

Agenda and Attendees IGD-TP's Eighth Exchange Forum

3rd and 4th December, BMWi, Berlin, Germany

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The IGD-TP's eighth Exchange Forum (EF8) will be a two-day event, with a dual focus. The first day will be dedicated to the developing European Joint Programme on Radioactive Waste Management (EURAD). Representatives of the future EURAD Project Management Office (PMO) will lead sessions dedicated to:

- Presenting the R&D topics, strategic studies and knowledge management activities that comprise the initial scope of EURAD.
- Presenting the shared EURAD Strategic Research Agenda (SRA) and collaboratively identifying possible additional topic suggestions.
- Brainstorming possible future projects/scope for a second wave of EURAD-1 (noting that
 the outputs of this brainstorming session would be sent to the future EURAD Governance
 Team for their consideration/use).
- Updating the community on the expected EURATOM Call WP2019-2020.

The change to a Joint Programme approach for EC-funded research means that the IGD-TP Executive Group will now focus more intently on direct implementation-related opportunities for collaboration between members and their common research needs that sit outside of the scope of EURAD. Therefore, the IGD-TP Executive Group will lead sessions on the second day of EF8 that aim to:

- Communicate the changing needs and drivers for radioactive waste management research (in light of the complimentary and parallel EURAD project).
- Update IGD-TP members on the platform's activities during 2017 and 2018.
- Collectively explore collaborative opportunities for implementation-related research projects
 that are complementary, but separate to, the common areas of interest being addressed via
 EURAD. Initially, we will do this by discussing the current status, challenges and potential
 solutions in three specific technical topic areas (see below).

This Exchange Forum will therefore help to prepare for future collaborative implementation-related RD&D that is complimentary to EURAD activities and which can be progressed in parallel. The three technical topic areas that the Executive Group would like to focus on in dedicated break-out sessions at EF8 are:

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Technical topic 1: "Technical issues in support of retrievability"

Retrievability of waste packages can be provided to support operational safety, more particularly in accidental situations. Regardless of operational safety needs, it may also be a regulatory requirement in a number of national programs, potentially incorporating consideration of some aging. The session addresses scientific and technical knowledge and potential issues associated to the implementation of retrievability as well as relating RD&D axes. This includes the ability to model and monitor the evolution of waste packages and disposal rooms over time during operating period, the technical provisions that can be included in the design to enhance retrievability, the retrieval techniques. Phenomenological processes that may need to be taken into account include temperature increase, desaturation / saturation, gas accumulation, mechanical stress-strain, corrosion, radiolysis.

Technical topic 2: "Heat generating waste containers"

This technical topic will focus on reviewing the technology readiness and development of alternative, 'next generation' disposal container materials/designs. The aim will be for the session to help to support concept selection/development for earlier stage disposal programmes and also concept optimisation for the more advanced disposal programme concepts. We will seek to highlight the state-of-the-art in container materials and design, covering ceramic containers, supercontainer concepts and alternative candidate container materials. The session will aim to develop areas of commonality in terms of future WMO RD&D needs.

Technical topic 3: "Progress in site investigation and characterisation techniques"

A geological disposal site characterisation programme will need to meet the information requirements of the design and disposal system safety assessments and also contribute towards the development of a site descriptive model. Typically, a site characterisation team will need to define the parameters to be measured to provide this information. This technical session will seek to address advanced site characterisation techniques. It will cover investigation and modelling of the biosphere and geosphere according to typical higher-strength rock and lower-strength sedimentary rock repository requirements. We will also address the process for site selection before and after advanced site characterisation, and site characterisation during construction and operation phases. The session will aim to develop areas of commonality in terms of future WMO RD&D needs.

At the end of day 1, the IGD-TP will host an evening poster session that aims to showcase cuttingedge radioactive waste management RD&D that aligns to the IGD-TP's SRA. Exchange Forum participants are strongly encouraged to submit poster applications that are consistent with this goal.

