46th Meeting of the Waste Safety Standards Committee

19 – 21 November 2018

Agenda Item W 4.3

Report from the Annual Plenary Meeting of The Forum on the Safety of Near Surface Disposal

– For information –

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Background

- Nearly all countries have radioactive waste that needs disposal
- Near surface disposal has been, and is, undertaken in many countries
- Some countries have over 50 years experience, others are just beginning
- The IAEA has established Safety Standards in this area (e.g. SSR-5, SSG-23 and SSG-29) and needs to maintain them
- Regulation, the safety case and safety assessment are key elements in ensuring the safety of disposal
- Dialogue with interested parties can be very important in the acceptance of radioactive waste disposal facilities
Background

Previous IAEA projects supporting the standards:

**NSARS:** Safety assessment of near surface radioactive waste disposal facilities (~1992-1995)

**ISAM:** Improvement of safety assessment methodologies for near surface radioactive waste disposal facilities (1997 to 2000)

**ASAM:** Application of safety assessment methodologies for near surface radioactive waste disposal facilities (2002 to 2006)

**PRISM:** Practical illustration of the use of the safety case in the management of near surface disposal (2009 to 2012)

**PRISMA:** Practical illustration of the use of the safety case in the management of near surface disposal: application (2013 to 2016)
Forum Objectives

• To provide an enduring forum that will assist Member States to ensure the safety of near-surface disposal

• To help Member States to improve safety by:
  – developing guidance, methods and tools as appropriate
  – enabling the exchange of information on good practices (e.g. on safety cases, safety assessment, technologies)
  – informal review of facilities and safety cases by peers

• To facilitate education and training of staff
Forum Scope: Facilities

- Near-surface disposal facilities
  - e.g. trenches, vaults, mounds, caverns, silos
- Operational and post-closure safety
- Existing and new facilities
- The entire facility lifecycle
Forum Scope: Wastes

- Waste “suitable for near surface disposal”
- LLW and VLLW
The 1st meeting of the Forum was held in Vienna during 30 Oct. to 3 Nov. 2017

The aims were:

- To identify and confirm Member States interests for information exchange and research related to Near-Surface Disposal
- To define a programme of work for the Forum for the next few years
Key Result: Four Working Groups

1) Use of the Safety Case in Decision Making on Near Surface Disposal

2) Regulatory Experiences and Processes

3) Post-closure Safety Assessment

4) Communication of the Safety Case

Flexible project structure →
The 2nd meeting was held in Vienna during 8 to 12 Oct. 2018

The aims were:

- To re-confirm the work programme and tasks
- To begin the work towards the Working Groups’ aims and deliverables (next slides)
- The deliverables are expected to comprise technical notes from the working groups, which may later be compiled as a Project Report(s)
Working Group 1

• Investigating examples of how the safety case has been used to help make decisions in MS’ near surface waste disposal programmes
  – Key interests: waste acceptance, facility design, site characterisation, review of existing facilities

• Aiming to identify general lessons and to make suggestions on improved guidance for the use of the safety case in decision making
Working Group 2

• Sharing experiences in establishing regulatory frameworks, on regulatory processes, and on regulatory decisions for near surface disposal
  
  – Key interests (i) the content of the safety case, (ii) how the regulatory body may plan for and review a safety case, and (iii) the role of the regulatory body in reviewing the safety case through the lifetime of a disposal facility
  
  – Considering the frequency of regulatory reviews, the types of reporting requirements on the operator, change control processes, and how remaining / unresolved issues can be addressed
Working Group 3

- Reviewing recent experiences in post-closure safety assessment for near surface disposal
- Aiming to refine descriptions of the state of the art in safety assessment for near surface disposal facilities, where there have been developments – e.g. climate change and biosphere evolution, in representing engineered barriers and the geosphere, in the treatment of uncertainties
- Planning exchange of information with other IAEA Projects (e.g. MODARIA, HIDRA, GEOSAF)
Working Group 4

- Working on the issue of communicating the safety case
- Collecting information and reviewing examples of communicating safety cases and safety assessments to different audiences, e.g:
  - staff of the operator’s organisation
  - the regulatory body
  - non-technical decision-makers
  - members of the public
- Also planning to study selected case studies other industries
- Aiming to (i) produce some deliberately brief, clear materials (e.g. leaflets, web-page content) to communicate the safety case concept for near surface disposal and, (ii) make recommendations as to good practice in communicating the safety case for disposal
Conclusions

• The safety case and safety assessment (and their communication) are key to the safety and acceptability of near surface disposal

• There is considerable desire and interest from Member States in the Forum on the Safety of Near Surface Disposal
  – It would be sensible for this to be more clearly recognized in the Resolutions addressed to the secretariat (GC(61)/RES/8)

• The Member States are thanked for their participation in, and support for, the Forum
Thank you!