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

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English - Or. English

NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

Cancels & replaces the same document of 06 September 2012

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

Proposed Agenda of the 2nd Workshop on Preservation of Records, Knowledge and Memory (RK&M) Across Generations

12-13 September 2012, NEA Offices, Issy-les-Moulineaux

Only minor changes have been made to this agenda.

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Complete document available on OLIS in its original format

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PRESERVATION OF RECORDS, KNOWLEDGE AND MEMORY (RK&M) ACROSS GENERATIONS – RK&M-2
IMPROVING OUR UNDERSTANDING

2nd Workshop of the OECD NEA Radioactive Waste Management Committee “RK&M” initiative

Agenda 12-14 Sept 2012

2nd Workshop of the OECD NEA Radioactive Waste Management Committee “RK&M” initiative
Agenda 12-14 Sept 2012

NEA Headquarters in Issy-les-Moulineaux

Le Seine Saint-Germain - 12, boulevard des Iles, 92130 Issy les Moulineaux, France

Building “B” -- Meeting Room “D” (Ground floor)

Starting at 9:00 on Wed 12 September and ending at 18:00 on Thurs 13 September 2012

To be followed by an internal project meeting on Fri 14 Sept 9:00 – 15:30

Working language: English

RK&M presenters are asked to make use of the project Glossary – see www.oecd-nea.org/rkm

2-4 page summaries are requested from all speakers by 5 September. A hard copy of the compilation will be provided to all attendees at the time of the workshop. Powerpoint files should be provided by speakers one-half day before their session.

For practical details please contact Lorella.pecorale@oecd.org and Helen.Gordon-Smith@oecd.org

The workshop is a generalist meeting, including a mix of ongoing RK&M project work and new material.

The Workshop will be recorded and this will be made available to project members. Video-links will only be available for the session in which the presenter is speaking.

Tea and coffee will be provided by the NEA. A list of cafés and restaurants will be available to participants.

DAY 1 – WED 12 SEPTEMBER 2012			
SESSION 1 - INTRODUCTION AND UPDATES			
Moderator: Claudio PESCATORE			
Item 1	900 <i>20 min</i>	Introduction to the Workshop - <i>NEA Secretariat</i>	<p>Why we are conducting this project</p> <p>What we have done so far (including new surveys), the main concepts emerging, what we hope to do –The Menu Driven Document.</p> <p>Vocabulary for the WS: Refer to glossary (circulated prior to WS)</p> <p>This workshop discussions will help consolidate our understanding, and also identify actions for the project (eg, subgroup assignments) <i>However, project decisions will be taken only during our closed meeting on Day 3.</i></p>

WHY PRESERVE RK&M			
SESSION 2 - THE SAFETY STORY			
Moderator: Miroslav KUČERKA			
<i>The Safety Story is the array of factors which contribute to ability to judge whether a facility is safe. This not only means whether a facility meets the criteria for the Safety Case, but also the existence of measures which allow for continued oversight of the repository, in part to foster confidence in protection of people and the environment.</i>			
Item 2	920 <i>15 min</i>	The RK&M Catalogue of Policy and Regulation <i>H. Gordon- Smith (NEA)</i>	Catalogue of the Legislative and Regulatory requirements that exist for RK&M preservation for geological disposal, by country. - Status and initial lessons.
Item 3	935 <i>15 min</i>	The Waste Directive <i>Euratom</i> <i>Survey of RK&M Project members – Claire Mays (NEA Secretariat)</i>	Council Directive 2011/70/Euratom of 19 July 2011; establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste. The Item 4 Survey concerns: Article 12(e): [National programmes should include...] concepts or plans for the post closure period of a disposal facility's lifetime, including...the means to be employed to preserve knowledge of that facility in the longer term. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:199:0048:0056:EN:PDF
Item 4	950 <i>15 min</i>	RK&M and the Safety Case – <i>Gloria Kwong (NEA Secretariat)</i> <i>Survey of the IGSC and/or RK&M Project Members</i>	To what extent does the Safety Case rely on RK&M preservation, especially in the medium term (after closure)? <i>RK&M Project Glossary Definition: Medium term refers to the period of time of indirect oversight activities that would follow repository closure¹. Time scales are of the order of a few hundred years.</i>
Item 5	1005 <i>10 min</i>	Exhibition Introduction <i>Cecile Massart</i>	In advance of the presentations on Monitoring and Memory, and this afternoon's sessions on conceptualising RK&M loss, artist Cecile Massart will introduce her exhibition in room D.

