

Enhancing radioactive waste management in Cuba

The challenge...

In Cuba, hundreds of medical, industrial and research facilities use ionizing radiation. This generates radioactive waste in the form of solid and liquid waste, or disused sealed sources.

Radioactive waste and disused radioactive sources are collected by the Centre for Radiation Protection and Hygiene (CPHR) and transported to centralized management facilities, which consist of a treatment and conditioning plant and a storage facility. Disused radioactive sources with different radionuclides and activities constitute the majority of the inventory, in terms of both volume and resources.

The management of radioactive waste in Cuba has been improving, and a policy for final disposal of radioactive waste is under development. However, a final decision has not been made, and therefore, the current temporary storage facility is intended to be used as a long-term storage facility. This implies an extension of the original storage period of at least 30 years. The storage facility needed to comply with the optimal conditions established for this kind of facility, as well as with all other regulatory requirements.

The project...

The main aim of the project was to strengthen Cuba's technological capabilities for characterizing, conditioning and the long term storage of radioactive waste and disused radioactive sources.

This entailed extending the useful lifespan of the existing storage facility through a series of reconstruction activities. In addition, support was provided for applying the appropriate radiation safety and security standards for the management of radioactive waste and disused sealed sources.



Radioactive waste is transported to the appropriate storage facility.

As part of the technical cooperation project, human resource training and physical infrastructure were provided to strengthen capacities for the characterization of non-conditioned radioactive waste and conditioned waste packages. Equipment and devices containing neutron sources were dismantled and the sources recovered and characterized, and specific equipment was designed, developed and put into operation for waste characterization.

The impact...

The project has contributed to assuring the safety of radioactive waste management. This has reduced the general risk to the public, as the possibility to have non-controlled waste or orphan sources has been minimized. Moreover, the project has supported continuing and increased application of ionizing radiations in medicine and industry for the benefit of society. This will have a positive impact in the quality of life of the population in general.

The characterization methodology developed facilitated the measuring of over 100 packages. This method allows decision-makers to select follow-up management options, from clearance and release to conditioning and long term storage.