

Remembering the Past in the Future: Building Awareness of Radioactive Waste Repositories Together

<http://www.oecd-nea.org/egapworkshop>

**22-24 November 2022
Dessel, Belgium**

How can we - the present society – pass on knowledge of the existence, nature and history of high-level radioactive waste to future generations over timescales ranging from decades to neverending? This 50-year-old, timeless question, was in the centre of the Nuclear Energy Agency (NEA) initiative on the “Preservation of Records, Knowledge and Memory (RK&M) Across Generations” in the 2010’s, and it is followed-up in the NEA’s “Expert Group on Awareness Preservation” (EGAP) since 2020. Progress towards viable and shared RK&M/awareness preservation strategies has been documented in the RK&M Initiative’s final report ([NEA 7421, 2019](#)), where a number of tools and techniques are presented as the “RK&M toolbox”. The EGAP is working on new concepts and alternative approaches to be taken into account in a comprehensive strategy.

In order to disseminate and discuss first results, to receive feedback and to broaden the discussion to include various stakeholders, the EGAP is organising the workshop “Remembering the Past in the Future: Building Awareness of Radioactive Waste Repositories Together”. The workshop constitutes an element of a participatory process that should be inherent to any conclusive RK&M preservation strategy. Awareness preservation has been found to be as much a process (like discussing, learning, involving, sharing) as it is about products (like a marker, a message, and an archive), and the workshop is designed to reflect this by providing a platform to discuss and participate. A major international conference and debate, focused entirely on RK&M / awareness preservation, was held in Verdun, France, in 2014. The current workshop in Dessel, Belgium, is meant to take up and foster this debate in 2022.

The workshop is initiated and led by the EGAP, in collaboration with the NEA Forum for Stakeholder Confidence (FSC). A dedicated Programme Committee has been established to design the content and format of this public workshop, including representatives from the EGAP, FSC, the NEA Expert Group on Archiving for Radioactive Waste Management Activities (EGAR) and the NEA Secretariat.

This workshop will be hosted at Tabloo in Dessel, a multi-functional visitor centre developed near the site of a future radioactive waste disposal facility for low and intermediate level short-lived waste. Tabloo was developed in close collaboration between the Belgian National Agency for Radioactive Waste and enriched Fissile Material (ONDRAF/NIRAS) and local community partnerships, and serves as a living example of a local approach for awareness preservation of a nuclear repository for workshop participants to observe.

Inputs from the International Atomic Energy Agency, the European Commission, local partnerships in Belgium, and other relevant NEA groups such as the Regulators’ forum will be sought out. Contributions from specialists outside of the nuclear field will also be included in the content of presentations and discussions to foster a greater exchange of ideas and experience.

Workshop Objectives:

1. **Share views:** Present concrete outcomes of EGAP work from 2020-2022 and solicit input from various stakeholders to receive feedback, to broaden the discussion and to be taken into account for an upcoming report
2. **Foster a community of practice:** Invite abstracts for appropriate session topics (not limited to nuclear instances) from stakeholders/participants in order to gather diverse perspectives and demonstrate a community of practice
3. **Contribute to awareness preservation by disseminating seeds of awareness within society:** namely, provide participants with a flyer/pamphlet to take away from the workshop

Participants

The anticipated audience of this workshop includes delegates of the NEA Working Party on Information, Data and Knowledge Management (WP-IDKM), and particularly delegates of the EGAP, radioactive waste management experts, preservation experts (not limited to nuclear) as well as participants from local communities in different member countries.

Call for Abstracts

See *Poster Exhibit* description below. Abstracts are requested by 15 June 2022.

Workshop Format

This event will take place in person over the course of three days at Tabloo in Dessel, Belgium. The workshop will kick off with a keynote on participation in awareness preservation, a pervading theme for EGAP and work in the area of awareness preservation. Following the introductory session, the programme will be split into four thematic sessions. Each thematic session will include a range of presentations, from more general information on the topic to more specific and applied insights. Presentations will be complemented by plenary questions and answers and breakout group discussions. Detailed descriptions of each workshop session is provided in the following section of this paper.

