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Environmental monitoring of nuclear materials for safeguards purposes before decommissioning of nuclear facilities

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A comprehensive environmental monitoring and analysis is very important before the decommissioning of a nuclear facility to assure the database for reveal undeclared clandestine nuclear activities.

Experiences in the process and sampling concerning decommissioning are not yet available in Hungary because the facilities have not still accomplished the end of their lifecycle.

Decommissioning is the final phase in the lifecycle of a nuclear installation and is to be considered as part of a general strategy of environmental restoration after the final suspension of the industrial activities.

The first research reactor in Hungary will need to be decommissioned over the next 10 years therefore the environmental monitoring will be necessary before the commencement of the process. The international regulation and the European Union also specify the environmental monitoring and an environmental impact study before the decommissioning procedure.

The development of a comprehensive environmental monitoring system including sampling strategy and method development for the analysis of environmental samples, originating from the vicinity of the Hungarian nuclear facilities has been begun at the Institute of Isotopes.

The developed method was tested by analysis of real samples. Environmental samples and its nuclear material content were analyzed in the near of a Hungarian nuclear facility.

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