¹ At that time environmental and repository monitoring may still be ongoing, even if surface facilities may no longer exist.

#	1015 <i>25 min</i>	Coffee Break	
Item 6	1040 <i>20 min</i>	Monitoring and Memory in Geological Disposal: Practical Possibilities - <i>Lumír Nachmilner (NEA consultant)</i>	As of today, what forms of post-closure monitoring are seen to be feasible on a technical level? What challenges do they present?
Item 7	1100 <i>20 min</i>	Monitoring and Memory in Geological Disposal: Stakeholder Demands – <i>Meritxell Martell (NEA consultant)</i>	Do local communities and other societal groups today call for monitoring as part of post-closure oversight – or part of present-day governance? What are the implications for RK&M? This presentation relies on surveys of the RWM Forum on Stakeholder Confidence (literature and member input).
Item 8	1120 <i>10 min</i>	Monitoring and Memory in Geological Disposal: The Swedish Programme – <i>Mikael Jenson (on behalf of SRPI)</i>	An overview of the Swedish Monitoring Programme.
Item 9	1130 <i>10 min</i>	Safeguards Update <i>Claudio Pescatore</i>	The NEA Secretariat has received an email from the IAEA Safeguards programme to the effect that it is premature for them to contribute to the project. This will be presented and discussed.
Item 10	1145 <i>25 min</i>	Moderated discussion <i>Moderator</i>	<p>According to our discussion in April 2012: A clear national / international position on RK&M positions is needed – a regulatory / policy framework for post closure situations is needed. The connection between safety, safeguards and regulation and RK&M preservation may need further dedicated investigation (April 2012)</p> <ul style="list-style-type: none"> • Have programmes with advanced levels of stakeholder engagement seen an evolution in the types of monitoring stakeholders are requesting? • Are monitoring programmes coordinated with RK&M preservation? • Does post-closure monitoring provide an opportunity to preserve memory in the medium term? • What are the unifying features of the Safeguards programme and RK&M preservation? • Are there potential conflicts? • How should priorities be balanced? • What societal process could respond to these questions? • Does the Safety Case provide opportunities for the RK&M preservation project?

#	1205 90 min	Lunch	
CONCEPTUALISING RK&M LOSS			
SESSION 3 - RK&M, LOSS and RECOVERY			
Moderator: Professor Thomas KAISERFELD			
Item11	1335 5-10 min	<i>Short intro by moderator</i> <i>Becoming aware of the likelihood and pathways of loss, and the effects of this.</i>	
Item 12	1345 25 min	The RK&M project study on Loss and Recovery of Records – <i>Marcos Buser (NEA consultant)</i>	Indicating <u>the most typical or principal causes /combinations of causes</u> , as a framework to which we could refer throughout the WS, and potentially use as a point of reference in the organisation of the Menu Driven Document.
Item 13	1410 25 min	Half lives of Knowledge. A Media-Archaeological Point of View – <i>Prof. Wolfgang Ernst (Humboldt U. Berlin)</i>	<p>My lecture intends to analyze both the material forms of cultural tradition which are subject to physical entropy and the immaterial, almost time-invariant codes of transmission: the physical vs. the symbolical mode, material embodiment vs. logical implementations. The shift from archaeological materialities as cultural premise to techno-mathematics as the new form of enculturation corresponds with a different kind of tempor(e)ality: cultural memory once intended for eternity transforms into a practice of intermediary storage: repeated data migration, "the enduring ephemeral" (Chun).</p> <p>Cultural tradition can be re-phrased in term of engineering. Shannon's techno-mathematical theory of communication (1948/49) which concentrates on media channels can be extended to the mechanism of emphatic cultural tradition as such. This talk enquires the probabilities of materially embodied and symbolically encoded transmission of knowledge within the temporal domain (understood here in reverse to space-bridging communication channels). Communication with extra-terrestrial intelligence ("cultureless signals") itself serves as a model for transmission of knowledge into a post-historical future.</p> <p>Radio-active memory represents a special case demanding for more radical, daring theories and "radio"-based operations of knowledge transmission which is not limited to human understanding exclusively any more, taking the nuclear time clock itself as point of departure. Let us thus replace the humanistic trust into secure transmission of knowledge by the notion of probabilities (stochastics) of transmission and by configurations where the material radio-active medium itself is the message. The very notion of "record" is questioned in media-archaeological terms. The "cold gaze" hereby serves as a methodological tool.</p>
Item 14	1435	Knowledge Recovery To explain historical research methodology and	<i>In cases where archives, records and monuments are not available:</i> How do historians reconstruct knowledge? How are artefacts used? Which other types of experts must work alongside the historian to enable this recovery or

