

NEA RWMC Workshop on Developing Safety Cases for Various Radioactive Waste Disposal Facilities - Needs and Challenges of RWMC Organisations

20-22 July 2022
Venue: Crowne Plaza Bucharest
Bucharest, Romania

DAY 1, 20 July 2022

Session 1: Opening of Workshop Workshop Co-Chairs: Piet ZUIDEMA, EURAD Lucy BAILEY, UK Nuclear Waste Services (former IGSC Chair)			
8:30		1.1 Welcome remarks <i>Hiroyuki UMEKI, RWMC Chair, NUMO, Japan</i> <i>William D. MAGWOOD, IV, NEA Director-General</i> <i>Mihaita GAINA, President ANDR, Romania</i> <i>Alice Mariana DIMA, Director ANDR, Romania</i> <ul style="list-style-type: none"> • <i>Background and objectives of this workshop</i> 	
Session 2: Experience and Accomplishments Session Chair Hiroyuki Umeki, Japan NUMO (RWMC Chair)			
09:00		2.1 Guidance of radiation protection by ICRP <i>Eduardo GALLEGO, ICRP</i>	Presentation
09:30		2.2 The concept of safety case in the IAEA (DGR, intermediate-depth repositories, near-surface disposal facilities; graded approach) <i>Gerard BRUNO, IAEA</i>	Presentation
10:00		2.3 Overview of the safety case for DGR <i>Lucy Bailey, UK Nuclear Waste Services</i>	Presentation
10:30		2.4 Overview of the safety case for LLWR <i>Christopher MCKINNEY, US NRC</i>	Presentation
11:00		2.5 Regulatory activities for safety case in all stages <i>Jaakko Leino, Finland STUK</i>	Presentation
11:30		LUNCH (1 h 30 min) Poster Session (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 <i>TBD, France Andra</i>	Presentation
13:30		2.6.2. Safety case in the concept phase <i>Alice Mariana Dima, Romania Nuclear and Radioactive Waste Agency (ANDR)</i>	Presentation
14:00		2.6.3. Safety case in the operational phase of LLWR <i>Tomofumi SHIMIZU, Japan JNFL</i>	Presentation
14:30		BREAK (20 min)	

Session 3: Similarities and Differences in Developing the Elements in Safety Case

3.1. Long-term safety

Topics: modelling, scenario development, uncertainty management

Moderator: Klaus-Jürgen Röhlig, Professor, Clausthal University of Technology (TUC), Germany

14:50		3.1.1. <i>Piet ZUIDEMA, EURAD</i>	Presentation
15:00		3.1.2. <i>Dr YOON, Korea KINS/KORAD</i>	Presentation
15:10		3.1.3. <i>Johan ANDERSON, Sweden SKB, – DGR</i>	Presentation
15:20		3.1.4. <i>Claire TRONEL (co-writer Virginie Wasselin), France Andra</i> (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: Christopher McKinney, US NRC, USA

15:55		3.2.1+3.2.2. <i>TBD, US Carlsbad Field Laboratory</i>	Presentation
16:15		3.2.3. <i>Amy HUNTINGTON, UK LLWR</i>	Presentation
16:25		3.2.4. <i>Vsevolod IGIN, Russia NO RAO,</i> (LLW and ILW)	Presentation
16:35		3.2.5. <i>Claire TRONEL (co-writers Mathieu Laplanche/Sylvie Voinis), France Andra</i>	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

17:10	<i>3.3.1. Tom PEAKE, US EPA</i> (outcomes of the topical session in IGSC-21 meeting in 2019)	Presentation
17:20	<i>3.3.2. Eva ANDERSSON, Sweden SKB –</i> (recertification of the LLW and ILW repository – SFR)	Presentation
17:30	<i>3.3.3. Alexander CARTER, UK Nuclear Waste Services, TBC</i> (Digital safety case)	Presentation
17:40	<i>3.3.4. Thomas KAEMPFER, Switzerland NAGRA</i>	Presentation

