**NEA RWMC WORKSHOP ON DEVELOPING SAFETY CASES FOR VARIOUS RADIOACTIVE WASTE DISPOSAL FACILITIES**

**- *Needs and Challenges of RWMC Organisations***

**20-22 July 2022**

**Sheraton Bucharest Hotel**

**Bucharest, Romania**

**WORKSHOP PROGRAMME**

**DAY I  
Wednesday 20 July 2022**

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| SESSION 1: OPENING OF THE WORKSHOP  *Workshop Co-Chairs: Piet ZUIDEMA (EURAD) Lucy BAILEY (UK Nuclear Waste Services [former IGSC Chair])* | | |
| 08:30 | **1.1. Welcome Remarks**  *Hiroyuki UMEKI (RWMC Chair)*  *Rebecca TADESSE (Head of RWMD, NEA)*  *Mihaita GAINA (President ANDR, Romania)*  *Alice Mariana DIMA (Director ANDR, Romania)*   * Background and objective of the workshop |  |
| **SESSION 2:  EXPERIENCE AND ACCOMPLISHMENTS**  ***Session Chair:*** *Hiroyuki Umeki, (Japan, NUMO [RWMC Chair])* | | |
| 09:00 | **2.1. Guidance of radiation protection by ICRP**  *Eduardo GALLEGO (ICRP)* | Presentation |
| 09:30 | **2.2. The Concept of Safety Case in the IAEA**  *David BENNETT (IAEA)*   * (DGR, intermediate-depth repositories, near-surface disposal facilities; graded approach); | Presentation |
| 10:00 | **2.3. Overview of the Safety Case for DGR**  *Lucy BAILEY (UK, Nuclear Waste Services)* | Presentation |
| 10:30 | **2.4. Overview of the Safety Case for LLWR**  *Christepher McKENNEY (USA, NRC)* | Presentation |
| 11:00 | **2.5. Guidance of radiation protection by ICRP**  *Eduardo GALLEGO (ICRP)* | Presentation |
| ***11:30*** | ***LUNCH BREAK*** *(1h30)*  ***Poster Session (which will be available during the whole workshop)*** | |
| **2.6. Progressive Development of Safety Case for Disposal Facilities** | | |
| 13:00 | **2.6.1. Safety Case in all Stages of DGR**  *Nicolas BRUYER (France, Andra)* | Presentation |
| 13:30 | **2.6.2. Safety Case in the Concept Phase**  *Alice Mariana DIMA (Romania, ANDR)* | Presentation |
| 14:00 | **2.6.3. Safety Case in the Operational Phase of LLWR**  *Ira STEFANOVA (Bulgaria, SERAW)* | Presentation |
| ***14:30*** | ***COFFEE BREAK****(20 min**)* | |
| **SESSION 3:  SIMILARITIES AND DIFFERENCES IN DEVELOPING THE ELEMENTS IN SAFETY CASE**  *Sub-Sessions will be led by moderators* | | |
| **3.1. Long-Term Safety**  ***Topics****: modelling, scenario development, uncertainty management*  ***Moderator****: Klaus-Jürgen RÖHLIG (Professor, Germany, Clausthal University of Technology (TUC))* | | |
| 14:50 | **3.1.1. Piet ZUIDEMA**  *(EURAD)* | Presentation |
| 15:00 | **3.1.2.**  **Jeong Hyoun YOON**  *(KINS/KORAD)* | Presentation |
| 15:10 | **3.1.3. Johan ANDERSSON**  *(Sweden, SKB)* | Presentation |
| 15:20 | **3.1.4. Claire TRONEL**  *(France, Andra)*   * (LLRW / shallow depth disposal) | Presentation |
| 15:30 | **3.1.5. Panel Discussion** |  |
| **3.2. Operational Safety**  ***Topics****: how to improve technologies, keep track of waste inventory and continue to update safety case*  ***Moderator****: Christepher McKENNEY (USA, NRC)* | | |
| 15:55 | **3.2.1. & 3.2.2. Ed GARZA**  *(USA, DOE Carlsbad Field Office)*   * (WIPP Case) | Presentation |
| 16:15 | **3.2.3. Peter MOLNAR**  *(Hungary, PURAM)* | Presentation |
| 16:25 | **3.2.4. Elena VICO DEL CERRO,**  *(Spain, ENRESA)*   * (LLW and ILW) | Presentation |
| 16:35 | **3.2.5. Claire TRONEL**  *(France, Andra)* | Presentation |
| 16:45 | **3.2.6. Panel Discussion** |  |
| **3.3. Safety Case Updates**  ***Topics****: how to update safety case before closure*  ***Moderator****: Jean-Michel HOORELBEKE (France, Andra)* | | |
| 17:10 | **3.3.1. Tom PEAKE**  *(USA, SPA)*   * (outcomes of the topical session in IGSC-21 meeting in 2019) | Presentation |
| 17:20 | **3.3.2. Eva ANDERSSON**  *(Sweden, SKB)*   * (recertification of the LLW and ILW repository – SFR) | Presentation |
| 17:30 | **3.3.3. Lucy BAILEY**  *(UK, Nuclear Waste Services)*   * (Research Support Office (RSO) support to the safety case) | Presentation |
| 17:40 | **3.3.4. Thomas KAEMPFER**  *(Switzerland, NAGRA)* | Presentation |
| 17:50 | **3.3.5. Panel Discussion** |  |
| 18:15 | **Wrap-Up of Day I by Workshop Co-Chairs**  *Lucy BAILEY (UK, Nuclear Waste Services)*   * ***Key messages from Day-1 discussions based on the questions below:***   + What are the similarities and differences in developing safety case for various disposal facilities?   + What kind of information (database, models, methodologies, etc.) can be shared among facilities?   + What kind of outcomes can be shared between DGR and other types of disposal facilities? | |
| ***18:25*** | ***END OF DAY I*** | |
| 19:30 | **Dinner Hosted by Nuclear and Radioactive Waste Agency**  *(Romania, ANDR)* | |

