RK&M initiative could prepare a discussion paper to further reflect about these issues. It was also noted that closer collaboration with the RF should be sought, especially with regard to updating the RK&M regulatory catalogue with the help of the RF.

2.3. Report from and discussion of WM2014

The Annual Waste Management Symposia (WM2014), an international conference on the management of radioactive waste and related topics, was held on 2-6 March 2014 in Phoenix, AZ (U.S.A.). The conference was attended by over 1,500 people. C. Pescatore provided an overview of the RK&M initiative; S. Hotzel gave a presentation on terminology; and J. Schröder presented the topic of markers.

RK&M participants who gave presentations at the WM2014 reported about the feedback they received, which was positive overall. It was noted that the RK&M initiative is unique in the international context and that it has created a disciplined approach to the issue, which allows it to progress. The WIPP colleagues indicated that they would use the findings of the RK&M initiative for their own programmes.

It was also noted that the RK&M initiative should continue to make the initiative even better known among peers, including in the U.S.A.

2.4. Report on activities of the RepMet initiative

R. Botez presented the latest activities of the RepMet initiative, which aims at creating 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, for instance in the context of safety cases. The initiative also works to formulate a consistent set of guiding principles for capturing and generating metadata. Overall, this initiative is complementary to the RK&M initiative in that it is focussing on the pre-closure phase.

At this stage, the RepMet initiative is asking participating organisations to reply to a questionnaire that seeks to foster understanding about what metadata is collected for “waste packages at storage site ready for disposal”. Until its next meeting in September, it will generate a document reviewing the definition, principles and applications of metadata as well as a short survey on the most appropriate metadata standard for the initiative.

The RK&M initiative will be kept informed about developments within RepMet.

3. Constructing Memory Conference, 15-17 September 2014 (Verdun, France)

3.1. Presentation of programme and current status (M. Formentini)

M. Formentini updated the RK&M group about the latest developments with regard to the programme of the “Constructing Memory” conference, including confirmed speakers and sessions chairs.

RK&M participants were invited to inform colleagues about the conference.

3.2. Suggestions for group discussion topics

It was decided that a page to discuss topics for discussion groups at the conference would be created on the RK&M Wiki. RK&M participants are invited to provide suggestions and comments directly in the RK&M Wiki.

3.3 Discussion of RK&M presentations at Verdun conference

J. Schröder gave a short presentation about issues she intends to cover during her presentation for the short term session at the Verdun conference – “The future is prepared now – the findings of the RK&M project concerning the short term”.

S. Hotzel gave a presentation on “The Concept of Oversight: Its Connection to Memory Keeping and its Relevance for the Medium Term – The RK&M Project Findings”, which he will deliver at the Verdun conference.

A. Claudel presented a draft of her presentation on “Long term preservation of RK&M: Project findings”, to be delivered in the context of the session on the long term. This presentation, which focusses on markers, indicates that certain issues are relevant for more than one timescale.

It was suggested that the available resources (studies, strategic articles, and glossary) be used to prepare *all* RK&M-related presentations to be given at the Verdun conference. It was also pointed out that those presenting RK&M findings should coordinate when preparing their presentations.

4. Minimum Set of Records (MSR)/Set of Essential Records (SER) Activities

4.1 Progress towards a Reduced Record Set

S. Wisbey updated the RK&M group on the “Progress towards a Reduced Record Set”, giving an overview of RK&M activities in this area since the beginning of the initiative. He reported on the April 2014 meeting of the RK&M sub-group addressing this issue and explained the new, envisaged three levels of the information system of which the SER is part. The first level is constituted of detailed documents required for retention at national archives; the second level is formed by selected documents relating to post-closure safety (Set of Essential Records); and the third level is made up by a top level summary accessible to non-specialists (Key Information File).

The Key Information File (KIF) was conceptualised during the April sub-group meeting (see NEA/RWM/RKM(2014)6 for the summary record) and is designed to summarise basic technical and contextual information at a facility scale. It would be prepared during operation and updated and re-issued regularly during the period of institutional oversight.

The KIF should be regarded as being part of the systemic approach to the preservation of records, knowledge and memory put forward by the RK&M initiative and would point to where more detailed technical information, on which it is based, may be found.

As far as the way forward is concerned, it was proposed that relevant materials and cases, such as ANDRA's La Manche "Summary Memory", should be studied. The latter is subject to a decennial review, and lessons could also be learned from studying the experience of conducting and receiving such a review.

4.2. Discussion

During the discussion of this activity, it was highlighted that the KIF should be self-containing, i.e. it should not be assumed that people who will read this document have an understanding of the technical questions involved. The KIF should not be a "dump" for records; it needs to be carefully composed.