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Time	Item	Lead		
Monday 3 rd D	December – EURAD Morning Session	Room: A2.027 (Aula)		
0800	Arrival, Security and Registration			
Session Chair: IGD-TP Chair (Jon Martin)				
0900	Opening Session	Jon Martin (RWM)		
	Welcome, opening remarks and meeting objectives			
0915	National policy in Germany	Ursula Borak (BMWi)		
Session Chair	r: EURAD PMO (Marie Garcia)			
0930	Euratom programme (2014-2018/2019-20) - Status	Christophe Davies (EC)		
0940	EURAD Overview and Organisation	Marie Garcia (Andra)		
1010	RD&D WP: Development and Improvement Of NUmerical methods and Tools for modelling coupled processes (DONUT)	Francis Claret (BRGM)		
1030	RD&D WP: Assessment of Chemical Evolution of ILW and HLW Disposal Cells (ACED)	Alexandre Dauzeres (IRSN)		
1050	RD&D WP: Mechanistic understanding of gas transport in clay materials (GAS)	Séverine Levasseur (ONDRAF)		
1110	Tea/coffee break			
1140	RD&D WP: Influence of temperature on clay-based material behaviour (HITEC)	Markus Olin (VTT)		
1200	RD&D WP: Cement-Organics-Radionuclides- Interactions (CORI)	Marcus Altmaier (KIT)		
1220	RD&D WP: Fundamental understanding of radionuclide retention (FUTuRE)	Dirk Bosbach (FZJ)		
1240	RD&D WP: Spent Fuel Characterization and Evolution Until Disposal (SFC)	Joaquín Cobos (CIEMAT)		
1300	Lunch			
Monday 3 rd D	ecember – EURAD Afternoon Session			
Session Chair	r: EURAD PMO (Marie Garcia)			
1430	SS WP: Uncertainty Management multi-Actor Network (UMAN)	Frank Lemy (Bel V)		
1450	SS WP: Waste management routes in Europe from cradle to grave (ROUTES)	Virginie Wasselin (IRSN)		
1510	Knowledge Management Activities - State of Knowledge WP - Guidance WP - Training WP	Gunnar Buckau (Independent) Panja Feuker (BGE) Dalibor Mateju (SURAO) Christophe Bruggeman (SCK-CEN)		
1550	Interaction with Civil Society	Linda Delory (NTW) Julien Dewogélhaëre (Mutadis)		
1600	EURAD Strategic Research Agenda and its Future Development	Tara Beattie (MCM)		

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	 Development of the EURAD SRA and current status WMO College (IGD-TP) TSO College (SITEX) RE College 	Rob Winsley (RWM) Elisabeth Salat (IRSN) Christophe Bruggeman (SCK-CEN)		
1700	Close of the EURAD day			
	Monday 3 rd December – Evening Poster Session Room: A2.027 (Aula)			
Monday 3 rd D	ecember – Evening Poster Session	Room: A2.027 (Aula)		
	Pecember – Evening Poster Session r: IGD-TP Chair (Jon Martin)	Room: A2.027 (Aula)		
	<u> </u>	Room: A2.027 (Aula) All		
Session Chair	r: IGD-TP Chair (Jon Martin)			