**DAY II  
Thursday 21 July 2022**

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| SESSION 3:  SIMILARITIES AND DIFFERENCES IN DEVELOPING THE ELEMENTS IN SAFETY CASE *[CONTINUED]*  *Chair: Ulrich NOSECK (Germany, GRS)* | | |
| **3.4. Safety Case Updates** | | |
| 09:00 | **3.4.1. DGR**  *Alexander CARTER (NEA WP-IDKM Chair)*   * (EGSSC and e-safety-case workshop) | Presentation |
| 09:20 | **3.4.2. LLW/ILW Disposal**  *Axel LIEBSCHER (Germany, BGE)* | Presentation |
| **3.5. R&D Needs** | | |
| 09:40 | **3.5.1. DGR**  *Piet ZUIDEMA (EURAD)* | Presentation |
| 10:00 | **3.5.2. LLWR**  *Manuel CAPOUET (Belgium, ONDRAF/NIRAS)*   * (R&D open issues don’t prevent the construction/operation of a repository) | Presentation |
| **3.6. Integration of Safety Arguments** | | |
| 10:20 | **3.6.1. DGR**  *Hiroyuki UMEKI (Japan, NUMO)* | Presentation |
| 10:40 | **3.6.2. LLWR**  *Maria QUIRÓS (Spain, ENRESA)* | Presentation |
| ***11:00*** | ***COFFEE BREAK****(20 min**)* | |
| **3.7. Safety Case Communication** | | |
| 11:20 | **3.7.1. DGR**  *Lucy BAILEY (UK, NWM Services)*   * (outcomes of joint IGSC/FSC activities) | Presentation |
| 11:40 | **3.7.2. LLWR**  *Christepher McKENNEY (USA, NRC)* | Presentation |
| ***12:00*** | ***LUNCH BREAK*** *(1h30)* | |

