



PROGRAMME

Workshop on Advancing Development of Disposal Solutions in Radioactive Waste Management

14-15 June 2023
Bucharest, Romania



General information

Workshop overview

Work on disposal solutions for radioactive waste has rapidly picked up momentum over the last five years. Several countries have entered the licensing phase of establishing a deep geological repository (DGR), more low-level and intermediate-level disposal facilities are being constructed, and significant advances have been made with new technologies such as small modular reactors (SMRs) and generation IV reactors. At the same time, many public policymakers have emphasised the importance of nuclear power to reach net zero emissions, and key stakeholders have become more active in their support of disposal solutions.

The safety case has become an essential tool to engage stakeholders and enhance decision making in the establishment of disposal solutions for low-level, intermediate-level and high-level radioactive waste. Managing radioactive waste requires a vast skill set and a long-term strategy to maintain a comprehensive transfer of skills, information and liabilities across generations. Developing a safety case is a gradual process, and new information and requirements gained at each stage of developing a disposal facility help shape new decisions and review earlier ones.

In this context, the Nuclear Energy Agency (NEA), in co-operation with the Nuclear and Radioactive Waste Agency (ANDR) of Romania, Westinghouse and the Sustainable Fuel Association of Romania, is organising a two-day workshop on Advancing Development of Disposal Solutions in Radioactive Waste Management. To be held on 14-15 June 2023 in Bucharest, Romania, the event will bring together key stakeholders to discuss experiences in developing radioactive waste disposal programmes.

Key workshop themes

- Experiences in developing radioactive waste disposal programmes, focusing on the establishment of: national frameworks and subsequent policy developments, regulatory frameworks, site selection, investigation, development of the safety case, cost estimation and financing, development of waste acceptance for the various waste streams and stakeholder engagement.
- Lessons learnt from participating countries, including on: technical elements, government policy and role, public engagement, the decision-making process, financial support for local economic development and the role of nuclear safety regulators.

Workshop objectives

- Sharing experiences and knowledge in developing and implementing a final disposal policy for low-level, intermediate-level long-life and high-level waste and spent nuclear fuel.
- Advancing the development of disposal solutions in low and intermediate radioactive waste management through further reflection on best practices.
- Identifying the necessary elements to develop a safety case covering all stages of repository programmes.
- Working toward a common understanding on shared approaches and methods for the development, documentation and evaluation of the safety case by the regulators, implementers and R&D organisations, with an emphasis on strategic and methodological issues.
- Promoting the exchange of information, strengthening international co-operation and identifying potential opportunities for new international R&D co-operation.
- Discussing ways in which to engage key stakeholders more effectively.

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Session 1: Workshop opening

- 09:00-09:30 **Opening remarks**
- Co-Moderators: Rebecca Tadesse, Head of the Radioactive Waste Management and Decommissioning Division, NEA and Vlad Stoicescu, President, ACS*
- High-level Government Official, Romania*
- William D. Magwood, IV, Director-General, OECD Nuclear Energy Agency (NEA)*
- Mihaita Gaina, President, Ministry of Energy Nuclear and Radioactive Waste Agency (ANDR), Romania*
- Tarik Choho, President, Westinghouse Nuclear Fuel and Environmental Services*

09:30-10:00 *Break*

Session 2: Experience and accomplishments

- 10:00-11:00 **2.1 Panel discussion on successful radioactive waste management policies, financing and government support**
- Moderator: William D. Magwood, IV, Director-General, NEA*
- Panellists:*
- Emilio Garcia Neri, Senior Expert, Radioactive Waste Management and Decommissioning, International Cooperation and R&D Section, ENRESA, Spain – Workshop Chair*
- Emily Stein, Senior Advisor, Office of Spent Fuel and Waste Disposition, US Department of Energy (DOE), United States*
- Ramona Popescu, Director General, ANDR, Romania*
- Abdulla Al-Hameli, Senior RWM Manager, Emirates Nuclear Energy Corporation (ENEC), United Arab Emirates*
- 11:00-11:20 **2.2 Safety strategy for DGR development in France**
- Jean-Michel Hoorelbeke, Expert, National Agency for Radioactive Waste Management (ANDRA), France*
- 11:20-11:40 **2.3 Use of best available technologies to improve performance of disposal facilities**
- Emiliano Gonzalez, Westinghouse Project Manager, Spain*
- Rafael Garcia, Westinghouse Project Delivery Manager, Spain*
- 11:40-12:00 **2.4 Radioactive waste treatment activities aiming at volume reduction and recycling**
- Arne Larsson, VP Technology, Cyclife, Sweden*

12:00-13:30 *Lunch*

Session 3: Romanian context

- 13:30-13:50 **3.1 Regulator requirements for the development of a disposal facility in Romania**
Daniela-Maria Dogaru, Head of Section, National Commission for Nuclear Activities Control (CNCAN), Romania
- 13:50-14:10 **3.2 Romanian strategy for the safe management of radioactive waste and spent nuclear fuel and disposal solutions according to the National Program**
Alice Dima, Director, ANDR, Romania
- 14:10-14:30 **3.3 Radioactive waste management at Cernavoda Nuclear Power Plant following the objectives of the National Strategy**
Veronica Andrei, Expert, National Company Nuclearelectrica (SNN) and Alexandru Nedelcu – Head of Radiation Protection and Health Safety Department, Cernavoda Nuclear Power Plant