	25 min	“how today we can make things easier for historians of the future”. – <i>Prof. Cornelius Holtorf</i>	reconstruction? Would the purposeful creation today of artefacts disseminate knowledge and memory about geological disposal sites? What should those artefacts consist of?
Item 15	1500 25 min	Moderated discussion	Consolidation of insights about LOSS and RECOVERY, validating which causes seem most pertinent in our context
#	1525 20 min	Coffee Break	
PROJECT UPDATE			
Item 16	1545 30 min	The RK&M Bibliographic Study – <i>Richard Ferch (NEA consultant)</i>	Are there gaps in the literature that RK&M project could attempt to fill? Which subjects should be priority candidates in the RK&M programme of work? Are these already identified by our project, or newly emerging from the study? This analysis will be used to inform discussion on the proposed structure of the Menu Driven Document on Day 3.
HOW TO PRESERVE RK&M – PART I			
SESSION 4 - Mechanisms for RK&M preservation and recovery, in the short term			
Moderator: Jean-Noël DUMONT			
Short Term RK&M Project Glossary Definition: Short term refers to the period of time that ends with repository closure. This period includes both the pre-operational and the operational phases of the repository. Timescales are of the order of 100 years.			
Item 17	1615 5-10 min	Short intro by moderator to the whole session.	
Item 18	1625 20 min	Proposing a Knowledge Retention Strategy in support of the UK timetable for Geological Disposal – <i>John Day (NDA)</i>	Process and outcomes of a UK exercise: With reference to the UK geological disposal strategy timeline, a phased, time-dependent series of knowledge maps was produced. A knowledge retention strategy that supports the UK model was elaborated on this basis. The presentation will review both the resulting knowledge retention strategy and the process to produce it. Feedback from the workshop could inform decisions on how to apply this more broadly.

Item 19	1645 <i>20 min</i>	Knowledge Structuring – <i>J.P Boyazis (NIRAS/ ONDRAF)</i>	A system of organising knowledge based on safety/feasibility statements. A short term project, internal to N/O, storing knowledge so it can be used in the next 100 years. Concerns how to organise knowledge rather than how it will be used.
Item 20	1705 <i>20 min</i>	Moderated discussion	
<p>SESSION 5 - Mechanisms for RK&M preservation and recovery, in the medium term</p> <p>Moderator: Patrick CHARTON</p> <p>Medium Term RK&M Project Glossary Definition: this term refers to the period of time of indirect oversight activities that would follow repository closure². Time scales are of the order of a few hundred years.</p> <p><i>Session 5 starts here at end of Day 1 to accommodate our US speaker by videolink. It continues on Day 2.</i></p>			
Item 21	1725 <i>15 min plus questions</i>	US DOE Legacy Management <i>David Shafer (DOE) – by videolink</i>	<p>Whilst the RK&M project is looking at how to create a lasting legacy, the DOE Legacy Management is responsible for managing an inheritance of sites and their records, and so its task is comparable to that of future generations at the start of the medium term. What can this perspective tell us? Questions to be addressed :</p> <ul style="list-style-type: none"> • What is the ideal starting point, in terms of RK&M, for a “legacy” project? • Which proportion of sites present a good “memory status”? How many present a bad status – and how bad is it? • Which records does one want to see? Are these typically missing today? • Which metadata could be helpful? Are they frequently lost? • Which heritage issues do you find to be best recorded and preserved?
#	1750	End of Day 1	

