



Implementing Geological Disposal of Radioactive Waste Technology Platform

Objectives of the 4th Exchange Forum



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Context & Recent Developments (1)

- Several EU Members are close to implementation of geological repositories
 - ✓ shift towards demonstration i.e. operational issues, industrialisation, optimisation, etc. (RD&D)
 - ✓ challenge for all interested parties
- At the same time, numerous newcomer EU Members are at very early stages of development
 - ✓ need to build their own expertise while maximizing the transfer of knowledge from more advanced programmes
- Acknowledgement of the need to involve the public as early as possible, i.e. in the definition of R&D activities



Context & Recent Developments 2

- Shift in R&D multilateral cooperation mode
 - ✓ from national based projects to shared priorities, pooling of human and research resources as well as to reducing overlapping work
- Increasing awareness of the need to continue RD&D well after licensing
 - ✓ Evolving safety & regulatory concerns
 - ✓ Expectation of state-of-the-art sciences and technologies use
 - ✓ Optimization of repository, i.e. REX, test new devices or designs, ...
 - ✓ Safety case / license updates
 - ✓ Preparation of (partial) sealing and closure



Context & Recent Developments 3

- High risk of a shortage, at European level and at short to medium timescales, of skilled human resource
 - ✓ Not only for the waste management organizations but also authorities, research organizations, academia and supplier industries
 - ✓ Probably one of the most acute challenges
- 2011/70/Euratom which fosters policy decisions and implementation
 - ✓ National programmes
 - ✓ Common understanding of the Directive's requirements (e.g. passive safety)
- Euratom R&D programme 2014-2015 in preparation



IGDTP's priorities (1)

- Strategic Research Agenda: shared RD&D priorities
 - RD&D priorities shared by “end-users” (i.e. the industry in charge of developing and implementing geological repositories)
 - With an important cooperative added value
 - Of benefit to all disposal programmes
 - Balance between fundamental science, implementation-driven R&D, safety case support and technological demonstration
- ➔ Contribute to a sound, shared transparent scientific and technological basis for geological disposal
- ➔ Should continue to be used as a basis for the Euratom programme
- ➔ Open to new ideas and cross fertilization with other interested parties



IGDTP's priorities (2)

- Pooling of resources
 - Joint activities (not limited to EC Euratom projects)
 - Competence maintenance, education and training
- Networking
 - WMO's, TSO's, NMS', SNETP, EESC ...
- Synergies with other international forums
- Knowledge mapping
- Build trust amongst members



well established tool



Objectives of the EF 4

The aims of this 4th Exchange Forum are:

- Network
- Inform on new EC programme
- Bring forward new projects in a bottom-up approach in the framework of the deployment of activities described in the SRA/DP and beside these (WGs)
- Identify new subject of collaboration related with SNETP future needs (WG)
- Identify subject of common interest with TSOs through SITEX (Sustainable network of Independent Technical EXpertise for radioactive waste Disposal) (WG)
- Develop way forward towards relationships between R&D and stakeholder involvement (in plenary)



AGENDA- Plenary Session 1

<ul style="list-style-type: none"> • Key Note : R&D programme to support Deep Geological Disposal Development in the Czech Republic 	Jiri Slovak, RAWRA
<ul style="list-style-type: none"> • Key Note: SNETP Chair Nuclear development and waste management from the SNETP perspective 	Frantisek Pazdera, SNETP Chair
<ul style="list-style-type: none"> • Key Note: European Commission News and Expectations for future disposal RD&D programmes 	Christophe Davies, EC DGRI
<ul style="list-style-type: none"> • Key Note: EESC Perspectives on Public Participation and Civil Society Involvement 	Brian Curtis, EESC
<ul style="list-style-type: none"> • InSOTEC: Scenarios for improving stakeholder involvement within the IGD-TP. Insights from InSOTEC 	Meritxell Martell, Merience
<ul style="list-style-type: none"> • NEWLANCER: Steps towards a broader participation of the New Member States in EURATOM research 	Daniela Diaconu, INR



Five parallel Working Groups (1)

WG1: “Cement “

- ✓ The aim is to determine the potential scope for future joint studies and/or experiments on cement materials interactions with other repository components
- ✓ Based on input from WMOs in relation to their needs
- ✓ Emphasis is on long-term performance rather than engineering aspects.



Five parallel Working Groups (2)

WG2: “Monitoring”

- ✓ Based on MoDeRn (Monitoring Developments for Safe Repository Operation and Staged Closure) project
- ✓ → need of further development of in situ technologies to match specific repository requirements
- ✓ 4 major themes:
 1. Strategy aspects
 2. Technology development
 3. Practical implementation
 4. Communication & stakeholder involvement



Five parallel Working Groups (3)

WG3: “New Waste Type” in collaboration with SNETP

- ✓ Key to consider ASAP the waste issue when developing new R&D and technologies
- ✓ Expected changes in waste forms may have implications for geological disposal and needed R&D
- ✓ In line with IGD-TP’s vision, focus on changes expected in the coming two decades (e.g. higher burnups, change of cladding materials, use of fuel form other than UO₂, increased separation and recycling, change in the reprocessing end-product, GenIII reactors...)
- ✓ This includes also the waste from R&D for advanced nuclear cycles



Five parallel Working Groups (4)

WG4: “RD&D needs from TSOs” in cooperation with SITEX

The aim of this Working Group (WG) is to present the TSO’s RD&D needs and discuss some of these priorities which may meet WMOs needs as expressed in the SRA and DP. This WG offers a forum that could foster, where possible, and considering the deontological issues linked with the respective role and missions of assessors and implementers, the identification of possible joint activities linked with the joint programming strategy to be developed in the EC framework of H2020.



Five parallel Working Groups (5)

WG5: “Microbiological Studies”

- ✓ Microbial processes have been investigated for up to two decades or more (mostly by WMO's)
- ✓ Baseline microbial processes are the same
- ✓ Nevertheless, knowledge remains with individual WMOs
- ✓ → The aim of this WG is to bring together the competence and knowledge on microbiological processes and form a long-lasting international community within which new results, projects and proposals can be shared and discussed.



Plenary Session 2

Proposal for IGD-TP Knowledge Management Search Portal*	Juhani Palmu, Posiva
WP2 SecIGD2 RD&D dissemination Working Group	Ray Kowe, NDA
The PLATENSO Project	Kjell Anderson, Karita (by Meri Martell)
SAFEROCK Project	Gunnar Buckau, JRC
How to improve EF organisation ?	Jacques Delay IGD-TP



Plenary Session 2

Report of the 5 Working Groups	Rapporteurs
Discussion on the findings of the Working Groups and way forward	All
Conclusion and way forward for IGD-TP in 2013- 2016	Philippe Lalieux, IGD-TP Chair
Closing IGD-TP 4th EF	Philippe Lalieux, IGD-TP Chair