



safe solutions for radioactive waste

IGD-TP
7th Exchange Forum
October 25-26th 2016, Cordoba, Spain

AGENDA V2.1

Tuesday 25th October 2016

8:30 Registration

9:00 **Opening Session** Welcome, opening remarks and meeting objectives
IGD-TP Chair (M. Hammarström - SKB)

Plenary Session1

9:30 **Key Note 1: National policy in Spain**
P. Zuloaga (Enresa)

10:00 **Key Note 2: R&D activities in Ukraine towards geological disposal of radioactive waste**
I. Shybetsky (Radioenvironmental Centre, Kiev)

10:30 *Coffee Break*

11:00 **Key Note 3: Update from the European Commission**
C. Davies (EC)

11:30 **Discussion Panel 1: RD&D for the future**
Future research needs arising from:

- WMOs – F. Plas (Andra)
- TSOs – C. Serres (IRSN)
- Research Entities – C. Bruggeman (SCK•CEN)

12:15 **Audience questions to the panel**
Panel: WMO (F. Plas, J. Andersson), TSO (C. Serres), RE (C. Bruggeman) and EC (C. Davies)

12:45 **Organisation of the parallel Sessions** - IGD-TP Secretariat

13:00 *Lunch*

Parallel Sessions – Technical Working Groups Session

14:00 **Working Groups (part 1)** - Working Group Chair, Rapporteur and members

15:45 *Coffee Break*

16:00 **Working Groups (part 2)** - Working Group Chair, Rapporteur and members

17:30 **End of the day**



Parallel Sessions – Technical Working Groups Session (Cont.)

09:00

Working Groups (part 3) Discussion/conclusions from Working Group presentations
Working Group Chair, Rapporteur and members

10:30

Coffee Break

Plenary Session 2

Working Group (part 4)

11:00

Key Note 4: Focus on less advanced programmes
Application and adaptation of mature geological disposal concepts to less advanced programmes
J. Slovák (Surao)

11:45

BELBaR end of project overview
Knowledge base at project outset and objectives
Lessons learnt and benefit
P. Sellin (SKB)

12:10

LUCOEX end of project overview
Knowledge base at project outset and objectives
Lessons learnt and benefit
E. Thurner (SKB)

12:35

DOPAS end of project overview
Knowledge base at project outset and objectives
Lessons learnt and benefit
J. Hansen (Posiva)

11:00 - 13:00

Session to prepare WG conclusion presentations
Working Group Rapporteur and Chair only (i.e. not the wider Working Group members)

13:00

Lunch

Plenary Session 3

14:00 - 15:20

Reports back from the Working Groups - Working Group Rapporteurs

14:00

- WG1 - Industrialisation and optimisation, J. Hansen - Posiva

14:20

- WG2 - Canister Design, N. Diomidis - Nagra

14:40

- WG3 - High temperature clay interactions, Klaus Wieczorek - GRS

15:00

- WG4 - Spent fuel characterization, A. Sjöland – SKB

15:20 - 15:30

Discussion on the findings of the Working Groups and proposed way forward - All

- Could a proposal be appropriate for a future call?
- Could a proposal be consistent with JP ground rules?

15:30 - 16:00

Conclusion and closing remarks - M. Hammarström (SKB)

16:00

Close of IGD-TP EF7 M. Hammarström (SKB) and P. Zuloaga (Enresa)

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Working Group 1: Industrialisation and optimisation

Chair: Johan Andersson, SKB
Rapporteur: Johanna Hansen, Posiva

Tuesday 25th October, Working Groups parts 1 and 2

Part 1

14:00 - 14:20	Session introduction – WG aims	J Andersson - SKB and J. Hansen - Posiva
14:20 - 14:40	Industrialisation and optimisation of the KBS-3 repositories	J. Andersson - SKB and T. Jalonon - Posiva
14:40 - 15:00	Development of optimisation methodology and methodology illustration	D. Galson - Galson Sciences
15:00 - 15:20	International cooperation and consensus in geological disposal	A. Dreimanis - Radiation safety centre of the State Environmental Service
15:20 - 15:40	Reducing the cost of waste containers for decommissioning and geological disposal	J. Hardy - Nuclear AMRC
15:45 - 16:00	Coffee Break	

Part 2

16:00 - 16:20	Pyro(hydro)lysis of Spent Ion Exchange Resins for the Disposal of Organic-Free Radioactive Waste	H.G. Jung - NUKEM
16:20 - 16:40	Looking for rational environmentally friendly approach for development of concept for safe nuclear waste repository in preparing for future projects	I. Ivanov - TUS
16:40 - 17:00	Discussion	
17:00	Close of day 1	

Wednesday 26th October, Working Groups part 3

Part 3

09:00 - 10:30	Discussion and summary session, aiming to: i) summarise what was presented ii) agree and document recommendations for how IGD-TP should (if at all) continue with this technical area	J Andersson -SKB, J. Hansen - Posiva and all WG1 attendees
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Working Group 2: Canister Design

Chair: Wilhelm Bollingerfehr, DBE-TEC

Rapporteur: Nikitas Diomidis, Nagra

Tuesday 25th October, Working Groups parts 1 and 2

Part 1

14:00 - 14:20	Session introduction – WG aims	W. Bollingerfehr - DBE TEC and N. Diomidis - Nagra
14:20 - 14:40	Technical Requirements for High Level Waste Disposal Containers with regard to their Retrievability during Operation and Recovery after Repository Closure	T. Orellana Perez - BAM
14:40 - 15:00	Candidate Material Solutions for the Design of Nuclear Waste Storage Canisters	S. Holdsworth - EMPA
15:00 - 15:20	Czech Disposal Canister Programme	I. Pospiskova - SURAO
15:20 - 15:40	Experience in manufacturing of nuclear storage containers via casting, forging and machining techniques	M. Blackmore - SFIL
15:45 - 16:00	Coffee Break	

