

SITEX Benchmark on Reviewing Approaches

Project description

The project concerns the development and review process of a Safety Case supporting decisions in the pre-licensing period of a geological disposal of radioactive waste. The specificity of the project is the consideration of stakeholders interactions, including civil society, early in the Safety Case development and all along the reviewing process. The objective is to assess the added value of early interactions and collective intelligence for safety and decisions endorsement. It also provides a good training opportunity to prepare the different actors for the pre-licensing. It is by no means a judgement on existing national policies.

A safety case focusing on an intrusion scenario caused by geothermal activities will be presented for review in the context of site selection. Interactions between regulatory body (RB), prospective licensee (waste management organisation - WMO) and Civil Society (CS) will be simulated from the start to the end of the review. CS concerns will be collected and recommendations issued. Every participant will have his place as WMO (prospective licensee), RB (regulator and/or Technical Support Organisation - TSO) or CS.

The project includes two main phases:

- The first phase of the project will start with the preparation of a preliminary “fictive” safety case prepared by FANC playing the role of the prospective licensee and will end with the deliverable related to the first meeting planned on 26-27 November 2020. At this stage no detailed assessment computation will be provided. Discussion between participants playing the role of regulators, TSOs and civil society should lead to collect feed-back on the current Safety Case version and defining the human intrusion scenari.
- The second phase will include the finalisation of the “fictive” safety case by FANC (i.e. the fictive prospective licensee) and its review by participants. The second phase will end with the deliverable related to the second meeting planned in the week of 12-16 April 2021 and an external publication (e.g. a leaflet and/or a paper for an international conference).

Constraints set to develop the fictive safety case

The safety case is developed in a context of national policy considering geological disposal as management solution for intermediate and high-level radioactive waste. The selected host rock differs, as much as possible, from those selected in the participants home countries, in order to avoid advantaging one of those organizations in its review exercise. Although the safety case itself is invented, it has to remain plausible and in line with international policies regarding nuclear energy and radioactive waste management. The national context needs to provide a sound basis to the fictive geological disposal facility’s safety strategy and concept as well as to the considered waste inventory characteristics. In order to underline the fictive character of the country considered, fictive location names are used.

The regulatory framework on which the safety case is based is supposed to be in line with following international guidelines and recommendations:

- SSR-5 Disposal of radioactive waste (IAEA 2011a)
- SSG-14 Geological Disposal Facilities for Radioactive Waste (IAEA 2011b)
- WENRA SRLs (WENRA 2014)

Participants and roles

Consultancy will be provided by David Collier from White Ox to help to the organisation of the project, to facilitate discussions and to report meetings and project outcomes. David has 25 year's experience as an independent evaluator of international and UK RWM and nuclear power sector stakeholder engagement programmes. He also has some consultancy roles, including advising the UK RWM programme on transparent decision methods.

As facilitator, David will be supported by Honorine Rey, coordinator of NTW for a year. Honorine studied political sciences and European project management. She has no technical background but a specific interest in the topic of RWM. In the seminar, Honorine will help with the use of the teleconference software.

FANC is playing the role of WMO as prospective licensee and is responsible for the development of the fictive safety case.

The other participants are playing the role of SC regulators, TSOs or CS reviewers. The level of review is up to each participant going from a quick SC review to a deep review including independent calculations.

References

IAEA (2011a), SSR-5 Disposal of radioactive waste,
https://www-pub.iaea.org/MTCD/publications/PDF/Pub1449_web.pdf

IAEA (2011b), SSG-14 Geological Disposal Facilities for Radioactive Waste,
https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1483_web.pdf

WENRA (2014), Radioactive Waste Disposal Facilities Safety Reference Levels,
http://www.wenra.org/media/filer_public/2015/03/18/srl_disposal_final_version_2014_12_22.pdf

SITEX-II (2018a), "D2.1 – WP2.1 - Developing a joint review framework - Developing a common understanding on the interpretation and implementation of safety requirements",
http://sitexproject.eu/index_2.html#deliverables

SITEX-II (2018b), "D2.2 - WP2.2 - Technical Guide on the Review of a Safety Case",
http://sitexproject.eu/index_2.html#deliverables