

Nuclear security for radioactive sources used in mobile devices for industrial applications in Argentina

The use of sealed radioactive sources in industrial applications, with different purposes, is a practice widely implemented in several facilities in Argentina. In this context, for nuclear security, it is of special interest due to their own characteristics, the case of sources used in mobile devices, such as equipment for industrial gammagraphy or well logging (Category 2 and 3 sources according to the classification of the International Atomic Energy Agency). In these cases, due to the geographic zones in which these practices are usually carried out, generally little inhabited and far away from the main urban centers, it is necessary that authorized operators travel long distances transporting these devices, which increases the vulnerability of the sources. This particular situation requires the elaboration and implementation of nuclear security plans that contemplate measures for transport (including transit stops and overnight) as well as for temporary storages in the field and during the practices (operation), considering a graded approach depending on the category of the radioactive source and the potential threat, and in depth defense for the different security functions of the system.

In Argentina, the Nuclear Regulatory Authority (ARN –Autoridad Regulatoria Nuclear) is the entity devoted to the regulation of the nuclear activities in the country, with competence in the areas of radiological and nuclear safety, safeguards and non-proliferation, and physical protection. The ARN is empowered to establish the regulatory standards within its competence, to license facilities and practices that use radioactive material as well as the personnel with safety relevant functions, and to control the activity (performing inspections and regulatory audits).

In this country, there are several companies which hold 74 operation licenses for industrial gammagraphy purposes, and 33 operation licenses related to the oil industry, 11 of which are licenses for well logging purposes (information updated to December 2018).

The objective of this work is to explain the current situation in Argentina related to nuclear security for radioactive sources used in mobile devices for industrial applications and the associated difficulty, describing the applicable regulatory framework and the use of international guidance, sharing the field exercises carried out in order to improve the interaction among the different actors involved in the activity, and proposing measures to be considered, aspects of the interface safety-security, good practices and recommendations, in order to strengthen the nuclear security of these practices, in a sustainable manner.

State

Argentina

Gender

Male

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