

AMNESTY PILOT PROJECT TO PREVENT THE RISK OF 'DIRTY BOMBS' USAGE

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The situation in the Eastern Ukraine over last two decades and the counterterrorist operation, held in 2014-2015, have led to the situation, where a lot of facilities, operating radiation sources are now destroyed or gone out of regulating control, actuates an urgent need to inform civil population and military people about appearance and properties of (disused) sealed radiation sources. Industrial gamma radiation sources are subjects of high loss risk because proper control depends on a person, but not on engineered control systems. In 2014-2016 Ukraine to faced new challenges, connected with potential growth of orphan radiation sources and IRS involvement in illicit trafficking and some part of them are now gone out regulating control due to military actions in the eastern part of Ukraine.

Under the Memorandum of Understanding, the U.S. DoE program is to provide assistance regarding safety and security of radiation sources in Ukraine. In the framework of international cooperation the initiative for threat reduction projects are ongoing. Radioactive source amnesty program would help the Government of Ukraine to reduce the number of orphan sources and reduce the perception of demand for illegal radioactive materials. This amnesty program consists of two parts. It foresees collection and securing of disused or orphaned sources, reported by the public. Secondly, it would engage in a public outreach campaign to make people aware of the program and combat the opinion that these materials are valuable and can be illicitly sold for profit.

As far as spent sources can be in the ownership of medical institutions, industrial companies, research facilities and military organizations, the information campaign should be aimed on the executives of mentioned organizations. On the other hand, common population should also be covered because of their possibility to find a disused source without any physical protection.

The primary target audiences of the amnesty program are the people who are under the false impression these sources can be sold for huge profits, when in fact there is little or no market for such objects.

Being focused on "ATO" (fighting) areas, Amnesty project pilot will help the Government of Ukraine to reduce the number of orphan sources and reduce the perception of a demand for illegal radioactive materials and minimize possible event of a nuclear or radiological emergency.

In eastern part of Ukraine there are about 1,200 radionuclide sources categories 1-5; 65 subjects using IRS (including 8 institutions using IRS of activity over 1000 Curie) and two Donbas coal enterprises (combining 15 mines) using 142 IRS, maximum activity of a single source is 35×10^{11} Bq).

The paper discusses some methods of solving this problem. These methods can be considered preventive and are aimed on developing and implementing an appropriate national policy in the sphere of activities with sealed sources.