

CALL FOR PRESENTATIONS

IGD-TP 5th Exchange Forum

Proposal and/or ideas to be sent before August 31, 2014 to the Secretariat
secretariat@igdtp.eu

**The IGD-TP 5th annual Exchange Forum (EF) will be held October 28-30, 2014
in Kalmar, Sweden**

After the EF4 in 2013 held in Prague, the Implementing Geological Disposal of Radioactive Waste – Technology Platform (IGD-TP) has proceeded with the definition of two proposals, the first on Cement and the second on Monitoring submitted to the first H2020 call. These two Topics were discussed in specific working groups during EF4.

In addition, proposals for new working groups on Cement-organics-radionuclides interactions, Microbiological issues and “SAFEROCK” were brought up during the EF4. The IGD-TP’s Executive Group has decided to launch these WGs and will evaluate the possibility to set up common projects consistent with the Strategic Research Agenda (SRA).

The Master Deployment Plan 2014 will be issued in mid-2014. It takes into account the outcome of all the Joint Activities in 2013. The Joint Activity outlines have been updated with the latest inputs from the working groups. They will also serve as a roadmap for the new technical projects.

Furthermore, in the last EF4, the IGD-TP/SNETP, Information Exchange Platform offered the opportunity for both platforms to present insights on new waste forms and their potential consequences on the design and safety assessment of a geological disposal facility.

Finally, the IGD-TP has held discussions with the SITEX project in order to develop synergies and increase coordination of national research programmes in the field of management of spent fuel and radioactive waste. This action is aimed at reviewing all strategic aspects linked to a stepwise move to joint programming in this field to address uncertainties about the safety of geological disposal with a special attention being paid to stakeholders’ concerns regarding all radioactive waste materials to be disposed of.

The 5th Exchange Forum is aimed at helping prepare for future projects, calls etc. and also in initiating or strengthening contacts between research organisations, waste producers and waste management organizations. More specifically, for this 5th Exchange Forum we would like to explore what the main achievements of the platform are since its inception. We would like to discuss if the priorities presented in the SRA have been adequately covered by the joint activities and associated projects. The participants are also invited to express new ideas that could complement our SRA priorities and that could lead to new Research, Development and Demonstration (RD&D) topics over the next five years.

In addition, in the framework of the Competence Maintenance, Education and Training (CMET) Working Group, included as a Joint Activity in our Deployment Plan and supported by a specific work package within the SecIGD2 project, we would like to progress supporting the development and implementation of end-user needs in the field of radioactive waste management and geological disposal. For this purpose, a special session will be organised to address the prerequisites for a voluntary accreditation scheme.

We will also take the opportunity to continue the work with SITEX and SNETP started last year in order to bring forward new subjects for collaboration and/or identify subjects of common interest.

Last but not least, there will be keynote addresses from both the ENEN and SITEX chair and a specialist talk about the ways to develop an effective collaboration mind-set.

As usual, this EF5 will report on IGD-TP's on-going working group activities and EC projects along with the latest proposals of stakeholder involvement in RD&D programmes in the context of the newly published Master Deployment Plan 2014. Furthermore, the EF5 provides the forum for informal exchanges between the participants around common interests in RD&D.

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To fulfil these objectives, the Exchange Forum will last three days, including a visit of the Äspö laboratory October 30, and will give time for four parallel technical working groups to discuss priorities and new technical initiatives proposed by EF participants.

In addition a specific session will provide the opportunity to address the competence maintenance issues.

Finally, the EF5 will give participants the opportunity to present their work in a poster session. No specific format is required. Please inform us if you have the intention to bring one.

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The four parallel technical working groups planned will focus on:

WG1: "Safety Case: Handling of uncertainties"

Safety cases are based on understanding the intrinsic safety of a disposal system in terms of the safety functions provided by multiple barriers. This understanding is demonstrated by presenting a range of different safety arguments, e.g. information derived by analogue studies, and modelling results. Such modelling needs to take into account the inevitable uncertainties that arise over such long timescales. Proper handling of uncertainties in the safety case is an important topic that has been identified by a number of WMOs and stakeholders. Work on this has been published by the OECD/NEA and the IAEA, as well as carried out in the context of previous EC R&D projects (e.g. PAMINA).

