IAEA International Workshop on

A Common Framework

for the Safety of Radioactive Waste Management and Disposal

Rapporteurs Report
for Session I and Session II
Global Waste Safety Regime and Classification of Radioactive Waste

Chair Person **Thiagan Pather**
Rapporteur **Luc Baekelandt**

The technical session addressed the global waste safety regime and the classification of radioactive waste.

The role of the IAEA in relation to the safety of radioactive waste disposal was described. This encompasses the administration of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention), the development of international safety standards, and the provision of assistance in the use and application of the standards.

It was noted that the technical basis for the Joint Convention was the principles contained in the IAEA Safety Fundamentals document "The Principles of Radioactive Waste Management", published in 1995. The objective of the Joint Convention is to ensure a high level of safety worldwide in the management of radioactive waste and spent fuel.

The process for achieving this objective involves the preparation, by Contracting Parties to the Convention, of national reports and the review of the reports at the periodic review meetings. The IAEA Safety Standards serve as a good benchmark for ensuring the harmonization of safety worldwide.

The discussions highlighted that the burden on Contracting Parties to the Joint Convention is not negligible, in particular for those that are also contracting parties to the Convention on Nuclear safety (with similar obligations). The IAEA was requested to investigate possibilities to make the burden less heavy.

The main benefits of the Joint Convention were the fact that contracting parties perform a self assessment and that, if that is done with reference to the IAEA Safety Standards helps in harmonizing the safety all over the world;

Conclusions from the first two review meetings held in terms of the Joint Convention highlighted that –

- clearance is still an issue, since there is no unanimity on the acceptance and the application of RS-G-1.7;
- the implementation of the code of conduct with respect to the management of disused sealed sources (interface between safety and security) causes difficulties;
- not many countries have a national policy and strategy plan for the management of radioactive waste; the IAEA envisages assistance to the development of such plan;
- keeping the memory of installations in case of delayed decommissioning may be not easy;
- Most countries acknowledge the importance of public consultation and acceptance

The presentation and subsequent panel discussions provided an encouraging view of the progress being made towards global waste safety. It was concluded that the Joint Convention plays a major role in improving waste safety worldwide.

A presentation on the waste safety standards covered the history and hierarchy of the standards, the process for their development and the current status of documents in preparation. Further the proposals for consolidation and integration of the safety standards beyond 2010 was elaborated upon.

A presentation on the WENRA initiative related to approach to Harmonisation of safety detailed the progress made with the development of safety reference levels for decommissioning and storage of radioactive waste.

The methodology adopted by WENRA including

- Development of safety reference levels based on IAEA Safety Standards for waste and nuclear safety;
- Involvement of stakeholders;
- Conducting of a self assessment by WENRA States;
- A process of peer review (benchmarking);
- Development of national action plans to address the outcomes of the Benchmarking exercise.

WENRA plans to develop safety reference levels for disposal in the future.

Among IAEA countries, various waste classification schemes have been developed. The purpose of IAEA classification scheme was to provide a consistent basis for dealing with the safety of radioactive waste management.

The classification scheme was also intended as a point of reference for use within the framework of the Joint Convention on the Safety of Spent Fuel Management and on the safety of Radioactive Waste Management.

The proposed revision to the IAEA waste classification scheme was presented highlighting the fact that the scheme was linked to disposal options and long term safety. The proposed classification scheme considers the following classes of waste:

- exempt waste
- very low level waste
- very short-lived waste
- low level waste
- intermediate-level waste
- high-level waste

A further presentation highlighted the classification scheme used in the Ukraine, it was noted that this scheme deviated from the IAEA classification scheme.

The panel discussion expressed support for the harmonised approach presented by the IAEA Classification scheme. The consensus was that the scheme must be comprehensive and cover all types of waste that is encountered in IAEA Member States. It was noted that exempt waste and very short lived waste will generally not be disposed off as radioactive waste but it is important that these waste types are addressed to ensure a holistic approach to radioactive waste management.

With regards to quantitative guidance related to the distinction of radioactive waste classes it was concluded that –

- definitive values exist for determining Exempt waste (values provided in RS-G-1.7).
- Very low level waste is represented by waste characterised by activity levels that are between some tens to 100 times the values in RS-G-1.7
- For the other classes only indicative values are provided the precise classification would be dependent on the disposal option,

There is also clear need for harmonization in the terminology used – the inconsistent use of terminology hampers the efficient and effective sharing and exchange of knowledge and lessons learned.

In response to questions, in the opening session, the audience reconfirmed their view that the current radiological basis for protection compiled from the fundamental scientific evidence provided by UNSCEAR and elaborated upon by the ICRP and IAEA was sound and provided an adequate level of protection.

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