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| SESSION 4:  CHALLENGES AND FUTURE ACTIVITIES  *Session Chairs:  Rebecca TADESSE (Head of RWMD, NEA) Klaus-Jürgen RÖHLIG (Germany, TUC)* | | |
| 13:30 | **4.1. NEA**  *Hiroyuki UMEKI (RWMC Chair)*   * Unconventional waste (Being discussed in EGCUL)/outcomes of predisposal management | Presentation |
| 13:55 | **4.2. EC**  *Piet ZUIDEMA (EURAD)*   * Knowledge Management | Presentation |
| 14:20 | **4.3. IAEA**  *David BENNETT (IAEA)*   * IAEA Guidance of safety case for near-surface facilities Management | Presentation |
| 14:45 | **4.4. Group Discussion**  *Vladimir LEBEDEV (RWMD, NEA)*   * Introduction of the break-outs |  |
| 14:50 | **4.4. Break-out Group Discussion** |  |
| 16:40 | **4.5. Summary of Group Discussions and Proposal of Recommendations to RWMC**  *Rebecca TADESSE and Klaus RÖHLIG (Session Co-Chairs)*   * Summary of each group discussions (6 minutes per group):  |  |  | | --- | --- | | * Group 1 | * Group 5 | | * Group 2 | * Group 6 | | * Group 3 | * Group 7 | | * Group 4 |  | |  |
| ***17:10*** | ***COFFEE BREAK*** *(20min)*  ***Poster Session (which COFF be available during the whole workshop)*** | |
| 17:30 | **Findings and Recommendation to the RWMC**  *Piet ZUIDEMA & Lucy BAILEY (Workshop Co-Chairs)* |  |
| 17:35 | **Discussion** |  |
| 17:55 | **Final Remarks** |  |
| ***18:00*** | ***WORKSHOP ADJOURN*** | |

**DAY III  
Friday 22 July 2022**

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| SITE VISIT:  HORIA HULUBEI NATIONAL INSTITUTE  FOR R&D IN PHYSICS AND NUCLEAR ENGINEERING (IFIN-HH)  *Site from Magurele, Reactorului st, no. 30, Ilfov county* | | |
| 09:00 | **General Presentation of the National Institute of Physics and Nuclear Engineering Horia Hulubei IFIN-HH Site**   * Introduction presentation | Presentation |
| 09:30 | **Presentation of the National Repository for Low and Intermediate Level Institutional Radioactive Waste, Baita-Bihor from IFIN-HH** | Presentation |
| 10:00 | **Presentation of the** **Radioactive Waste Treatment Plant from IFIN-HH** | Presentation |
| 10:30 | **Predisposal management of Radioactive Waste that not complying the Waste Acceptance Criteria to be disposed of** | Presentation |
| 11:00 | **Lessons Learned from decommissioning the** **nuclear research reactor VVR-S from IFIN-HH released from nuclear regulatory control since July 2020 and preparatory activities for decommissioning radiological installation Soviet type Cyclotron U-120** | Presentation |
| **SITE VISIT**  ***Start Time:*** *11h30*  ***End Time:*** *13h30 (max. 14h00)* | | |
| 11:30 | **Visit of the Radioactive Waste Treatment Plant from IFIN-HH;** |  |
| 13:00 | **Visit of the former nuclear research reactor VVR-S decommissioned with implementation immediate dismantling strategy** | |
| ***13:30*** | ***END OF SITE VISIT*** | |

**PROVISIONAL LIST OF PARTICIPANTS**

**BELGIUM**

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| **CAPOUET, Manuel**  *Expert in long-term safety assessment*  ONDRAF/NIRAS |

**BULGARIA**

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**CZECH REPUBLIC**

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**FINLAND**

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**FRANCE**

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**GERMANY**

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**HUNGARY**

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**JAPAN**

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**SWITZERLAND**

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**UNITED KINGDOM**

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**UNITED STATES**

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**UNITED ARAB EMIRATES (UAE)**

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**EURAD**

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**THE NUCLEAR ENERGY AGENCY (NEA)**

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