In addition, the KIF should be regarded as being part of the systemic approach to the preservation of records, knowledge and memory put forward by the RK&M initiative and would point to where more detailed technical information, on which it is based, may be found.

4.3. Way forward

In addition to points mentioned under item 4.1, it was decided that efforts by other organisations with regard to developing the concept of such a summary document should be reviewed. Furthermore, a methodology group will be set up to continue reflecting on this issue and on how to approach it. The expected outcome, at the end of Phase-II, is a "table of contents" for the KIF, which national organisation would seek to complete with information resulting from national programmes.

4.4. Makers at the Andújar uranium mill

J. Farias-Seifert presented efforts undertaken with regard to marking the site of the former Andújar uranium mill, the responsibility for which was transferred to ENRESA after the closure of the mill. The granite markers shown were placed in 1994, with information carved up to 6mm deep. This step was a result of regulatory requirements at that time. Other stone markers that exist in Spain were also presented.

In the ensuing discussion, it was pointed out that similar cases exist in other states. In Germany, for instance, the Wismut company changed ownership after the country's reunification, with the state becoming the sole owner. Remediation on some sites has been finished since and participants expressed interest in learning more about how those sites are marked.

5. Progress with, and upkeep of, the RK&M basic resources

5.1. Status of the RK&M Wiki

R. Botez provided an overview of the latest technical changes made to the RK&M Wiki. These include the option to print a page in "clean" design, i.e. without any elements (info-boxes) visible in the web version. Also, a function to print pages in pdf-format has been added.

With regard to the publication of a public read-only version of the Wiki, it was indicated that a few technical changes are still to be made to meet the requirements of the RK&M group, as decided at the February meeting. The RK&M group also asked the Secretariat to implement a number of additional changes in view of publishing the read-only version of the Wiki.

Participants were reminded to verify and, if necessary, update the pages pertaining to their own organisation.

5.2. Development of Wiki sections

A. Claudel presented the latest additions to the RK&M Reference Bibliography. An updated bibliography will be uploaded to the RK&M web page.

5.3. Regulatory catalogue

R. Botez updated participants about the current status of the regulatory catalogue, available on the RK&M Wiki. Participants discussed the need to involve regulators in reviewing and, if necessary, updating the catalogue.

6. Work priorities in RK&M areas

6.1. Systemic approach

C. Pescatore presented the envisaged activities with regard to the question of a systemic approach, i.e. a system whereby, within a strategy of either mediated or non-mediated transmission of RK&M, the various elements are linked to each other, act as indexes to each other, and reinforce each other by offering redundant functions.

It was discussed to create a “menu”-type document which would outline the different practical components of the strategic approach, their interplay as well as the role of the actors involved. This would also help to identify areas and interrelations that would need more attention.

The systemic approach concept underpins all activities of Phase-II discussed below and participants indicated that it would be worthwhile to treat it as a subject on its own. Also, it was pointed out that there is a connection between the systemic approach and the issue of transfer of responsibilities.

6.1.1. Archives

The issue of archives has been identified as important in the first phase of the initiative. In order to move forward on this issue, it was suggested that archivists from participating member states be included in the activity. An occasion to explore cooperation further could be the Verdun conference. Work in this area would also be useful with regard to developing the SER/KIF activities.

6.1.2. International mechanisms

On the question of international mechanisms, further research into the topic will be undertaken before deciding on next steps to be taken.

6.1.3. Markers and beyond

Participants discussed the development of a typology of markers. It was indicated that more attention needs to be paid to the question of sub-surface markers as these are more likely to endure than those placed at the surface. However, traces at the surface are also needed. This hints at a needed differentiation between the concept and nature of markers, and the act of marking and providing traces. A future study could examine this differentiation more closely.

Participants agreed to look for relevant examples from their countries and provide the Secretariat with input on this issue until September 2014.

6.1.4. Cultural heritage

Potentially relevant topics under the issue of cultural heritage for Phase-II, such as the concept of reconstructing memory, were mentioned. However, bearing in mind that cultural heritage will be discussed at the Verdun conference, participants decided to wait for the results of the discussions to define a list of questions to be addressed in Phase-II.

6.2. Regulation

Participants were reminded to review and, where necessary, update the regulatory catalogue on the RK&M wiki. This concerns pages dealing with one regulation in particular as some of these pages are still missing summaries of the regulations. Input from regulators should be sought for this activity.

In view of involving regulators in discussion on regulatory questions, participants discussed the creation of a discussion paper on the question of transfer of responsibilities (cf. item 6.3), which would review existing regulations and examine whether these meet the needs of RK&M preservation, to be provided to the Regulators' Forum of the RWMC.