² At that time environmental and repository monitoring may still be ongoing, even if surface facilities may no longer exist.

DAY 2 – THURS 13 SEPTEMBER 2012			
Item 22	900 <i>10 min</i>	Recap of Day 1 points of interest (by NEA Secretariat), introduction to Day 2.	
HOW TO PRESERVE RK&M – PART I (con't)			
SESSION 5 (con't) - Mechanisms for RK&M preservation and recovery, in the medium term			
Moderator: Patrick CHARTON			
Item 23	910 <i>20 min</i>	Supranational Mechanisms to support RK&M over the medium term – <i>T. Schneider (CEPN ; NEA consultant)</i>	Institutional and cultural mechanisms that may foster memory and recovery, revival by interested members of society
Item 24	930 <i>15 min</i>	Role of rituals – <i>Jean-Noël Dumont (ANDRA)</i>	Can rituals be created now, that will be adopted and maintained by later generations and foster memory across the medium term? What could the form of these rituals be? As studied by ANDRA's memory project
Item 25	945 <i>15 min</i>	Plenary Discussion	
SESSION 6 - Mechanisms for RK&M preservation and recovery, in the long term			
Moderator: Erik SETZMAN			
Long Term RK&M Project Glossary Definition: <i>Long term refers to the period of time with no repository oversight. This period extends over the time of concern in the safety regulations, typically in the thousands of years.</i>			
Item 26	1000 <i>5-10 min</i>	<i>Short intro by moderator</i>	
Item 27	1010 <i>15 min</i>	Short Report: Tsunami Stones – <i>Abe Van Luik by teleconference</i>	A short study of the Japanese Tsunami Stones, which were created to warn future generations about passed tsunamis, indicating that when memory is passed on through communities it can last for around 1000 years.

Item 28	1025 30 min	Projects of the LONG NOW Foundation – Alexander Rose (Long Now Foundation)	Including eg. the Rosetta Disk ESAs Rosetta spacecraft in 02002 (“Micro-etched on this 7.5 cm nickel disk are 1000 different languages; each page of text, which is miniaturized and etched onto the disk as an image, requires only a microscope to be read. Such simplicity guards against the threat of changing technologies, which could make a digital disk unreadable”) and the Clock of the Long Now http://longnow.org/clock/ (“Creatively fostering responsibility in the framework of the next 10,000 years”: A clock is being constructed to last for 10K years. Its “tick” will be heard once a year, it will ring once a century, the cuckoo will emerge once in a thousand years.”) Could a network of such clocks be constructed, one at each repository site, the network becoming a Unesco Heritage property?
Item 29	1055 20 min	Sapphire Disk System of Records Preservation used by ANDRA Alain Ray (Arnano)	Arnano developed a sapphire disk which can contain large amounts of records and endure 1 million years. Andra had two sapphire disks made for the purpose of stimulating reflections on memory preservation related to radioactive waste disposals. For example, the sapphire disks evokes questions such as “Which languages should we use, which graphical material should we add, how can we avoid vandalism, what meaning will future generations give to the traces we leave?” . <i>The presentation by the manufacturer is followed by a live demonstration of the disk.</i>
Item 30	1115 15 min	Plenary Discussion	
#	1135 25 min	Coffee Break	
SESSION 7 – ARCHIVES: NATIONAL, TRANSNATIONAL AND SUPRANATIONAL			
Moderator: Anne CLAUDEL			
Item 31	1200 10 min	RK&M Archives Survey – Anne Claudel (Nagra)	Brief on who input to the archives survey, and what we plan to do with it. Analysis of the information, main lessons or questions that emerge.

