

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

8-10 December 2020

DAY 1, 8 December 2020

Session 1: Opening of Workshop		
Workshop Co-Chairs: Timothy McCartin, US NRC Lucy Bailey, IGSC Chair, RWM, UK		
8:30	1.1 Welcome remarks <i>Hiroyuki Umeki, RWMC Chair, NUMO, Japan</i> <i>William Magwood, IV, NEA Director-General</i> <i>Nuclear and Radioactive Waste Agency (ANDR),</i> <i>Romania (TBC)</i>	
Session 2: Experience and Accomplishments		
09:00	2.1 The concept of safety case in the IAEA <i>Gerard Bruno, IAEA</i>	25 min ppt & 5 min Q&A
09:30	2.2 Guidance of radiation protection by ICRP <i>ICRP (TBC)</i>	25 min ppt & 5 min Q&A
10:00	2.3 Overview of safety case for DGR <i>Lucy Bailey, IGSC Chair</i>	25 min ppt & 5 min Q&A
10:30	2.4 Overview of safety case for LLWR <i>Timothy McCartin, US NRC (TBC)</i>	25 min ppt & 5 min Q&A
11:00	2.5 Regulatory activities for safety case in all stages <i>Jaakko Leino, STUK, Finland</i>	25 min ppt & 5 min Q&A
11:30	LUNCH (1 hr 30 min) Poster Session	
	2.6 Progressive development of safety case for disposal facilities	
13:00	<ul style="list-style-type: none"> ▪ Safety case in all stages of DGR <i>Andra, France (TBC)</i> 	25 min ppt & 5 min Q&A
13:30	<ul style="list-style-type: none"> ▪ Safety case in concept phase <i>Nuclear and Radioactive Waste Agency (ANDR), Romania (TBC)</i> 	25 min ppt & 5 min Q&A

14:00	<ul style="list-style-type: none"> ▪ Safety case in operational phase of LLWR and intermediate depth repositories <i>Tai Sasaki, JNFL, Japan</i> 	25 min ppt & 5 min Q&A
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14:30 **BREAK (20 min)**

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

14:50	<p>3.1. Long-term safety</p> <p>Topics: modeling, scenario development, uncertainty management</p> <ul style="list-style-type: none"> ▪ <i>Moderator: Klaus-Jürgen Röhlig, Professor, Clausthal University of Technology (TUC), Germany</i> ▪ <i>Piet Zuidema, Zuidema Consult GmbH, Switzerland</i> ▪ <i>KINS/KORAD, Korea (TBC)</i> ▪ <i>SKB, Sweden – DGR (TBC)</i> 	10 min ppt each + 10 min panel
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15:20	Group discussion	30 min + 5 min panel change
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15:55	<p>3.2 Operational safety</p> <p>Topics: how to improve technologies, keep track of waste inventory and continue to update safety case</p> <ul style="list-style-type: none"> ▪ <i>Moderator: Timothy McCartin, USA (TBC)</i> ▪ <i>West Valley Demonstration Facility, USA (TBC)</i> ▪ <i>WIPP, USA (TBC)</i> ▪ <i>UK (TBC)</i> ▪ <i>NO RAO, Russia (TBC) – (Low and) Intermediate level waste</i> 	10 min ppt each + 10 min panel
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16:25	Group discussion	30 min + 5 min panel change
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17:00	<p>3.3 Safety case updates</p> <p>Topics: how to update safety case before closure</p> <ul style="list-style-type: none"> ▪ <i>Moderator: PC member (TBC)</i> ▪ <i>IGSC member (TBC)</i> ▪ <i>Sweden – recertification of low and intermediate level waste repository – SFR (cover both of LLW and HLW, if possible) (TBC)</i> ▪ <i>UK – Digital safety case (TBC)</i> ▪ <i>Switzerland (TBC)</i> 	10 min ppt each + 10 min panel
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17:30	Group discussion	30 min + 5 min panel change
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18:05	Overall group discussion	25 min
	<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? 	

18:30	END OF DAY 1
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Dinner hosted by Nuclear and Radioactive Waste Agency (ANDR), Romania

DAY 2, 9 December 2020

Session 3: Similarities and Differences in Developing the Elements in Safety Case [CONTINUED]
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09:00	3.4 Information and knowledge management <ul style="list-style-type: none"> ▪ DGR <i>Alexander Carter, NEA WP-IDKM Chair</i> ▪ LLWR <i>LLWR, UK (TBC)</i> 	25 min ppt & 5 min Q&A
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09:30	3.5 R&D needs <ul style="list-style-type: none"> ▪ DGR <i>Piet Zuidema, Zuidema Consult GmbH, Switzerland</i> ▪ LLWR - R&D needs, intruders, etc. <i>Andra, France (TBC)</i> 	25 min ppt & 5 min Q&A
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10:00	3.6 Integration of safety arguments <ul style="list-style-type: none"> ▪ DGR <i>IGSC member (TBC)</i> ▪ LLWR <i>Canada (TBC)</i> 	25 min ppt & 5 min Q&A
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10:30	BREAK (20 min)
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10:50	3.7 Safety case communication <ul style="list-style-type: none"> ▪ DGR (outcomes of joint IGSC/FSC activities) <i>FSC Chair (TBC)</i> ▪ LLWR <i>Belgium (TBC)</i> 	25 min ppt & 5 min Q&A
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11:20	3.8 Group discussion <i>All Participants</i>
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12:00	LUNCH <i>(1 hr 30 min)</i>
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Session 4: Challenges and Future Activities
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13:30	4.1 NEA <ul style="list-style-type: none"> ▪ Unconventional waste (Being discussed in EGCUL)/outcomes of predisposal management workshop <i>Rebecca Tadesse, Head of NEA RWMD or Hiroyuki Umeki, RWMC Chair (TBC)</i> 	25 min ppt & 5 min Q&A
14:00	4.2 EC <ul style="list-style-type: none"> ▪ Knowledge management <i>Piet Zuidema, Zuidema Consult GmbH, Switzerland</i> 	25 min ppt & 5 min Q&A
14:30	4.3 IAEA <ul style="list-style-type: none"> ▪ Guidance of safety case for near-surface facilities <i>IAEA (TBC)</i> 	25 min ppt & 5 min Q&A
15:00	<i>BREAK (30 min)</i>	
15:30	4.4 Group 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 new RWMC activities <ul style="list-style-type: none"> ▪ Summary of group discussion (10 min / group) <ul style="list-style-type: none"> - Group 1 - Group 2 - Group 3 ▪ Proposal of new RWMC activities (25 min) ▪ Final remarks (5 min) 	
18:00	<i>WORKSHOP ADJOURN</i>	

DAY 3, 10 December 2020

Site visit

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