6.3. Transfer of responsibilities

Several questions regarding the question of transfer of responsibilities, such as the definition of "responsibility" and who would take over ownership were raised. It was indicated that, at this point, few regulatory texts deal with this issue. However, participants agreed that this was an important topic, which has not been addressed extensively so far.

Participants suggested drafting a short discussion document on this issue, to be shared with Regulators' Forum as well.

7. Review of Phase-II and its deliverables

This item was already addressed under item 6.

8. Meeting dates

A short RK&M business meeting will take place in the afternoon of the last day of the Verdun Conference, 17 September.

The 8th RK&M meeting will take place on 20-21 January 2015 at the OECD headquarters.

9. Review of decision and closure of meeting

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

Summary of decisions and actions

1.2. Agenda of this meeting

- The agenda was approved.

1.3. Summary Record of 6th RK&M meeting (5-6 February 2014)

- The summary record of the 6th RK&M meeting was approved.

2.2. Report from 17th Regulators' Forum and 47th RWMC (March 2014)

- The RF and the RWMC were briefed on the RK&M results, activities, and schedule.
 - The issue of transfer of responsibilities for oversight is now on the RF work programme. The RF Core Group will decide the way forward.
 - In order to engage the regulators, the RK&M should be pro-active. Namely, provide them with a discussion paper on why regulation is important and whether what is there is good enough for the medium and long term (see item 6.2).
- The RWMC approved the new Phase-II proposal and the Collective Statement and Guiding Principles proposed by the RK&M. They also appreciated the holding of the Verdun conference. The RWMC Chair will participate in it.

2.4. Report from WM2014

- This was an important conference for the visibility of the RK&M findings and outreach of the RK&M.
- As part of the discussion many observations were made:
 - Inform the IAEA Project “Human Intrusion in the context of Disposal of Radioactive Waste” of our project findings and invite them to Verdun. Claudio will contact Roger Seitz, in charge of the HIDRA project, about our RK&M activities.
 - Mention our findings in contexts such as IGSC to emphasise connection to safety.
 - It could be interesting to check the so-called American “Responsibility Transition Packages”.
 - In addition to previous contacts with e.g. David Shafer, contact was made with April Gil of the USDOE Office of Legacy Management, who is open to working with us. We will explore ways to work with them.
 - Insights from monitoring programmes in action, like the one by the Carlsbad Environmental Monitoring & Research Center (CEMRC) for WIPP, may be interesting.

- The importance of integrating markers into a systemic approach was confirmed.

3. *Verdun Conference*

- The programme and status were shown and discussed, including the 4 presentations by RK&M members. Several observations were made:
 - Members who are speakers:
 - Will coordinate in order to avoid duplication. They will exchange presentations amongst one another.
 - Will focus rather strictly on project achievements as they only have 15 minutes.
 - Will use the wiki strategic articles to prepare presentations.
 - Jantine's presentation (short term) should mention markers, in the framework of the systemic approach.
 - Anne can use and refer to existing project docs on markers (wiki, WM14 pres & paper).
 - Claudio to explain the role of the conference within the RK&M initiative and focus on the terminology needed for shared understanding during the conference.
 - Discussion groups:
 - For discussion use subjects similar to those in the RK&M programme of work. Namely: archives, regulations, monitoring, R&R, etc.
 - Discussion group topics and format need to be discussed further. Add page on wiki on discussion groups and participants.
 - Session titles:
 - Rename the sessions so that a number of years does not appear in the title. Link to levels of oversight.
 - Add a sentence underneath the title stating that we do not have an exact number but that we have chosen an approximate number of years.

4. *SER/KIF*

- The group agrees with the differentiation between 3 levels of documentation and the current vision of the KIF.
- Several suggestions were made on improving the current draft vision document:

- Acknowledge other documents such as IAEA publications. Explain the specificity of the KIF initiative and that we are taking a step beyond.
- Make connection to systemic approach.
- SER: remove ‘technical’ and change wording to “specialist readership” / “interested people”.
- Distinction between information and messages should be improved in the text. “Message” implies that one is addressing somebody with a specific purpose in mind.
- Programme of work
 - A group will take the lead.
 - The group will focus on developing the KIF.
 - The group will include NDA, SKB, Andra, and RAWRA (Miroslav may be replaced).
 - Once the “table of contents” is developed, participating organisations will be asked to test and complete it.
 - the small group will discuss a way forward.
- There is here a connection to the work of the the IGSC / regulators.