Item 32	1210 25 min	UNESCO Memory of the World Programme and Register – <i>Joie Springer (UNESCO)</i>	<p>The Memory of the World Register has aspects of a transnational archive, demonstrating how local, national, regional and international levels work together to mitigate potential loss of documents and memory of world significance. <i>It would appear that a RWM host community could very well enter their siting process archives into the register.</i></p> <ul style="list-style-type: none"> • The value of inputting today to the Registry (from point of view of those contributing and those able to consult) • Criteria for inclusion and nomination procedure (see Guidelines in annex) • How the memory recovery component is envisioned – expected output and means of uptake • Challenges of digitalisation
Item 33	1235 15 min	Current supranational mechanisms for RK&M in nuclear: The Practical Application of INIS <i>Jantine Schröder on behalf of Alain Sneyers (SCK•CEN)</i>	<p>Int’l Nuclear Information System http://www.iaea.org/inis/ “hosts one of the world’s largest collections of published information on the peaceful uses of nuclear science and technology. It offers online access to a unique collection of non-conventional literature. INIS is operated by the IAEA in collaboration with over 150 members.”</p> <ul style="list-style-type: none"> • What is the INIS, how does it work? • What does it mean for knowledge preservation in a participating country? • What expertise is required?
Item 34	1250 15 min	Current supranational mechanisms for RK&M in nuclear: The NEA Data Bank – <i>Ian Hill (NEA)</i>	<p>NEA Data Bank http://www.oecd-nea.org/databank/ “The international centre of reference for NEA member countries with respect to basic nuclear tools, such as computer codes and nuclear data, used for the analysis and prediction of phenomena in the nuclear field.”</p>
Item 35	1305 15 min	UK Nuclear Archive Project - <i>Simon Tucker (NDA)</i>	<p>The UK is creating a National Nuclear Archive in Caithness, Scotland, near the decommissioned site of Dounreay. The NNA was proposed in response to the NDA’s statutory obligation to manage public records, keeping them safe and making them more accessible to the public and the nuclear community. Around 20 specialist jobs will be created by the project and the building will also provide a new home for the North Highland Archive.</p>
Item 36	1320 20 min	Plenary Discussion	<p><i>Note that how archives constitute RECORDS was reviewed at the October WS.</i></p> <p>Questions of central interest are:</p> <ul style="list-style-type: none"> • What role are you being asked to play in the preservation of KNOWLEDGE, as defined by the RK&M project glossary? (What indications do you get from

			<p>your organisation, from society...)</p> <ul style="list-style-type: none"> • How do archives foster the preservation of MEMORY, as defined by the RK&M project glossary? • How do archivists see the future and how do they “establish relations” with future stakeholders (or with future archivists)? • What relations should RW managers develop now with archivists?
#	1340 <i>90 min</i>	Lunch	
WHAT TO PRESERVE			
SESSION 8 – MINIMUM SET OF RECORDS			
Moderator: Simon WISBEY			
Item 37	1510 <i>20 min</i>	Minimum Set of Records Sub Group Progress Report	<ul style="list-style-type: none"> • Derive a minimum set of standardized records for the passive management phase (far future) • What can be done for the medium term? • What role do standardisation and internationalisation play?
Item 38	1530 <i>10 min</i>	Discussion	How does the “minimum set” proposal tally with lessons learned yesterday (especially with the session on the safety story)? How to decide on culling procedure? What about Meta-Data?
#	1540 <i>25 min</i>	Coffee Break	
HOW TO PRESERVE RK&M – PART II			
SESSION 9 - PRAGMATIC ORGANISATION OF RK&M PRESERVATION: COST, FUNDING, HUMAN RESOURCES			
Moderator: Stephan HOTZEL			
Item 39	1605 <i>5-10 min</i>	<i>Short intro by moderator</i>	
Item 40	1615 <i>10 min</i>	RK&M insight from the field of decommissioning – <i>Ivan Rehak (NEA Secretariat)</i>	Survey of the NEA Working Party on Decommissioning and Dismantling