The ultimate goal "to have confidence" in the long-term safety of geological repositories means "to have reached a positive judgment that a given set of conclusions are well supported". To reach this goal for a specific disposal concept and site under consideration, it is necessary to identify uncertainties and to assess their influences on the relevant Safety functions. Uncertainties need to be considered in the scenarios, models and data that underpin the safety case. The "Handling of uncertainties" comprises of the investigation, management and communication of these uncertainties, including analysis of the influence of quantifiable uncertainties on the results of post-closure performance assessment. Not all uncertainties are significant or detrimental to safety. There are different strategies available for handling uncertainties, and this IGD-TP TSWG is exploring and further developing these strategies.

The TSWG addresses three topics:

- 1) *Management of uncertainties*. This comprises general strategies for management of uncertainties, specific aspects of handling uncertainties in different time frames, regulatory decision-making under uncertainty, and communication aspects.
- 2) *Uncertainty identification and quantification*. This is focused on the use of expert judgement to quantify uncertainties, derivation of probability density functions for parameter value uncertainties, and consideration of the importance of correlated uncertainties.
- 3) *Sensitivity analysis*. This aims at providing a survey and assessment of sensitivity analysis methods in view of the requirements of post-closure performance assessment, a comparison of methods using numerical experiments, and consideration of the relationship between the results of sensitivity analysis and the identification of R&D needs.

WG2: Microbiological Studies

The participants in EF4's WG5 reached a consensus view during the Prague meeting. After this EF4, many of the participants expressed an interest in a continued, pan-European co-operation.

The area of microbiological processes in radioactive waste disposal has been relatively neglected on the larger scale, although many smaller and often isolated projects can be identified in the past. Because of the lack of understanding of the power of microbial processes, several experiments have not given expected results. Four illustrative examples being: 1) The MINICAN experiment in the Äspö tunnel was designed as an abiotic corrosion experiment, but exposed a culture of sulphide producing bacteria which affected electrochemical measurements of corrosion to such an extent that the experimental goals were not achieved. 2) Studies of hydrogen diffusion in clay failed for a time because methanogens in the clay converted the hydrogen to methane – eventually, gamma sterilization made it possible to reach the goal of the diffusion experiment. 3) A long term experiment was planned over several months and was set up in Mont Terri to study the reduction of nitrate from bituminous wastes with acetate. However, it took 5 days for the microbes to consume all added sources of carbon, not months, the experiment ended immediately. 4) Up to 3 mM sulphide has been analysed in boreholes in Sweden and recently mM concentrations have also been found at repository depth in Finland. The microbial factors causing these high values are still not understood. If microbiological expertise was involved in these types of experiments and analyses from the start, the risk for failure and uncontrolled results would have been significantly reduced.

These examples demonstrate the importance when dealing with a safety case of having engineers, chemists, modellers and microbiologists working in an integrated manner from the start.

WG3: "Information Exchange Platform with SNETP"

Expected changes in waste forms may have implications for geological disposal and the required RD&D. The changes expected in waste forms that will need to be disposed of in geological repositories are of primary concern for WMOs. Indeed, the confirmation that this waste will be compatible with the current engineered barrier systems and host rocks may require intensive and decade long RD&D. In line with its vision, the IGD-TP deals with primary changes expected in the upcoming 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 also includes the primary and secondary waste that will be generated from the R&D facilities dealing with GenIV and other facilities.

A particular point of interest in this WG will be the presentation and the discussion of the draft position paper on “Nuclear developments and radioactive waste management” (provisional title) which has been drafted by SNETP and IGDTP.