5. Wiki

- Several actions are foreseen.
 - NEA
 - Change wiki info to reflect start of Phase-II.
 - When possible, use wiki links to web pages instead than to pdf documents.
 - Add new participating organisations (ENRESA, BfS).
 - Simplify description of organisations. Remove membership type.
 - Modify table on legal instruments and change wording from “legal instruments” to “relevant instruments”. Check whether and to what extent possible to add category on type of instrument to be ticked off when new instrument added.
 - Release public mirror of wiki as soon as convenient and according to decisions, e.g., remove authors’ names.
 - “NWMO” instead of NMWO

- Review statuses of pages “draft in review”.
- Participants to review and add legal instruments on RK&M preservation as needed. It is noted that regarding legal and regulatory instruments, it is best if a check is carried out within the national programmes, with implementers and regulators agreeing on the same information.

6.1. Systemic approach

- It is decided to deal with Systemic Approach as a topic by itself (as an umbrella topic). Develop an understanding of the whole by mapping elements and their interaction, using, for instance, knowledge maps;
 - Jantine and Claudio to prepare vision document;
 - Eventually this work may be continued by a consultant

Archives

- There is agreement that archives will continue to be examined. We shall identify the main issues and expectations and start discussions with archivists. At the end of Phase-II we should have a status report and recommendations.
 - Colleagues are asked to provide a text reviewing (a) their experiences when dealing with national archives and (b) presenting their expectations on archives.
 - Each organisation will provide a single document by October 15.
 - Anne will summarise the input.
 - Invite archivists from France and Sweden at January 2015 meeting of RK&M and seek dialogue more generally, e.g., by discussing our findings.

Markers and beyond

- *Marking* in general is the topic of interest, which includes markers and beyond. As the markers literature is fairly wide already, what may be “beyond” markers is of interest.
 - it was agreed to make 2 studies: one being an overview of marking strategies, another smaller one focusing on time capsules
 - Ideas presented in the areas of surface traces for the long-term; subsurface markers for the long term, time capsules over several time scales, and also the concept of developing markers now – with interested stakeholders – and use them in the medium term.

- These ideas will be described better
 - Simon: on surface traces
 - Karsten on markers now and in the medium term in Germany
 - Stephan on subsurface markers
 - Claudio on time capsules
 - Joaquín on the experience of markers in Spain
- Initial texts to be sent by the beginning of September;
- Topical session at the January meeting for presentations on members' ideas.

Cultural Heritage

- There is agreement that cultural heritage will continue to be examined. Many of the talks at Verdun will deal with this topic.
- We will wait for Verdun to better understand which topics to develop further and with whom.
 - We will make sure that cultural heritage is also a theme in the discussion groups; for instance, we could add a topic on industrial archaeology for discussion groups, or ask a more direct question: “What to leave behind when the repository closes and why?”
- French speaking project members are also invited to the Andra national workshop event in the morning of the first day of the Verdun Conference

International mechanisms

- This is a topic where further work is desired and for which immediate action is possible.
- Namely:
 - We will use the new grid (see Strategic Article) to identify mechanisms in the different domains of interest; the NEA will find a consultant
 - All members will report to NEA on mechanisms that could be considered. It would be interesting to find out if particular regional mechanisms would apply.

6.2. Regulation

- Regulation is very important topics (See also Items 2.2, 5 and 5. Intention is, at term, to produce a paper on regulatory aspects meant for discussions of the group with regulators and for fostering the regulators own work

- Members:
 1. Review the regulatory catalogue on the wiki, write summaries, and check with their regulators column on relevant instruments), fill wiki table; transfer of responsibilities for oversight should be noted (also part of regulation topic) (See Item 6.3).
 2. Review the strategic article on regulation. Can the messages that it contains be confirmed?
 3. Formulate recommendations (cf. supra)

6.3. Transfer of responsibilities for oversight

- Oversight and transfer of responsibilities for oversight after closure are important topics / issues that the RK&M has raised and that are now of interest also to the Regulators' Forum (see item 2.2)
- Experience of transfer of responsibilities for oversight exist in many countries (e.g. on financial liabilities, but also beyond, e.g., Andujar in Spain, Wismut in Germany).
 - Members will document examples of transfer of responsibilities and the issues that arose and/or still arise. (Joaquín will look at Enresa's experience, and so will others) Experiences from other fields than waste management are also welcome.
 - At term, a proposal for further work or for a position statement will be drafted.
 - An initial overview of guiding principles, reasons for preparing for transfer of responsibilities will be prepared. SKB and SSM will be lead on this. Claudio and Stephan will help out.

8. Meeting Dates

- A 2-hours Business meeting will be held 17 September, right after the Verdun conference.
- Regular meeting at OECD HQ, 20-21 January 2015 (Tuesday, Wednesday).