

Technical Meeting on Remediation Strategies and Long Term Management of Radioactive Waste after Accidental Radioactive Releases to the Environment – 20th anniversary of the Goiânia accident

Organized by the International Atomic Energy Agency (IAEA) in cooperation with the Brazilian National Nuclear Energy Commission (CNEN) and the Spanish Nuclear Safety Council (CSN)

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Report on activities and discussions occurred during Session 1: “Long Term Radioactive Waste Management after an Accident”

Session 1 began with a presentation made by Mr Luis Jova (IAEA) on Radioactive Waste Management National Policies and Strategies. This presentation was followed by presentations made by representatives of Ukraine (Mr. Tokarevsky), Brazil (Mr. Ferreira) and Mexico (Mr. Jiménez) on the management of radioactive waste produced as results of Chernobyl, Goiania and Juarez accidents respectively.

Discussions on issues related with the presented themes were carried out mainly during the afternoon session. Main aspects debated were:

- **The need of a more realistic IAEA’s approach for solving the problem of disposal of radium needles in developing countries.** In this regard it was commented that the IAEA is reviewing its recommendations with the aim of proposing cheaper disposal solutions (e.g. borehole solution), but it was emphasized that these radium needles should not be disposed in a near surface repository;
- **The stakeholders involvement in the remediation process and in radioactive waste management of produced as result of this process waste.** On this issue in particular for the case of Chernobyl it was pointed out by the representatives of Ukraine the need of organizing a program of activities in the country for facilitating that people become familiar with the solutions applied for the waste in this case, in order to achieve public confidence and an active stakeholders involvement. This program is important too as a support of the Ukrainian strategy of decommissioning of ten reactors in the next future and the construction and put into operation of new NPPs;
- **The strategy for the management of waste resulting from remediation activities as part of the national radioactive waste management policy and strategy.** As part of the discussions on this issue it was suggested that a well established national radioactive waste management policy and strategy that take into account the experiences learned from accidental situations like Chernobyl, Goiania and Juarez can be a key factor in the definition of elements like the allocation of funds and reserves for supporting remedial activities and associated waste management;
- **The role of the Regulatory Body in accidental and post-accidental situations.** In this regard it was clarified that the regulatory control in accidental situations, as during normal situations, should remain with the Regulatory Body. The same is valid for post-accidental activities such as remediation and waste management activities. It was recognized that at the present time the IAEA has

not issued yet standards for the management of waste resulting from an accidental situation and remediation activities, but in any case the existing fundamentals and standards for radioactive waste management are still valid. It was pointed out also the necessity of the presence and active involvement of the Regulatory Body in the control of activities related with management of large amounts of contaminated material that can arise as result of remedial actions, as an effective regulatory control can be a key factor in avoiding decisions with probable negative consequences in the future;

- **The costs of mitigation and remediation efforts in the cases of Chernobyl, Goiania and Juarez.** Some data on the amounts of money devoted for some actions were provided by representatives of Ukraine, Brazil and Mexico, but it was generally agreed that a precise evaluation of real costs is a difficult task, specially if taking into account the losses, the social costs and the incurred costs not associated directly with the mitigation and remediation efforts. It was pointed out also that the need of taking urgent actions during and after an accidental situation is a factor that affects the rational use of resources and increases the costs;
- **The importance of the national radioactive waste management policy and strategy for identifying not only economic resources, but also resources of other kind, as human resources.** Emphasis was made on the necessity of including, as part of this policy, the identification of needs for preparation of adequate human resources, well educated and trained personnel capable of carrying out safety assessments in different situations for aiding in the decision making process;
- **The use of the concept of clearance as a means of minimizing the waste generated as result of remediation activities.** In connection with this issue it was agreed that the concept of clearance, as a concept linked with the concept of risk, should be applied in each country taking into account the specific of the country and depending of concrete existing situation.