Tuesday 4 th [December – IGD-TP Morning	g Session	Room: A2.027 (Aula)
0800	Arrival, Security and Regis	, ,	
Session Chair	r: Incoming IGD-TP Chair (Irin	na Gaus)	
0845	Opening Session		Jon Martin (RWM)
	Welcome, opening remarks		
0900	Planning for the IGD-TP's		Irina Gaus (Nagra)
	Reflecting current needs, resapproaches	search drivers and changing	
0915	WMO areas of interest out	side of the EURAD scope	Jon Martin (RWM)
	Technical Break-ou	ıt Sessions (see separate ag	ienda)
0930	1: Technical issues in	2: Heat generating waste	3: Progress in site
	support of retrievability	containers	investigation and
	Chair: Frédéric Plas	Chair: Jon Martin (RWM)	characterisation
	(Andra)	Rapporteur: Michelle	techniques
	Rapporteur: Jean-Michel Hoorelbecke (Andra)	Cowley (RWM)	Chair: Irina Gaus (Nagra) Rapporteur: Bernd Frieg
	Tiboreibecke (Aridia)		(Nagra)
1300	Lunch		1 (- 3 - 7
Tuesday 4th D	December – IGD-TP Afterno	on Session	
Session Chair	r: Current IGD-TP Chair (Jon	Martin)	
1430	Technical session report back – 1: Technical issues in support of retrievability		Jean-Michel Hoorelbecke (Andra)
1500	Technical session report back – 2: Heat generating waste containers		Michelle Cowley (RWM)
1530	Technical session report back – 3: Progress in site investigation and characterisation techniques		Bernd Frieg (Nagra)
1600	Panel discussion: Linking WMO RD&D programmes in different stages with the IGD-TP		Irina Gaus (Nagra)
1645	IGD-TP EF8 closing remarks		Jon Martin (RWM)
1700	Meeting close		, ,

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Day 2 Technical Session Break-out Agendas

Technical Session 1: Technical issues in support of retrievability

Time	Item	Lead
0930	Introduction - Reversibility and retrievability concepts; scope of the session - General discussion	Jean-Michel Hoorelbecke (Andra)
1000	Technical aspects of retrievability in national programs (BGE TEC, RWM, Andra and SKB) - Knowledge and experience on retrievability of SF/HLW waste packages - UK's approach to retrievability - Demonstrator of HLW disposal canister retrieval - Canister retrieval status at SKB	Phillip Herold (BGE) Neil Carr (RWM) Jean-Michel Hoorelbecke (Andra) Anni Fritzell (SKB)
1120	Tea/coffee break	
1140	 Technical topics for discussion Removal techniques of buffer, plugs, seals and backfill (bentonite clay based, cementitious based, other) Retrieval techniques of waste packages within disposal cell Knowledge of the phenomenological state of disposal cells (monitoring, modelling, KM) Management of contamination and/or activation products if any Lessons that could be learned on technical aspects from dismantling nuclear facilities 	Frédéric Plas (Andra)
1250	Wrap up and summary	Frédéric Plas (Andra) and Jean-Michel Hoorelbecke (Andra)
1300	Lunch	, /

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Technical Session 2: Heat generating waste containers

Time	Item	Lead
0930	Introduction	Michelle Cowley (RWM)
	- Objectives	
	- Recap of EF7	
	 Knowledge management 	
1000	Ceramics as possible FUTURE alternative materials for	Nathalie Texier –
	the HLW overpack (Cigeo project)	Mandoki (Andra)
1020	Discussion session	Jon Martin (RWM)
1050	Alternative coatings for disposal canisters	Nikitas Diomidis (Nagra)
1110	Tea/coffee break	
1130	Discussion session	Jon Martin (RWM)
1155	Belgian Supercontainer concept	Séverine Levasseur
		(ONDRAF)
1215	Discussion session	Jon Martin (RWM)
1245	Wrap up, summary of key points and future actions	Jon Martin (RWM) and
		Michelle Cowley (RWM)
1300	Lunch	

Technical Session 3: Progress in site investigation and characterisation techniques

