

Management of Radioactive Waste

Objective

To increase global harmonization in the policies, criteria, standards and provisions for their application, as well as in methods and technologies, for achieving safety in radioactive waste management, in order to protect humans and human habitats against potential health effects attributable to actual or potential exposure to radioactive waste.

Research Reactor Decommissioning Demonstration Project

In 2006, the Agency initiated the Research Reactor Decommissioning Demonstration Project to assist operators and regulators in Member States to plan and implement the safe decommissioning of research reactors. The project will facilitate the exchange of information and experience, education and training, and will serve as a model for decommissioning projects worldwide. The Government of the Philippines has offered the Philippine research reactor PRR-1 (a Triga reactor) in Manila (Fig. 1), which is shut down and for which the immediate dismantling strategy has been selected, to be



FIG. 1. The Philippine research reactor PRR-1, which will be used as a model for the Research Reactor Decommissioning Demonstration Project.

used as a model for the project. As part of the first phase, the Agency is assisting the regulatory body in developing its capability to review the approach proposed by the operator and to ensure that international safety standards are appropriately applied. Two technical meetings, on legal and regulatory aspects and decommissioning planning, were held in Manila in 2006.

Database on Radioactive Discharges

The web based version of the Agency's Database on Discharges of Radionuclides to the Atmosphere and Aquatic Environment (DIRATA) — a worldwide centralized repository of data submitted by Member States — was launched in 2006 (<http://dirata.iaea.org>). Each facility data set includes annual discharge and detection limits, regulatory limits (where available) and limited information on the site location. The third technical meeting on DIRATA, held in Vienna in June, initiated the on-line submission of official national records on radioactive discharges.

International Appraisal in Argentina

After reports that underground water in the vicinity of the Ezeiza Atomic Center in Argentina was contaminated with anthropogenic radioactive substances, including enriched and depleted uranium, the Government of Argentina requested that the Agency organize an independent and authoritative expert appraisal with representatives from the competent organizations within the UN system. The Agency invited experts from FAO, PAHO, UNSCEAR and WHO, as well as from the ICRP and IRPA, to participate. The appraisal, released in April 2006, concluded that the uranium in the groundwater is of natural origin and that no radiological risk exists from use of the water.

Second Review Meeting of the Joint Convention

The Second Review Meeting of the Contracting Parties of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive

Waste Management (Joint Convention), in which 41 Contracting Parties — including eight for the first time — participated, was held in Vienna in May 2006. Despite a large diversity of national situations, all Contracting Parties shared the view that progress had been made since the First Review Meeting. There was a demonstrated commitment to improving policies and practices, particularly in the areas of national strategies for spent fuel and radioactive waste management, engagement with stakeholders and the public, and the control of disused sealed

“Despite a large diversity of national situations, all Contracting Parties shared the view that progress had been made since the First Review Meeting.”

sources. Challenges continue to be faced in a number of areas, including the implementation of national policies for the long term management of spent fuel, disposal of high level waste, management of historical waste, recovery of orphan sources, knowledge management and human resources. The need to ensure that Contracting Parties’ financial commitments are consistent with the extent of liabilities was also recognized. Many Contracting Parties see the benefit of enhancing international cooperation through the exchange of information, experience and technology. In particular, the need to share knowledge and assistance was emphasized by Contracting Parties with limited radioactive waste management and research programmes.

Iraq Project

The Government of Iraq requested the Agency’s assistance to prepare plans and programmes to decommission contaminated facilities in the country. The project’s groundwork was set at an Agency meeting in Vienna in February 2006 that was attended by the Iraqi Minister for Science and Technology and representatives of 16 States and the European Commission.

One of the first steps in this work, which could take many years, was to identify, cordon off and prioritize the contaminated areas that pose the most

risk to the public. Some of the challenges facing the clean-up effort include determining now unknown locations where contaminated equipment and material might be buried and recovering lost records about the contents of radioactive material stored in waste containers.

Central Asian Site Remediation Project

Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan are among the countries in Central Asia that are facing the consequences of decades of uranium ore mining and milling. Numerous contaminated sites and large amounts of radiologically contaminated tailings pose a serious threat to both the public and the environment. With funding from international organizations such as the EBRD, NATO and the World Bank, the Agency is providing technical assistance in establishing appropriate institutional capability and expertise in the affected countries to allow them to manage the remediation situation in a systematic manner. The goal is to establish the necessary regulatory framework and decision making processes for mining and milling activities. In 2006, the Agency began to evaluate the remediation and stabilization works already under way to document current conditions and determine if international safety standards are being met.

Decommissioning of Nuclear Facilities and the Safe Termination of Nuclear Activities

An Agency conference on ‘Lessons Learned from the Decommissioning of Nuclear Facilities and the Safe Termination of Nuclear Activities’, held in Athens in December, enabled participants to identify areas for international harmonization in the decommissioning of different facilities with varying complexity and hazard potential. The main conclusions of the conference dealt with the enhancement of international cooperation and improving national strategic planning for decommissioning. A number of practical considerations, including decommissioning technologies, knowledge management, stakeholder involvement and public confidence, were also discussed. In addition, the Agency submitted a proposal to establish a decommissioning network,

bringing together organizations with specific experience and competence in decommissioning and willing to share their experience with other organizations.

Technical Cooperation Activities in Radioactive Waste Management

The Agency provided assistance to China in retrieving and reconditioning miscellaneous items of radioactive waste, including small quantities of spent fuel from research reactors in old storage facilities, since these items did not meet current safety standards. China has provided funds to the Agency to share the cost of developing a system to assay radioactive waste. The results of this project

are expected to assist other countries with similar problems.

Progress was achieved in enhancing national capacity for the management of radioactive waste. This included the establishment in Bangladesh of a central radioactive waste processing and storage facility that is expected to begin its activities after issue by the national regulatory body of the corresponding operating licence. A project in the Philippines focused on preparations for the establishment of a near surface disposal facility for which candidate sites were selected for construction and the draft conceptual design of the facility was developed. Part 23 of the Regulation of the Philippine Nuclear Research Institute, entitled 'Licensing Requirements for Land Disposal of Radioactive Waste', was also completed. ■