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Search and Investigation of Orphan Sources in Lithuania

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One of the most important tasks in each country is to ensure that nuclear or radioactive materials or other sources of ionizing radiation be not used unauthorized, traveling without control, have free access or used for malevolent purposes. In case of identification such not legal activities or orphan sources countries should have established system of response to such situations on the State level. One of very important parts is identification and investigation of discovered or apprehended nuclear or radioactive materials. Lithuania has created national system of response in case of identification of not legal and orphan sources as well as search of such sources. Radiation Protection Centre has established laboratory, equipped with necessary technique for search, identification and further measurements of orphan sources including training on search and secure. In last years Radiation Protection Centre was launched programme for search of orphan sources in former facilities or territories used sources of ionizing radiation as well as participated in investigation of discovered orphan sources or apprehended with radioactive materials contaminated consumer products. The largest part of investigated contaminated materials was discovered in metal scrap yards usually contaminated with radium or thorium as NORM. Some of sources discovered by peoples as high activity cesium source and lost smoke detectors with plutonium.

During the search at soviet army military airport at place where remediation measures have been carried out 20 years ago the contamination by the radium 226 was detected. It shows that the remediation measures were not sufficient and the contamination due to migration and other factors appeared at the surface of the ground.

Search of orphan sources and contaminated sites are performed on the asking of people as well. Inhabitants due to different reasons are asking to measure radiation at living environment. No orphan sources and radioactive contamination was found during that cases but nevertheless the search performed works for the secure life.

Country and/or Institution

Radiation Protection Centre, Lithuania

Primary author: Mr ZILIUKAS, J. (Lithuania)

Co-authors: Mr REMIGIJUS, K. (Radiation Protection Center, Lithuania); Ms LAIMA, P. (Radiation Protection Center, Lithuania); Ms LADYGIENE, R. (Radiation Protection Center, Lithuania)

Presenter: Mr ZILIUKAS, J. (Lithuania)

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