Time	Item	Lead
0930	Introduction	Irina Gaus (Nagra)
0940	Site characterisation in the Hungarian early-stage	Peter Molnar (Puram)
	programme	
1000	Preparation for site characterisation in the UK: a needs-	Rob McLaverty (RWM)
	driven exercise	
1020	Site characterisation in the final stage of selecting the site	Bernd Frieg (Nagra)
	in sedimentary clay rock in Switzerland	
1040	Discussion Part 1– which questions to answer, and how	All /Nagra
	to answer them.	
1110	Tea/coffee break	
1130	Site characterisation in the Swedish crystalline rock	Peter Wikberg (SKB)
	before and after submitting the construction licence.	
1150	Site characterisation in the French sedimentary/clay rock	Jacques Delay (Andra)
	programme, close to construction licence submission	
1210	Discussion Part 2– which questions to answer, and how	All /Nagra
	to answer them. Focus on future steps.	
1240	Wrap up, summary of key points and proposed actions	Irina Gaus (Nagra) and
		Bernd Frieg (Nagra)
1300	Lunch	

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Attendee List and Assigned Day 2 Technical Sessions

The attendee list below identifies which technical session on day 2 each attendee is assigned to. Where we were notified of a technical session preference, this session is assigned. Where we were not notified, technical sessions have been assigned according to the sizes of the available breakout rooms. The technical sessions are as follows:

- 1. Technical Issues in Support of Retrievability
- 2. Heat Generating Waste Containers
- 3. Advanced Site Characterisation Techniques

First Name	Last Name	Organisation	Day 2 Technical Session
Marcus	Altmaier	Yes	Session 3
Thuro	Arnold	HZDR	Session 2
Jorma	Autio	AINS Group, A-Insinöörit Civil Oy	Session 1
Attila	Baksay	TS Enercon	Session 2
Jozef	Balaz	Jadrová a vyraďovacia spoločnosť, a.s.	Session 2
Tamara	Baldwin	Galson Sciences Ltd	Session 2
Anthony	Banford	National Nuclear Laboratory (UK)	Session 2
Megan	Barnett	British Geological Survey	Session 1
Jeroen	Bartol	COVRA	Session 1
Tara	Beattie	MCM Environmental Services Ltd	Session 2
Johan	Bertrand	Andra	Session 2
Thomas	Beuth	GRS	Session 2
Roman	Beyerknecht	Nuclear Engineering Seibersdorf GmbH	Session 2
Matts	Björck	Swedish Nuclear Waste and Management Company AB (SKB)	Session 2
Ingo	Blechschmidt	Nagra	Session 1
Edgar	Bohner	VTT Technical Research Centre of Finland Ltd	Session 2
Wilhelm	Bollingerfehr	BGE TECHNOLOGY GmbH	Session 1
Audrey	Bonnelye	GFZ-Potsdam	Not Applicable
Ursula	Borak	BMWi	Not Applicable
Dirk	Bosbach	Forschungszentrum Jülich	Session 3
Wernt	Brewitz	TU Braunschweig	Session 3
Christophe	Bruggeman	SCK•CEN, Belgian Nuclear Research Centre	Session 2
Gunnar	Buckau	Independent	Session 3
Mauro	Cappelli	ENEA	Session 2
Paul	Carbol	European Commission, DG JRC	Session 1
Neil	Carr	RWM	Session 1