A poster exhibition will also be organised with the contributions of workshop participants; and a voluntary excursion of the future disposal site and Tabloo will be offered during the programme.

The EGAP will develop a summary report of the workshop that incorporates participant inputs. The summary will be published as a public NEA report.

Sessions

Introductory Session: « Where do we stand? »

As a starter, there will be a presentation of the “state of the art” in international thinking, concepts and guidelines on the preservation of awareness of nuclear repositories: An overview of the results of the NEA RK&M Initiative, which developed an in-depth understanding of the issue at stake, as well as a specific methodology to address these results will be provided. In addition, complementary keynotes and short presentations from other national or international stakeholders will be sought in order to span the perspectives

that contribute to a holistic view on RK&M and awareness preservation and the participatory processes involved.

Session 1: « Awareness preservation processes at nuclear heritage sites »

The nuclear field has created and continues to create tangible and intangible legacies for current and future generations. Radioactive waste, decommissioned nuclear sites, nuclear accidents, or cultural artefacts are some of the examples in which nuclear might continue to have an impact on the future. An important issue in this context is whether and how awareness should be preserved on such legacies. This session will explore awareness preservation processes in the context of different nuclear heritage projects and sites. Presentations might focus on one or more of the following questions:

- What awareness preservation approaches have been used in specific nuclear contexts? With which objective(s)?
- What are potential benefits or pitfalls of certain awareness preservation approaches?
- Which assumptions on future use(s) are reflected in different preservation approaches?
- How are nuclear activities framed in/through awareness preservation, and which elements might (un)intentionally be omitted?

This session welcomes contributions not only from the field of radioactive waste, but also from other nuclear contexts. A mix of both case-specific and more general presentations is aimed at.

Session 2: « Challenges of existing regulatory approaches in nuclear »

This session aims to discuss the place of regulatory provisions in the overall system for awareness preservation regarding radioactive waste repositories. It will also explore the interactions of regulatory and participatory processes with regard to awareness preservation. The possible goal is also to provide an overview of the regulatory situation, recognise challenges and give examples for the solutions.

In the various national programmes, the regulatory framework defines a set of provisions that should be implemented for knowledge and awareness preservation over the lifecycle of radioactive waste repositories. A visionary section of the RK&M Initiative's final report offers fictional examples of systemic strategies for RK&M preservation. Therein, activities in response to the regulation have been qualified as "compliance activities" (any RK&M system that does not comply with these legal requirements is likely to be judged to be incomplete or non-compliant). Other activities that may be implemented by a national programme are named as "best practice activities" (which can be regarded as "core mechanisms" and should therefore attract priority funding) and "supporting activities" (to optimally reach diversity and inter-connectedness among approaches and mechanisms, and to optimally support contextual adaptability)¹. The ambition of this session is to discuss the interactions between such compliance activities, on one side, and best practice and supporting activities, on the other side, with a special focus to participatory processes.

Speakers will present the following aspects of the issue:

¹ See "Preservation of Records Knowledge and Memory across generations. Final report of the RK&M initiative", [NEA report N°7421](#), 2019, page 90.

- the **global overview of the status of regulatory requirements** with regards to knowledge and awareness preservation in the various national programmes; what kind of requirements are set, what is the role devoted to dedicated sets of records, to participatory processes?
- The **contribution of participatory processes required by regulation in nuclear** to RK&M preservation regarding radioactive waste repositories; the successive phases of a disposal programme may be considered, e.g. during the licensing phase, during operation, during post-operation oversight.
- The **contribution of participatory processes not explicitly required by regulation** in consolidating the regulatory provisions, e.g. by making the dedicated sets of records more robust or by fostering awareness of the repositories.