17:50 3.3.5. Panel discussion

18:15 Wrap-up of Day 1 by the 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 1**

19:30 Dinner hosted by Nuclear and Radioactive Waste Agency (ANDR), Romania

DAY 2, 21 July 2022

Session 3: Similarities and Differences in Developing the Elements in Safety Case

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Chair Ulrich NOSECK, GRS

	3.4 Information and knowledge management	Presentation
09:00	<i>3.4.1. DGR</i> <i>Alexander CARTER, NEA WP-IDKM Chair. TBC</i> (EGSSC and e-safety-case workshop)	
09:15	<i>3.4.2. LLW/ILW disposal</i> <i>TBD</i>	Presentation

09:30	3.5 R&D needs 3.5.1. DGR <i>Piet ZUIDEMA, EURAD</i>	Presentation
09:45	3.5.2. LLWR <i>Manuel CAPOUET, Belgium ONDRAF/NIRAS)</i> (R&D open issues don't prevent the construction/operation of a repository)	Presentation
10:00	3.6 Integration of safety arguments 3.6.1. DGR <i>Hiroyuki UMEKI, Japan NUMO</i>	Presentation
10:15	3.6.2. LLWR <i>Maria QUIRÓS, Spain ENRESA</i>	Presentation
10:30	BREAK (20 min)	
10:50	3.7 Safety case communication 3.7.1. DGR <i>Pascale KÜNZI, NEA FSC Chair</i> (outcomes of joint IGSC/FSC activities)	Presentation
11:05	3.7.2. LLWR <i>Lucy BAILEY or Pascale KUNZI (TBD)</i>	Presentation
11:20	Workshop Discussion <ul style="list-style-type: none"> - Break-out discussion (20 min.); - Exchange with results (15 min.); - Discussion (20 min.) Moderator - Klaus-Jürgen RÖHLIG, Professor, Clausthal University of Technology (TUC), Germany <ul style="list-style-type: none"> ▪ 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? <p style="text-align: center;"><i>All Participants</i></p>	
12:15	LUNCH (1 hr 30 min)	
Session 4: Challenges and Future Activities Session Chairs: Rebecca Tadesse (Head of RWMD, NEA) and Felix Altorfer		
13:45	4.1 NEA <ul style="list-style-type: none"> ▪ Unconventional waste (Being discussed in EGCUL)/outcomes of predisposal management workshop - <i>Hiroyuki UMEKI, RWMC Chair</i> 	Presentation

14:10	4.2 EC <ul style="list-style-type: none"> ▪ Knowledge management <i>Piet ZUIDEMA, EURAD</i>	Presentation
14:35	4.3 IAEA <ul style="list-style-type: none"> ▪ IAEA Guidance of safety case for near-surface facilities - <i>Gerard BRUNO or David BENNET, IAEA</i> 	Presentation
15:00	4.4 Group discussion Introduction of the breakouts after the “Break” <i>TBD</i>	
15:05	<i>BREAK (25 min)</i>	
15:30	4.4 Group discussion - Break-out discussion <ul style="list-style-type: none"> ▪ What are the similarities and differences of the development of safety case for various disposal facilities in the same rock formation? ▪ What are the similarities and differences of the development of safety case in different stages of various disposal facilities? ▪ What are the challenges in the development of safety case for various disposal facilities? ▪ What kind of information (database, models, methodologies, etc.) can be shared within countries and internationally? ▪ What projects/activities should be initiated at the NEA to support the development of safety case for various disposal facilities? 	
17:00	4.5 Summary of group discussion and proposal of recommendations to RWMC – Rebecca TADESSE and Felix ALTORFER <ul style="list-style-type: none"> ▪ Summary of group discussion (6 min / group) <ul style="list-style-type: none"> - Group 1 - Group 2 - Group 3 - Group 4 - Group 5 ▪ Proposal of recommendations to the RWMC (25 min) ▪ Final remarks (5 min) 	
18:00	<i>WORKSHOP ADJOURN</i>	

DAY 3, 22 July 2022

Site visit

Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH)

Details of the visit will be available later