

## Incidents of radioactive material out of regulatory control in Vietnam

Vietnam Agency for Radiation and Nuclear Safety (VARANS) is under the Ministry of Science and Technology (MOST) and has the responsibility to assist the Minister in performing the duties and authorities in radiation and nuclear safety; security of radioactive sources, nuclear materials, nuclear facilities; international safeguards; emergency response to radiation and nuclear incidents within its competency.

In database of radioactive sources in 2017, Vietnam has approximately 650 radioactive sources facilities with 5300 sealed radioactive sources, including about 2450 sources are in use and 2850 sources are in temporary storage. These sources are being applied in industrial, medical, research, education, and other purposes. Besides the benefits, radioactive sources also bring potential risks if not managed well. Currently, Vietnam does not have a national long-term storage of disused radioactive sources with sufficient capacity to manage a large number of radioactive sources, ensuring safety and security. The mainly disused radioactive sources are still stored in facilities and some units of the Vietnam Atomic Energy Institute are allowed supporting temporary storage. This has negatively affected the management of safety and security of radioactive sources, potentially high risk of loss, or theft of sources that can occur as incidents occur during the time recently.

From 2005 to now, there were 6 typical incidents of loss radioactive sources in Vietnam. The incidents of losing radioactive sources at facilities show that: The management system at facilities still has loopholes; The responsibility of facility for ensuring radiation safety and security of radioactive sources is still low; The process of managing radioactive sources is loose; Emergency response to incidents of loss radioactive sources is still slow and no close combination between the facilities and the regulatory agencies.

Reconsider the above-mentioned loss of radioactive sources, lessons learned after the incidents, as well as making corrective measures to enhance the work of ensuring radiation safety and radioactive source security, the Regulatory Agency in Vietnam has focused on the following issues: 1) Enhance inspection, verification to ensure the security of radioactive in Vietnam. When conducting inspections, there must be contents on security of radioactive sources, in which the existence of radioactive sources must be verified. Establish a national database of radioactive sources. Strengthening coordination between relevant ministries, branches, People's Committees of provinces and cities in radioactive sources security. 2) Strengthening the capacity of VARANS and local Agency to well perform the function of managing radiation safety and security of radioactive sources, ensuring human resources, infrastructure and equipment for inspection activities and management, focusing on staff training. 3) Strengthening propaganda, dissemination and guidance on the implementation of legal regulations, training and awareness rising on radiation safety and security of radioactive sources for organizations and individuals in the local area. 4) Raising awareness among leaders and employees of the facility about responsibility for ensuring radiation safety and security of radioactive sources, building safety and security culture, focusing on training employees on radiation safety and security of radioactive sources. 5) Need to build a national storage facility to meet the requirements of safety and security management of disused radioactive sources.

### Gender

Male

### State

Viet Nam

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rial out of regulatory control