Session 4: Lessons learnt from NEA Member countries

- 14:30-14:50 **4.1 Treatment of low- and intermediate-level radioactive waste using plasma melting process, and associated performance analysis**
Galya Simeonova, Head of International Projects Division, SERAW, Bulgaria
- 14:50-15:10 **4.2 Regulatory experiences and public involvement during siting near-surface disposal facility in Italy**
Nadia Cipriani, Head of Storage and Disposal Section, National Inspectorate for Nuclear Safety and Radiation Protection (ISIN), Italy
- 15:10-15:40 *Break*
- 15:40-16:00 **4.3 Lessons learnt in the implementation of the Spanish national programme for LILW and VLLW management: El Cabril disposal center**
Emilio Garcia Neri, Senior Expert, Radioactive Waste Management and Decommissioning, International Cooperation and R&D Section, ENRESA, Spain – Workshop Chair
- 16:00-16:20 **4.4 Ignalina Nuclear Power Plant decommissioning – WAC establishment and updates**
Viktor Ognerubov, Ignalina RWMD, Lithuania
- 16:20-16:40 **4.5 Potential near-surface disposal developments at the UK LLW Repository**
John Shevelan, Site Characterisation Manager, Nuclear Waste Services (NWS), United Kingdom
- 16:40-17:00 **4.6 The UAE Nuclear Energy Back-End Program Plan**
Abdulla Al-Hameli, Senior RWM Manager, ENEC, United Arab Emirates
- 17:00-17:10 **Day 1 closing remarks**

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Session 5: Lessons learnt on R&D activities supporting RWM

09:00-09:10	Opening remarks of day 2
09:10-09:30	5.1 NEA Expert Group on the Application of Robotics and Remote Systems in the Nuclear Back-end (EGRRS) <i>Laurent Velnom, NEA EGRRS Bureau Member</i>
09:30-09:50	5.2 Identification and handling of review issues in the regulatory review of SKB's programme for final disposal of spent nuclear fuel at the Forsmark site <i>Bo Strömberg, Analyst, Safety Assessment, Swedish Regulatory Safety Authority (SSM), Sweden</i>
09:50-10:10	5.3 Canada's plan for long-term management of used nuclear fuel – NWMO's research and collaboration <i>Mihaela Ion, Manager, Safety Assessment, Nuclear Waste Management Organization (NWMO), Canada</i>
10:10-10:30	5.4 Application of R&D to radioactive waste management predisposal activities <i>Crina Bucur, The Technologies for Nuclear Energy State Owned Company (RATEN), Romania</i>
10:30-11:00	Break
11:00-12:00	5.5 Panel discussion on the role of R&D to support radioactive waste disposal programmes <i>Moderator:</i> <i>Soufiane Mekki, Senior Specialist, Radioactive Waste Management and Decommissioning Division, NEA</i> <i>Panellists:</i> <i>Crina Bucur, RATEN, Romania</i> <i>Bo Strömberg, Analyst, Safety Assessment, SSM, Sweden</i> <i>Jean-Michel Hoorelbeke, Expert, ANDRA, France</i> <i>John Shevelan, Site Characterisation Manager, NWS, United Kingdom</i>
12:00-13:30	Lunch

Session 6: Breakout groups discussion

- 13:30-13:40 **6.1 Introduction to breakout session**
Soufiane Mekki, Senior Specialist, Radioactive Waste Management and Decommissioning Division, NEA
- 13:40-14:40 **6.2 Breakout session: How do new technologies impact development of predisposal and disposal programmes?**
Breakout group rapporteurs:
Daniela Diaconu, Scientific Deputy Director at Institute for Nuclear Research, Pitesti (RATEN ICN), Romania; FSC Chair
Soufiane Mekki, Senior Specialist, Radioactive Waste Management and Decommissioning Division, NEA
Rebecca Tadesse, Head of the Radioactive Waste Management and Decommissioning Division, NEA
Morgan Packer, Specialist, Radioactive Waste Management and Decommissioning Division, NEA
Breakout groups:
1) Policy challenges in radioactive waste management
2) Regulatory enablers and blockers
3) Challenges in competency management
4) Stakeholder engagement in the decision-making process for new technologies
- 14:40-15:10 Break
- 15:10-15:20 **6.3 Summary of outputs from breakout session**
Emilio Garcia Neri, Senior Expert, Radioactive Waste Management and Decommissioning, International Cooperation and R&D Section, ENRESA, Spain – Workshop Chair

Session 7: Public and stakeholder engagement

- 15:20-15:40 **7.1 NEA Forum on Stakeholder Confidence (FSC)**
Daniela Diaconu, Scientific Deputy Director at Institute for Nuclear Research, Pitesti (RATEN ICN), Romania; FSC Chair
- 15:40-16:00 **7.2 Trust, mistrust and misinformation in stakeholder engagement**
David Brazier, Bureau Member, NEA Forum on Stakeholder Confidence (FSC)
- 16:00-16:20 **7.3 Public acceptance from the regulatory perspective**
Istvan Lazar, Senior Adviser, Hungarian Atomic Energy Agency (HAEA), Hungary
- 16:20-17:20 **7.4 Panel discussion on lessons learnt from stakeholder engagement**
Moderator: Morgan Packer, Specialist, Radioactive Waste Management and Decommissioning Division, NEA
Panellists:
Pascale Kunzi, Specialist for Stakeholder Involvement, Swiss Federal Office of Energy (SFOE), Switzerland; Bureau Member, NEA FSC
Julie Brown, Senior Project Officer, Canadian Nuclear Safety Commission (CNSC), Canada
David Brazier, Bureau Member, NEA FSC
Istvan Lazar, Senior Adviser, HAEA, Hungary
- 17:20-17:30 **Day 2 closing remarks**

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