SITEX-II, for developing an international Expertise function network

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Context

SITEX 2012-2013

Preparatory phase
- Needs and missions of the national Expertise function
- Objectives of SITEX network

Test phase
practical implementation of activities and interaction modes

SITEX-II 2015-2017

SITEX Network
(Sustainable network of Independent Technical EXpertise for radioactive waste disposal)

http://www.sitexproject.eu
The Expertise function and its interactions

Regulatory body and its supporting organizations

Expertise function

Support for regulatory decision

Regulatory function

Regulatory expectations & needs

Implementing function

Technical dialogue

Technical dialogue

Society function

Dialogue

Regulatory expectations

Compliance demonstration
Sets of activities of the Expertise Function

- Performing R&D
- Reviewing the Safety Case
- Dealing with Decision making process
- Ensuring competences and skills
- Interacting with Waste management Organisations
- Interacting with Civil Society

Characterisation of national Expertise Function
Defining and implementing R&D

Rationales for Independent R&D in support to Expertise Function

- specific safety issues that require an independent knowledge from the reviewer to perform a contradictory review and check assumptions taken by the implementer with respect to safety
- analysis of uncertainties and sensitivity of containment capabilities to processes
- issues that are not or not sufficiently addressed by the implementer with regards to safety or societal concerns, and require a particular attention from the reviewer
Defining and implementing R&D

SITEX (2012-2013)

- Identification of opportunities for developing a SITEX SRA
  - Common view of scientific and technical needs for reviewing key safety issues
  - Mapping of national R&D programs and tools available for expertise function
  - Other boundary conditions: different national programs and progress, CS concerns
Defining and implementing R&D

SITEX-II plans

• Setting the Expertise function **SRA**
  - R&D topics not addressed to date or not sufficiently, or for independent knowledge or sensitivity analyses,
  - prioritized in time, accounting notably for the foreseen agenda of safety case reviews

• Setting the **ToR** for the SRA implementation
  - Conditions and topics for implementing European Joint Programming (EJP) with other research platforms and entities (Joprad)
  - Defining the ToR for the implementation of the SRA topics that will not be included into an EJP
Reviewing the Safety Case

Working methodology

- **Safety requirements** on which international consensus exists are taken as reference:
- **EC Directive** on SF & Radioactive Waste Management (2011/70/Euratom)
- Draft **WENRA Safety Reference Levels** (SRLs)
  - Set of requirements against which the situation of each country is assessed
  - Engagement to transpose SRLs into national regulatory frameworks of WENRA member states
- **IAEA Safety Fundamentals and Requirements**
- **ICRP** recommendations
Harmonization of review practice

- **EPG Report 2011-Draft**, on the Regulatory Review of a Safety Case for Geological Disposal of Radioactive Waste; **PAMINA** EC project, **GEOSAF** IAEA project...
- **35 needs in clarification and/or new requirements** identified within SITEX as having a high level of interest and urgency
  - eg Operating Limits and Conditions (how to establish OLCs (safe domain), how to maintain OLCs to ensure compliance with end-state, how to design monitoring program....), radiological protection principles applied to geological disposal...
- **Technical guidance** is required to structure the review:
  - 1 unique structure (SC aim, focus of review, safety strategy, assessment basis, safety assessment, optimization and management of uncertainties, integration)
  - Items + or - highlighted depending of the progress of the SC (conceptualization, siting, design, construction, operation, post-closure)
  - Tested for the “site investigation and selection phase”
Within SITEX-II

- **position papers on how to implement in practice high level international safety requirements**, for 4 topics selected in the needs/priorities identified in the former SITEX project

- **Technical guide on the regulatory review** of SC for the phases of geological disposal facilities for radioactive waste: (1) conceptualization, (2) siting, (3) reference design, (4) construction, (5) operational and (6) post-closure
Developing and maintaining competencies

General objectives

- A common culture of safety (support for exchange of experience and best practices),
- Awareness on key safety issues,
- Common methods for reviewing the Safety Case (support for harmonization of practices),
- Awareness on complexity of safety governance considering key social and ethical aspects.

As example: Reviewing the safety case

- Common core module: implementation of a pilot training session for generalist experts within SITEX-II
- Specialisation modules dedicated to specific profiles (environmental scientists, specialists in fire, ventilation, radiation protection, numerical calculations...)


Interaction with Civil Society

**General objectives**

- Supporting engagement of civil society actors and strengthening their skills in the framework of interaction processes
- Adapting culture and practices of expertise function to accommodate the active contributions of civil society as an added value to the quality of safety, appraisal and decisions
- Directly supporting an autonomous, continuous and long-term process in which civil society develops skills, capacity to engage in issues of public interest, networking capacities (safe space...)
- acting in complement to WMOs where public expects an independent view on its scientific and safety concerns and expectations, allowing to enlarge its understanding and knowledge of geological disposal

**Within SITEX-II**

- CS interacting with R&D, safety culture & safety case review, training
SITEX-II composition and interaction with external entities
Thank you for your attention!
## SITEX-II participants

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<tr>
<th>Participant No</th>
<th>Participant organisation name</th>
<th>Country</th>
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<tbody>
<tr>
<td>1 (Coordinator)</td>
<td>Institut de Radioprotection et de Sûreté Nucléaire (IRSN)</td>
<td>FR</td>
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<td>2</td>
<td>Lithuanian Energy Institute (LEI)</td>
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<td>Federal Agentschap voor nucleaire Controle- Agence Fédérale de Contrôle Nucléaire (FANC)</td>
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<td>MUTADIS CONSULTANTS SARL (Mutadis)</td>
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<td>Energiaklub Szakpolitikai Intezet Modszertani Kozpont Egyesulet (ENERGIAKLUB)</td>
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<td>9</td>
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<td>Gesellschaft für Anlagen-und Reaktorsicherheit mbH (GRS)</td>
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