The vision of the situation by involved parties will be presented and discussed in this session: waste management organisations, national Regulators and Regulators' Technical Supporting Organisations, non-governmental organisations.

Session 3: « Approaches for the unknown future »

Efforts have been made to convey information about the modern world to future generations, societies or civilisations on a global basis or in specific countries. We are not able to predict when, where, and how such information is received; however, various approaches have been developed, regarding not only the transmission method, but also regarding the material of the recording media and the expression method such as characters and symbols. Presentations will include representative case studies of these approaches. Examples of such cases might be:

-[Clock of the Long Now Foundation, USA](#)

-[Memory of Mankind, Austria](#)

-[Time Capsules at Osaka Expo in 1970, Japan](#)

-[Book from the Ground, China](#)

-[UNESCO's learning activities for finding the values of world heritages](#)

This session will examine approaches, considering different intended durations of time, i.e. those that are to be used for decades or hundreds of years, and those that are to be used for thousands or millions of years.

Session 4: « New developments in academia with potential importance for awareness preservation »

This session aims to discuss new developments that may be important for awareness preservation per se or for understanding mechanisms behind successful long-term memory. Speakers will present developments within the following areas:

- **Futures literacy** – Discussed within EGAP as a skill for appreciating and accommodating for possible futures, instead of attempting to impose present thought on the future.
- **Cultural heritage** – When examining heritage processes, one should consider what cultural heritage does or is expected to do rather than what it is or was originally intended to do. The lens of heritage processes presents a view of cultural heritage that integrates change over time, recognising that in the future heritage may not exist as it does for us today.

- **Semiotics** – Communicating a message to recipients in a distant future requires namely addressing the issue of language evolution. Speakers will present reflections on how we can define signs that will be understandable over a long period of time, in relation with the content of the message to be sent.

New developments will be presented and the potential application and importance of these developments for awareness preservation will be discussed during this session.

Poster Exhibit

There will be an ongoing poster exhibit throughout the three days of the workshop available to all participants. Abstracts will be collected ahead of the workshop and approved by the Programme Committee. Participants are encouraged to submit contributions to the topic, e.g., in response to one of the prompts below.

- Share your perspective on an awareness preservation approach that is local to you (e.g. Tabloo). What effect does this monument, practice or institution have on the lives of people in your community? Were you involved in, or given the opportunity to be involved in, the creation of this local AP approach? How did you or would you have liked to influence the establishment of this approach?
- Provide a brief case study of a real example of an awareness preservation approach (nuclear or otherwise) and, if applicable, analyse the context of its success or lack thereof.
- Identify a new proposal for an awareness preservation mechanism (nuclear or otherwise), defining the criteria for implementation as well as the strengths and challenges of this mechanism that might not have been considered in previous work of the RK&M Initiative and EGAP.

Note: Selected abstracts may be considered by the Programme Committee for an oral presentation during the workshop, based on relevance and originality with respect to the session topics. Any and all interested parties are requested to send their abstracts (a half-page proposal) by 15 June 2022 to the NEA Secretariat at EGAPworkshop2022@oecd-nea.org. Contributors will be contacted by 15 July and informed whether their abstract has been selected for the poster session or for a presentation. A final poster and accompanying 3-5 page paper elaborating on the initial abstract will be requested by 22 October 2022. The papers elaborating on the selected abstracts will be included in the summary report of the workshop, which will be published after the event.

Workshop Language

The working language of the workshop will be English.

Registration

A public link to register online for this workshop will be created by the NEA. There will be a registration fee of 100 EUR. The registration fee will be waived for members of the local public – i.e. for sites dedicated or under consideration for a repository for radioactive waste.

Key Dates:

- Call for abstracts – 15 April 2022
- Collection of abstracts – 15 June 2022
- Selection of abstracts – 15 July 2022

- Provision of final posters for poster session – 22 October 2022
- Registration close – 7 November 2022