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Item 41	1625 <i>10 min</i>	Insights from the CEA decommissioning programme – <i>C. Pescatore for J.-G. Nokhamzon (CEA)</i>	Insights from the CEA decommissioning programme
Item 42	1635 <i>20 min</i>	US PIC – <i>Russ Patterson (US DOE) By teleconference</i>	<ul style="list-style-type: none"> • How does the program identify and structure cost elements? • What is your confidence in these cost estimations? • How do you propose to assure funding?
Item 43	1655 <i>20 min</i>	Andra Memory Programme – <i>J.N. Dumont (Andra)</i>	<ul style="list-style-type: none"> • How does the program identify and structure cost elements? • What is your confidence in these cost estimations? • How do you propose to assure funding?
Item 44	1715 <i>25 min</i>	Plenary Discussion	<p>Questions to be addressed by the speakers/panellists:</p> <ul style="list-style-type: none"> • How do you propose to ensure durability of your RK&M actions over the medium term? • When can we start to know how much RK&M is costing – in economic but also in human resource terms? • Is the cost of RK&M preservation in the budget today? Is this cost underestimated? • How do you expect to assure funding over the medium term? • What would be helpful to managers in terms of anticipating costs and funding these?
Item 45	1740 <i>25 min</i>	Summary by Rapporteur <i>Mikael Jensen (NEA Consultant)</i>	Summary and of the Main Messages from the Workshop
#	1805	CLOSE	

Annex (from Item 31): “Memory of the World” Guidelines <http://unesdoc.unesco.org/images/0012/001256/125637e.pdf>

4.1 International, regional and national registers

4.1.1 The *Memory of the World* Programme will maintain public registers of documentary heritage. In due course, all the registers should be available on-line. The more information is amassed, the more effective the Programme will be in identifying missing documentary heritage, in linking dispersed collections, in supporting repatriation and restitution of displaced and illegally exported material, and in supporting relevant national legislation.

4.1.2 There are three types of register: *international*, *regional* and *national*. All registers contain material of **world significance** (refer the criteria in 4.2) and a given item may appear in more than one register.

4.2 Selection criteria for the *Memory of the World Register* (*Excerpts - the rules for selection extend farther than the 5 criteria below*)

4.2.5 ...World significance must be demonstrated in meeting *one or more* of the criteria set out below. Because significance is *comparative*, these criteria are best illustrated by checking them against items of documentary heritage already inscribed on the *Register*.

1. Criterion 1 – Time:

Absolute age, of itself, does not make a document significant: but every document is a creature of its time. Some documents are especially evocative of their time, which may have been one of crisis, or significant social or cultural change. A document may represent new discovery or be the “first of its kind”.

2. Criterion 2 – Place:

The place of its creation is a key attribute of its importance. It may contain crucial information about a locality important in world history and culture; or the location may itself have been an important influence on the events or phenomena represented by the document. It may be descriptive of physical environments, cities or institutions since vanished.

3. Criterion 3 – People:

The social and cultural context of its creation may reflect significant aspects of human behaviour, or of social, industrial, artistic or political development. It may capture the essence of great movements, transitions, advances or regression. It may reflect the impact of key individuals or groups.

4. Criterion 4 – Subject and theme:

The subject matter may represent particular historical or intellectual developments in natural, social and human sciences, politics, ideology, sports and the arts.

5. Criterion 5 – Form and style:

The item may have outstanding aesthetic, stylistic or linguistic value, be a typical or key exemplar of a type of presentation, custom or medium, or of a disappeared or disappearing carrier or format.