



Implementing Geological Disposal of Radioactive Waste Technology Platform

Achievements and way forward for the IGD-TP since its inception



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Background (1)

- The SRA identifies and prioritizes the research, development and demonstration (RD&D) issues that could be pursued together in Europe to achieve the IGD-TP vision
- The SRA was published in July 2011
- The strategy for the joint RD&D interest is organised under seven Key Topics comprising of a total of 36 individual Topics
- Sixteen Topics are identified as being of high priority and urgency for future deployment of the SRA within the Key Topics
- Cross-Cutting Activities have been identified including Dialogue with the regulators, Competence maintenance, education and training, Knowledge management, and Communication



Background (2)

- The SRA was in turn translated into a Deployment Plan (DP) of Joint Activities to be carried out by the Technology Platform by its members and participants. The DP was published in June 2012
- The Joint Activities (JA) derived from the individual SRA Topics are prioritized along a timeline for their implementation
- The start of each activity requires a leading organisation and volunteering participants for the activity, who also contribute resources to the Joint Activities' implementation
- The type of resource contributed depends on which type of Joint Activity is deployed



Revisiting the SRA (1)

- In the framework of the SecIGD2 project, it was proposed that by the end of 2015, the Strategic Research Agenda (SRA) could be updated
- In October 2013, EG members decided that the first step should be a review of the SRA according to the findings of the past four years and the on-going strategy
- EG members considered that major achievements were made in the setting up of research projects covering the SRA Key Topics and topics identified



Revisiting the SRA (2)

- In march 2014, the EG decided that each EG member, whatever the stage of development of their project, should provide a short analysis, from their point of view, on the major achievements of the platform
- In addition, EG Members should express their interest in participating in the activities and suggest improvements that could be carried out in the future from an organisational and technical point of view
- Thus, the Secretariat was asked to prepare a questionnaire, in which the EG member could express their point of view



Questionnaire

- The questionnaire has been structured in four parts:
 - Key topics and priorities
 - Achievements
 - Performance criteria and improvements
 - Conclusion
- Each of the EG members were invited to express their views on the SRA and the way it was actually developed through the activities of the platform



Results of the questionnaire (1)

- Sharing experience, knowledge, first-hand information and good practices within sister organisations and working together are considered as key drivers for the involvement in the platform activities
- Participating in the IGD-TP and in the EG gives a unique opportunity to closely follow (and to learn from) the development of the most advanced programmes
- IGD-TP offers financial leverage on common research interests, especially where large expenditure or unique facilities are required



Results of the questionnaire (2)

- IGD-TP helps to shape a RD&D programme on geological disposal with the limited resources available
- The lack of available resources in many of our national research programmes also limits the possibility of expansion of joint activities
- Thus, considering that the IGD-TP's Vision document is still valid, the EG members recommend it should not be changed, but it should be amended when decisions regarding licensing are taken
- The experience is that the minor changes that come up can be handled through the yearly update of the Master Deployment Plan



Results of the questionnaire (3)

- However, it is recommended to review the urgency/priorities relatively frequently (once every two years?), since priorities tend to change over the years and depending on how the different programmes develop
- Finally, it is proposed to keep the specific working group dedicated to the less advanced programmes needs in the framework of the SecIGD2 project.



Opportunity to change the level of priority (1)

N°	List and Contents of the Topics	Priority within the Key Topic	Discussion Proposed by
1.1	Increase confidence in, and testing and further refinement of the tools (concepts, definition of scenarios and computer codes) used in safety assessments	H	SKB
1.2	Improve safety case communication. This includes safety case communication on: Short-term safety of construction and operations, the transient phase, long-term safety.	H	SKB
2.2	Release from ILW and their detailed characterization	H	ONDRAF/NIRAS
2.3	MOX fuel: relation between structure and dissolution	M	RWM
2.4	High burn-up fuels and criticality	M	RWM/SKB
3.1	Full-scale demonstration of a HLW container (from manufacturing to emplacement)	H	SKB



Opportunity to change the level of priority (2)

3.1	Full-scale demonstration of a HLW container (from manufacturing to emplacement)	H	SKB
3.2	Buffer and backfill emplacement	H	SKB
3.3	Construction of underground facilities: Confirmation of rock properties for detailed repository design	H	SKB
3.4	Repository layout design including operational safety, reversibility and retrievability concerns	H	SKB
3.9	Long-term stability of bentonite in crystalline environments	H	SKB
3.12	Interaction of cement with clays	M	SKB
4.1	Methodologies for adaptation and optimisation during the operational phase	M	SKB
5.1	Improved methodology, approaches and documentation on risk assessment, risk management, further documentation for reporting operational safety issues	H	SKB
6.1	Monitoring strategies and programmes for performance confirmation	H	RWM
6.2	Monitoring technologies and techniques	H	RWM
6.4	Monitoring of engineered barrier systems	M	SKB
7.1	Governance of decision making processes: methods for the integration of technical, social and economic information	H	SKB



Potential new topics

N° Key topic SRA	New proposed topics	Proposed by
3	Effects of long saturation times on bentonite buffer	Posiva
3	Microbiological assisted corrosion processes	Posiva
3	New forms of copper corrosion	Posiva
3	Shear strength of metal canisters	Posiva
2	Direct characterisation of spent fuel	SKB
2	ILW disposal, e.g. waste forms,	RWM
4	ILW disposal concepts, co-disposal	RWM
WMS1	Preservation of host rock materials	COVRA
WMS1	Use of non-destructive techniques for siting	COVRA
1	Gas issues in the performance assessment	Nagra
WMS4	Disposal facilities acceptance criteria (DFAC)	Andra
7	Social science	COVRA



Conclusions (1)

- There is a very good common and shared position on the majority of the proposed questions
- Topics and key topics are still relevant. Minor adjustments can be discussed during the next EF meeting
- The SRA adequately covers the needs from the more advanced countries but not the lesser advanced countries. However, national issues should be left aside
- The “Exchange Forum” and the visibility of the IGD-TP group are big achievement of their own
- The yearly update of MDP is currently enough to reflect the changes of the proposed work programme of the platform



Conclusions (2)

- It was also noted that there is a wish to develop the JA more and the TSWG on new topics. The new topics have been discussed during EF5
- However, all members acknowledged the lack of available human resources that seem to be the main factor limiting the development of the activities
- Finally, it appears that there is currently no need to set up a WG for updating the SRA