WG4: “Priorities and lessons learned after 4 years of implementation of SRA”

This session is open to all EF participants willing to express what from their point of view are the main priorities and the major achievements of the platform after 4 years of implementation of the SRA. Starting from selected Key Topics and Topics presented in the SRA the participants are invited to make an analysis on the actual outcomes and progress in knowledge in a scientific and technical domain.

The participants may present/discuss how (far/ good/complete) the Topics have been covered by the Joint Activities and they are invited to bring forward new ideas for projects and collaboration within IGD-TP. All ideas fitting with the topics described in our SRA may lead to the establishment of a Working Group supported by the IGD-TP EG members. The main objective here is not to add priorities (“what”) to the ones listed in the SRA but rather to propose practical ways forward to tackle a specific priority from a scientific/technical point of view (“how”).

All other ideas will be considered and the discussion may emphasise on how these can complement our SRA and what could be the added value for all the members.

Finally, all participants are encouraged to make suggestions for the organisation and content of future Exchange Forums to our work programme with new areas of research.

Exchange Forum participants are strongly encouraged to express their interest in participating to the Working Groups by proposing poster, subject of presentations, projects or ideas.

A visit of the Äspö laboratory will be organised by SKB, October 30th. More details on www.igdtp.eu.

The Exchange Forum is open to all registered stakeholders (technical or not) interested in geological disposal of radioactive waste. The participation to the EF5 and the visit of the Äspö laboratory is free of charge, but registration of participants is mandatory.

Registration

In order to register and/or submit a presentation/poster, please fill in the [registration and application form](#) (also available in [pdf version](#)) and send it to the Secretariat at secretariat@igdtp.eu.

With this form, you must specify to the Secretariat:

- if you intend to participate to the 5th IGD-TP Exchange Forum ;
- the working group you are interested in participating in ;
- if you intend to submit a poster/presentation/proposal or ideas;
- if you intend to visit the Äspö laboratory October 30.

Deadlines

Presentations and posters should be submitted before August 31, 2014.

Registrations will be open until September 15, 2014.

Please note that for practical reasons the number of attendees to a Working Group may be limited.

Formal invitation to the EF5 will be issued September 30, 2014 together with the final agenda.

We remind you that the participation to the EF5 and the visit of the Äspö laboratory is free of charge, but registration of participants is mandatory. A confirmation of your registration will be sent by the Secretariat at the latest one month before the event. Coaches will be organised from the hotel to the Äspö Laboratory and then return to hotel and airport.

Information on the venue can be found at:

<p>Calmar Stadshotell Stortorget 14 Kalmar Phone: +46 480 49 69 00 E-mail: calmarstadshotell@profilhotels.se www.profilhotels.se</p>

Important notice: rooms have been prebooked at the hotel for the attendees. Please confirm your booking with Ingela Manson at SKB, ingela.manson@skb.se, **by September 15, 2014**. The cost 705 SEK/night and room including breakfast, excluding VAT, shall be settled directly with the hotel. If you have any special dietary requirements (e.g. vegetarian), please mention this when registering.

Flight connections of interest for participants in IGD-TP Exchange Forum – Kalmar October 2014

October 27

Stockholm/Arlanda → Kalmar		Stockholm/Bromma → Kalmar	
SK195	15.00 → 16.00	TF3487	18.00 → 18.50
SK197	18.00 → 18.55		
SK2197	21.10 → 22.00		

October 29

Kalmar → Stockholm/Arlanda		Kalmar → Stockholm/Bromma	
SK196	16.20 → 17.20	TF3488	18.50 → 19.40
SK198	19.20 → 20.20		

October 30

Kalmar → Stockholm/Arlanda		Kalmar → Stockholm/Bromma	
SK2198	06.25 → 07.15	TF3480	06.45 → 07.30
SK192	09.45 → 10.45	TF3486	16.20 → 17.10
SK196	16.20 → 17.20	TF3488	18.50 → 19.40
SK198	19.20 → 20.20		