

## Milestones

Country: CUBA

Reporting Year: 2009

Start Year or Reference Year:	2008	End Year:	
Description of Milestone:			
A new project started for redesigning and reconstructing the Storage Facility for Radioactive Waste in Cuba. After 20 years of operation, because of the influence of environmental conditions, some parts of the facility were deteriorated. Reconstruction activities are necessary to extend the storage period for at least 30 years more, guarantying the waste packages remain safely stored and retrievable for the final disposal in the future. Another important aspect to assure the retrievability of radioactive waste is the waste package. For that reason the project is also oriented to the definition of waste acceptance criteria for the storage facility and the control methods for waste package to be stored in it. Quality management and general operational issues in the storage facility would be also improved.			
Start Year or Reference Year:	2007	End Year:	
Description of Milestone:			
The Ra-226 disused radioactive sources were conditioned according to the IAEA recomendations			
Start Year or Reference Year:	2005	End Year:	2006
Description of Milestone:			
A National Technical Cooperation Project was developed with the IAEA. The objective was to improve waste management activities in the country, mainly at generator institutions.			
Start Year or Reference Year:	2005	End Year:	
Description of Milestone:			
A radiochemical laboratory at the International Center for Neurological Restoration (CIREN) was decommissioned. This laboratory used 14C for radiochemical basic research, but this practice concluded and the institution requested the release of this facility from regulatory control. Decommissioning services were provided by the CPHR.			
Start Year or Reference Year:	2002	End Year:	2004
Description of Milestone:			
The Regulation for the Safe Management of Radioactive Waste was developed and implemented in March 2003. The Guide "Unconditional Clearance Levels for solid materials with low radioactive content and for liquid and gas discharges to the environment" implemented in 2004			
Start Year or Reference Year:	1999	End Year:	2000
Description of Milestone:			
Development of the acceptance requirements for the wastes that will be collected from the users. Wastes are segregated at the point of origin in accordance with established classification.			
Start Year or Reference Year:	1999	End Year:	2001
Description of Milestone:			
Establishment of requirements and methods for low and intermediate level waste package acceptability in the storage facility.			

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Start Year or Reference Year:	1999	End Year:	2001
Description of Milestone:			
The safety analysis of the present Storage Facility was carried out in order to evaluate the possibility to use it as long term storage. This analysis demonstrated that the facility needs to be upgraded			
Start Year or Reference Year:	1999	End Year:	2000
Description of Milestone:			
Decommissioning of a brachytherapy facility at the Oncology Hospital in Havana. This facility used Ra-226 sources for the brachytherapy service.			
Start Year or Reference Year:	1999	End Year:	
Description of Milestone:			
The Waste Processing Facility (WPF) was put into operation. The facility was authorized for compaction of solid waste, conditioning of disused sealed sources (except Ra-226) and storage of radioactive waste and disused sealed sources. In 2006, because of deficiencies detected in the canalization system of the facility, the operations in the WPF were drastically reduced. Just few relevant operations were allowed, until the canalization system is repaired and upgraded. In 2008 the canalization system was completely repaired and a new system for homogenization, sampling and collection of contaminated effluents was installed and put into operation. The CPHR applied for the authorization to the Regulatory Body. The License was granted at the beginning of 2009, all operations were authorized.			
Start Year or Reference Year:	1997	End Year:	2002
Description of Milestone:			
Establishment of a Quality Management System (QMS) for the radioactive waste management service, including all the stages: from collection of waste until storage as conditioned packages. The QMS was internally certified in the Center for Radiation Protection and Hygiene, according to the ISO 9001 Standard			
Start Year or Reference Year:	1996	End Year:	1997
Description of Milestone:			
Radiological characterization of unknown disused sealed sources			
Start Year or Reference Year:	1996	End Year:	1997
Description of Milestone:			
Chemical and radiological characterization of centralized, stored low-level liquid waste.			
Start Year or Reference Year:	1995	End Year:	1997
Description of Milestone:			
A National Technical Cooperation Project was developed with the IAEA. The necessary equipment for waste characterization, radiation protection and for quality and process control at the Waste Treatment and Storage Facility was supplied under this project. A number of personal were trained as part of this TC Project.			

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Start Year or Reference Year:	1988	End Year:	1991
Description of Milestone:			
The construction of the Waste Processing and Storage Facility (WPSF). The WPSF was put into operation in 1988 and the centralized collection of radioactive waste was implemented around the country. The first two collections of disused sealed radioactive sources were carried out in 1988 and 1991.			
Start Year or Reference Year:	1986	End Year:	2004
Description of Milestone:			
A facility in the Oncology Hospital, contaminated with Cs-137 was decommissioned. It was a former brachytherapy facility that was used as storage facility for disused sealed sources at the beginning of eighties.			
Start Year or Reference Year:	1985	End Year:	
Description of Milestone:			
First conditioning activities were carried out in the country. Solid and liquid radioactive waste generated in research activities were immobilized.			