

NATIONAL STRATEGIES TO ENSURE THE SAFE DISPOSAL OF RADIOACTIVE WASTE – Chairperson A. Hooper, (United Kingdom)

The session was started with a presentation of the proposed IAEA Common Framework for Disposal to be applied to all kinds of waste generated from nuclear activities, including disused sealed sources and NORM. This has been developed following a recommendation made at the 2004 Cordoba symposium. In the draft proposal, waste types have been linked to a disposal option commensurate with their associated radiological hazard, using safety-based evaluations of 'acceptable', 'not acceptable', and 'not appropriate'.

Presentations from France and the USA described the national strategies in those countries. In France, a National Plan for Radioactive Waste and Recoverable Material Management has been developed in direct response to a recommendation from the first Joint Convention Review Meeting. The presentation highlighted waste types for which there is currently not an identified solution and laid out the strategies and processes through which appropriate solutions would be identified. The USA presentation identified the policy, legislative framework and institutional roles and responsibilities covering the management of all types of waste. Key challenges remaining to be addressed were identified. These concern making decisions in the face of uncertainty; improving public trust and acceptance; and knowledge management.

The final keynote presentation described the progress of the European Commission Framework Programme SAPIERR Project which is investigating the idea of a European regional repository for the spent nuclear fuel and high-level waste generated from the power programmes of a number of countries. Analysis of the quantities and types of such waste in the countries of the participating organizations led to the identification of a proposed standardization of waste disposal packages and, in turn, of the likely economies of scale.

The rapporteur for the Session summarized 32 contributed papers, from 30 countries, highlighting the interest in regional disposal solutions for both low and intermediate level waste and high level waste and spent fuel, disposal of institutional waste, including spent sealed sources, in boreholes, and the importance of waste classification schemes and of clearance levels to the development of national strategies in many of those countries.

Following these presentations, a panel discussion was held. The points raised by the panel members and the audience are summarized below.

- There are some waste types for which the most appropriate management route is not yet evident. Some countries are exploring 'intermediate-depth' disposal options for

which the requirements for site selection and disposal depth are currently less clear than for the well-defined disposal options.

- The Common Framework, as currently presented, does not sufficiently recognize issues of practicality. A number of countries may have only small amounts of different waste types such that the development of ideal solutions for each type is not a realistic approach because it fails to take account of economic realities. The IAEA could play a valuable role in giving guidance, on an individual basis, to such countries on the optimum approach for managing the range of waste types that exists in the country. It was recognized that the solution finally chosen in a national strategy is strongly influenced by socio-political inputs but it is important that scientific and technical information is made accessible to the decision makers to help inform their decisions.
- The management solution for waste containing naturally occurring radionuclides (NORM/TENORM) and contaminated land will also be strongly influenced by considerations of practicality but it is important for public and stakeholder confidence that the approach to achieving safety and environmental protection is seen to be coherent. ICRP Publication 82 is considered to provide a useful basis for dealing with the issue of long-term potential exposures from such waste types and contaminated land.
- Given the long timescales for the development and subsequent implementation of solutions, knowledge management is an issue that should be addressed in national strategies related to radioactive waste management. In particular, consideration needs to be given to documenting the basis for decisions and requirements; to the achievement of continual learning; and to the training and development of specialists.
- There is clear interest in regional solutions to radioactive waste disposal and the concept is supported by the IAEA, particularly because of its potential security benefits. It is recognized that this approach should not be pursued in place of developing a national solution, but be part of a dual-track option. Furthermore, great care is required to ensure that any initiatives in this field are not detrimental to the progress of developed national waste management programmes. It was suggested that the Joint Convention might provide a suitable forum for the discussion of regional solutions, and that a special interest group might be formed on the subject. Ultimately, just as for national strategies, a regional strategy will only proceed if there is the socio-political acceptance of the need and if there is an associated political commitment.

- Where the driver for a regional solution is economy of scale, an alternative national strategy may be to use a generic technology that is simpler than the development of classically defined disposal facilities, for example borehole technology for spent sealed sources.