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First Name	Last Name	Organisation	Day 2 Technical Session
Andrea	Cherkouk	Helmholtz Zentrum Dresden- Rossendorf, Institute of Resource Ecology	Session 2
Oto	Chren	Jadrová a vyraďovacia spoločnosť, a.s.	Session 2
Petra	Christensen	SKB	Session 2
Francis	Claret	BRGM	Session 3
Alastair	Clark	MCM Environmental Services Ltd	Session 3
Joaquin	Cobos	CIEMAT	Session 1
Michelle	Cowley	RWM	Session 2
Miguel	Cuñado	ENRESA	Session 2
Alexandre	Dauzeres	IRSN	Session 2
Christophe	Davies	EC	Session 2
Guido	Deissmann	Forschungszentrum Jülich GmbH	Session 2
Jacques	Delay	Andra	Session 3
Linda	Delory	NTW	Session 2
Julien	Dewogélhaëre	Mutadis	Session 2
Nikitas	Diomidis	Nagra	Session 2
Lara	Duro	Amphos 21 Group S.L.	Session 2
Joaquín	Farias - Seifert	ENRESA	Session 1
Joerg	Feinhals	DMT GmbH & Co. KG	Session 2
Javier	Fernandez Lopez	ENRESA	Session 2
Barbara	Ferrucci	ENEA	Session 3
Panja	Feuker	Bundesgesellschaft für Endlagerung mbH (BGE)	Session 1
Cornelius	Fischer	Helmholtz-Zentrum Dresden- Rossendorf	Session 3
Carina	Franck	Projektträger Karlsruhe (PTKA)	Session 2
Bernd	Frieg	Nagra	Session 2
Annika	Fritzell	Svensk Kärnbränslehantering AB (SKB)	Session 1
Daniel	Galson	Galson Sciences Ltd	Session 3
Xavier	Gaona	Karlsruhe Institute of Technology (KIT), Institute for Nuclear Waste Disposal (INE)	Session 2
Marie	Garcia	Andra	Session 2
David	Garcia	Amphos 21 Group S.L.	Session 3
Irina	Gaus	Nagra	Session 3
Horst	Geckeis	Karlsruhe Institute of Technology	Session 1
Astrid	Goebel	BGE	Session 2

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First Name	Last Name	Organisation	Day 2 Technical Session
Bernd	Grambow	IMT Atlantique	Session 1
Monica	Hammarström	SKB	Session 1
Lucie	Hausmannova	SÚRAO	Session 1
Vaclava	Havlova	UJV Rez, a.s.	Session 3
Tim	Heath	Wood	Session 3
Christian	Herold	BAM - FB 3.4	Session 2
Philipp	Herold	BGE TECHNOLOGY GmbH	Session 1
Johannes	Herrmann	GFZ	Not Applicable
Arnd	Heumann	Helmholtz Centre Potsdam GFZ German Research Centre For Geosciences	Not Applicable
Zbynek	Hlavac	Research centre Rez Ltd.	Session 3
Gunnar	Hoefer	Bundesgesellschaft für Endlagerung mbH	Session 3
David	Holton	Wood (Amec Foster Wheeler)	Session 1
Erika	Holton	VTT Technical Research Centre of Finland	Session 2
Jean-Michel	Hoorelbeke	Andra	Session 1
Masataka	Imai	Radioactive Waste Management Funding and Research Center	Session 1
Tomoko	Ishii	Radioactive Waste Management Funding and Research Center	Session 1
Ivan	Ivanov	Technical University of Sofia	Session 3
Elke	Jacops	SCK-CEN	Session 3
Peter	Jansson	Uppsala University	Session 2
Darius	Justinavicius	Lithuanian Energy Institute	Session 3
Birgitta	Kalinowski	Swedish Nuclear Fuel and Waste Management Co	Session 3
Timur	Kandemir	BGZ	Session 2
Ivo	Kaplan	SURAO	Session 3
Ole	Kastbjerg Nielsen	Danish Decommissioning	Session 3
Jake	Kinghorn-Mills	MCM Environmental Services Ltd	Session 1
Andrea	Koerdt	Federal Institute for Materials Research and Testing	Session 1
Jaroslave	Koťátková	Research Centre Řež	Session 2
Steven	Krüger	BMWi	Session 2
Michael	Kühn	GFZ German Research Centre for Geosciences	Session 3
Hans Jörg	Kunte	BAM	Session 2
Zdena	Lahodová	SÚRAO	Session 2
Eileen	Langegger	Nuclear Engineering Seibersdorf	Session 2