Part 2

16:00 - 16:20	Implications of canister design and materials on closure welding for deep geological disposal canisters for high level nuclear waste and spent fuel	C. Punshon - TWI
16:20 - 16:40	Developments of the Canadian Copper Coated Used Fuel Container	P. Keech - NWMO
16:40 - 17:00	Electroplated copper and alternative design possibilities	A. McClusky - BEP
17:00 - 17:20	Overview of Cold Spray Coating Technology	H. Lovelock - TWI
17:20	Close of day 1	

Wednesday 26th October, Working Groups part 3

Part 3

09:00 - 09:20	Mechanical-Corrosion Effects on the Durability of High Level Waste and Spent Fuel Disposal Containers	C. Padovani - RWM
09:20 - 09:30	Sharing information on container materials for High Level Waste and Spent Nuclear Fuel (IGD-TP activity JA11a)	C. Padovani - RWM
09:30 - 10:30	Discussion and summary session, aiming to: i) summarise what was presented ii) agree and document recommendations for how IGD-TP should (if at all) continue with this technical area	W. Bollingerfehr - DBE TEC and N. Diomidis - Nagra and all WG2 attendees.



Working Group 3: High temperature clay interactions

Chair: Irina Gaus, Nagra
Rapporteur: Klaus Wieczorek, GRS

Tuesday 25th October, Working Groups parts 1 and 2

14:00 - 14:20	Welcome and motivation of this session	I. Gaus - Nagra
14:20 - 14:35	Discussion on the motivation and possible outcomes of the session	I. Gaus - Nagra, and All

Part 1, Topic 1: Progress in understanding up to 100°C

14:40 - 15:00	Effects of elevated temperatures on the EBS in clay formations	T. Schäfer - KIT
14:55 - 15:15	Clay interactions at high temperature by molecular dynamics, thermodynamic modelling and lab analysis	M. Olin - VTT
15:15 - 15:25	Discussion	K. Wieczorek – GRS and All

Part 2, Topic 2: Progress in understanding above 100°C

15:25 - 15:45	Research topics from the state of the art on THMCB aspects of thermal compatibility of clays	A. Meleshyn - GRS
15:45 - 16:00	Coffee Break	
16:00 - 16:20	Coupled THMC interactions at temperature beyond 130 °C : experimental investigations and modeling of materials alteration, swelling processes and overpressure build-up	F. Claret, BRGM
16:20 - 16:40	Contribution to numerical modelling of high temperature clay interactions	J. Samper - UDC
16:40 - 17:00	Discussion	K. Wieczorek – GRS and All

Part 2, Topic 3: Assessing THM consequences in clay host rocks for high T

17:00 - 17:20	Thermo-Hydro-Mechanical Effects of a Geological Repository at Macro-Scale – A Novel Modeling Approach Adapted from Plate Tectonics	T. Kämpfer - AF Consult
17:20 - 17:30	Discussion	I. Gaus - Nagra and All
17:30	Close of day 1	

Wednesday 26th October, Working Groups part 3

Part 3, Topic 4: In-situ experiments regarding high T

09:00 - 09:20	Hot Mock-ups at Joseph URL	J. Svoboda - CTU
09:20 - 09:40	HotBENT - High Temperature Bentonite Project Ideas	F. Kober - Nagra
09:40 - 09:50	Discussion	K. Wieczorek, - GRS and All

Part3, Topic 5: Conclusions

09:50- 10:30	Discussion and summary session, aiming to: i) summarise what was presented ii) agree and document recommendations for how IGD-TP should (if at all) continue with this technical area	I. Gaus - Nagra K. Wieczorek - GRS, and all WG3 attendees
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Working Group 4: Spent fuel characterization

Chair: Massimo Sepielli, SNETP

Rapporteur: Anders Sjöland, SKB

Tuesday 25th October, Working Groups parts 1 and 2

Part 1

14:00 - 14:20	Session introduction – WG aims	M. Sepielli - SNETP and A. Sjöland - SKB
14:20 - 14:40	Presentation on behalf of SNETP Nuclear Sustainable Platform	D. Hambley - NNL/SNETP
14:40 - 15:00	Spent fuel characterization with emphasis on Russian type reactors	J. Miksova - CV-REZ
15:00 - 15:20	Thermal modelling of high heat generating wastes in the UK programme	R. Winsley - RWM
15:20 - 15:40	Development of depletion models for radionuclide inventory, decay heat and source term estimation in discharged fuel	S. Caruso - Nagra
15:45 - 16:00	Coffee Break	

Part 2

16:00 - 16:20	Spent fuel online monitoring: opportunities for new technologies	P. Finocchiaro - INFN
16:20 - 16:40	The proposed SPIRE Project: challenge, scope, impact	P. Jansson - Uppsala Uni
16:40 - 17:00	The proposed SPIRE Project: measurement techniques applied on SNF	H. Widestrand - SKB and Peter Schillebeeckx - EC-JRC
17:00 - 17:20	SF inventory calculations in SPIRE project : current limits and expected improvements	D. Rochman - PSI
17:20	Close of day 1	

Wednesday 26th October, Working Groups part 3

Part 3

09:00 - 09:20	Safety of extended interim dry storage of spent nuclear fuel (SAEXFUEL)	J. Cobos - Ciemat
09:20 - 10:30	Discussion and summary session, aiming to: i) summarise what was presented ii) agree and document recommendations for how IGD-TP should (if at all) continue with this technical area	M. Sepielli - SNETP, A. Sjöland - SKB and all WG4 attendees

