

NEW FACILITIES, REASSESSMENT OF EXISTING FACILITIES AND DECISION MAKING ON UPGRADING THE SAFETY OF RADIOACTIVE WASTE DISPOSAL FACILITIES - Chairperson D. Clein (Argentina)

The session, involving contributions from 11 countries, comprised 3 invited presentations, a report on 5 contributed papers, and a panel discussion. Two of the invited presentations dealt with the reassessment and upgrading of existing facilities from the viewpoint of the regulator and implementer respectively. The third presentation was devoted to regulatory review and licensing in a more generic way, based on the conclusions reached in the IAEA's ASAM programme.

In the generic presentation, it was stated that the regulatory review of safety cases and safety assessments is essential for credible decision making on the licensing or authorization of radioactive waste disposal facilities. The regulatory review process typically includes ensuring that the disposal facility will not cause any adverse impacts, providing assurance that the safety assessment has been conducted adequately, verifying that the results of the safety assessment comply with regulatory requirements, ensuring that measures to mitigate possible impacts have been identified and ensuring that uncertainties have been identified and taken account of. The whole process must be transparent. Some potential difficulties in conducting regulatory reviews were raised, including issues of project and programme management, limited resources for reviews, conflicts due to multiple regulatory agencies and difficulties in assessing the potential long term behaviour of systems.

One of the invited presentations described some ongoing work in the UK concerned with the reassessment of the low level near surface radioactive waste repository at Drigg. The regulator has started a reassessment of the facility based on the safety case submitted by the implementer. Scenarios identified in the safety case lead to indications that peak risks from historical and ongoing disposal activities that could exceed the risk target for a new disposal facility under certain conditions. The regulator is therefore requiring that a wide range of risk management options be considered by the implementer.

In the remaining invited presentation a report was given on the planning of safety upgrading measures at a near surface repository for radioactive waste in Hungary (Püspökszilágy repository). Based on recent safety assessments, a judgment has been made by the implementer that the long term safety of the repository can be assured, but only with some technical and administrative modifications to the facility. A project has been launched to select the most appropriate methods for enhancing safety, and to prepare for corrective actions. The intention is also to provide free capacity within some existing vaults by the use of volume reduction technology. Following the volume reduction and the removal of specific packages

that are giving rise to radiological concern, a considerable amount of space can be created for further disposal of institutional waste.

The review of the five contributed papers covered activities in Chile, Mexico, Romania and the Russian Federation. It was notable that the assessment methodology developed in the IAEA's ISAM (Improvement of Safety Assessment Methods) programme had been applied in most of the cases described.

A large part of the panel discussion dealt with the reassessment of old disposal facilities that could lead to the need for intervention action.

Optimization is considered as an essential tool for use in managing the issue of potential non compliance of old waste repositories with modern waste acceptance criteria or of managing inadequately performing repositories. When considering the remediation of old facilities, there is a need to take account of factors such as the volume of waste and the availability of alternative disposal options and of the need to analyze the cost-benefit balance, taking into account the risks for both the public and operating staff. It is clear that significant experience has now been obtained in this area in many countries and it could be usefully gathered and synthesized into guidance on how to perform optimizations and make decisions in this context.

It was observed that the human intrusion scenario is a common factor in many of the safety assessments of old near surface facilities. At present there is no uniformity of approach for the assessment of human intrusion in this context. A stylized approach would often be appropriate in these cases. It would be valuable to have international guidance on the elements of a common stylized approach for assessing human intrusion into near surface repositories.

The discussion showed agreement that a well documented safety case is a key element for aiding the decision of the regulator in the regulatory review of a license application. However, its content remains, in practice, country specific, that is, the scope of the safety case may be different in different countries.

Within the constraints imposed by the requirement for regulatory independence, the relationship between regulator and implementer should be as close as possible. There should be a regular exchange of information at an early stage of the licensing process so that expectations are well understood. The regulator should provide the implementer with detailed guidelines on regulatory requirements, in line with the national legislation.