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First Name	Last Name	Organisation	Day 2 Technical Session
		GmbH	
Eva	Laraia	Projektträger Karlsruhe	Session 2
Frank	Lemy	Bel V	Session 1
Séverine	Levasseur	ONDRAF/NIRAS	Session 2
Jonathan	Martin	RWM	Session 2
Dalibor	Mateju	SÚRAO	Session 1
Juan Carlos	Mayor Zurdo	ENRESA	Session 3
Andrew	McClusky	BEP Surface Technologies Ltd	Session 2
Fiona	McEvoy	British Geological Survey	Session 3
Rob	McLaverty	RWM	Session 3
Giuseppe	Modolo	Forschungszentrum Jülich GmbH	Session 2
Peter	Molnar	Plc for Radioactive Waste Management PURAM	Session 3
Christian	Müller	BGE TECHNOLOGY	Session 3
Lumir	Nachmilner	Self-employed	Session 2
Markus	Olin	VTT	Session 2
Teresa	Orellana Perez	Bundesanstalt für Materilforschung und -prüfung (BAM)	Session 2
Jana	Orzechowski	Bundesgesellschaft für Endlagerung mbH (BGE)	Session 3
Isabel	Paiva	IST-ID, C2TN	Session 2
Frédéric	Plas	Andra	Session 1
Petra	Polivka	Centrum vyzkumu Rez	Session 2
Ulf	Ronneteg	Swedish Nuclear Fuel and Waste Management Co	Session 2
Wolfram	Rühaak	BGE	Session 3
Elisabeth	Salat	IRSN	Session 2
Annika	Schäfers	BMWi	Session 1
Stéphan	Schumacher	Andra	Session 1
Patrik	Sellin	SKB	Session 2
Assen	Simeonov	SKB	Session 3
Eric	Simo	Research Associate	Session 2
Ján	Sirota	Jadrová a vyraďovacia spoločnosť, a.s.	Session 2
Anders	Sjöland	SKB	Session 2
Joachim	Stahlmann	Technische Universität Braunschweig	Session 1
Jiri	Stastka	Czech Technical University in Prague	Session 2
Walter	Steininger	None	Session 3
Martin	Stiefel	Nagra	Session 2
Silvia	Stumpf	PTKA	Session 2
Maryna	Surkova	FANC	Session 3

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First Name	Last Name	Organisation	Day 2 Technical Session
Valentina	Svitelman	Nuclear Safety Institute of the Russian Academy of Sciences	Session 3
Jiri	Svoboda	CTU in Prague	Session 2
Nathalie	Texier Mandoki	Andra	Session 2
Holger	Tietze- Jaensch	Forschungszentrum Jülich	Session 3
Satohito	Toguri	SHIMIZU CORPORATION	Session 1
Marika	Vespa	Brenk Systemplanung	Session 3
Holger	Völzke	Bundesanstalt für Materialforschung und -prüfung (BAM)	Session 2
Virginie	Wasselin- Trupin	IRSN	Session 2
Mary	Westermark	Svensk Kärnbränslehantering AB	Session 1
Peter	Wikberg	SKB	Session 3
Robert	Winsley	RWM	Session 2
Jens	Wolf	GRS gGmbH	Session 2
Dietmar	Wolff	Bundesanstalt für Materialforschung und -prüfung (BAM)	Session 2
Béatrice	Yven	Andra	Not Applicable
Kornelia	Zemke	Independent scientist	Session 3
Borys	Zlobenko	SI "Institute of Environmental Geochemistry" NAS of Ukraine	Session 3

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Practical Information

Venue: German Federal Ministry for Economic Affairs and Energy (BMWi), Invalidenstraße 48, 10115 Berlin.

For directions please see https://www.bmwi.de/Navigation/EN/Ministry/Getting-to-the-Ministry/getting-to-the-ministry.html

Please note that sufficient time will need to be allowed to gain entrance to the building each day and appropriate identification is required. As it might slow the security checks down, it is recommended that attendees store their luggage at the hotel if they are staying close by.

Presentations and Posters: Where possible, presentations and posters given at Exchange Forum 8 will be added to the event website in early December 2018 (https://igdtp.eu/event/igd-tp-exchange-forum-8/).

Information will be added to the IGD-TP website as it becomes available (www.igdtp.eu). For any other questions please contact secretariat@igdtp.eu

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