



Contribution ID: 256

Type: oral

Modern Approaches to the Establishment of National Geoinformation Systems as a Means of Combating Nuclear Terrorism and Illicit Trafficking of Radioactive Materials

Friday, 24 October 2014 11:40 (20 minutes)

The report deals with the approaches to the establishment of National geoinformation systems as a means of combating nuclear terrorism and illicit trafficking of radioactive materials (hereinafter National geoinformation systems), which represent the integration of already existing and brand-new hardware and software into a single system for illicit trafficking control. It illustrates the model of transition from current operation system, which is based on engagement of different resources used by governmental agencies, to network solutions enabling to automatize and optimize the process of radiation control, to organize on-line radiological information exchange, thus, enhancing efficiency of reacting on illicit trafficking of nuclear or other radioactive materials.

The report also describes operational algorithm of National geoinformation systems and experience of implementation of modern radiological network based equipment, which enables to indicate location, to take measurements and transfer results to the remote expert centre on-line using different data transmission means.

Web-application of National geoinformation systems enables to automatize processing of radiological information, which is transferred from different users to a single server, to display the location on the map, to maintain the database of illicit trafficking of nuclear and other radioactive materials, and to exchange information between concerned member-states and IAEA contact points.

In general, the suggested system combines new possibilities, which allow to integrate a number of devices into a single network, to display radiological data with GPS-location marks, to give access to the experts for estimating the results of the radiological measurements, to manage the actions of different users from a single remote expert centre and, if necessary, to render on-line expert assistance.

The described in the report National geoinformation system has been adopted by a number of users, has turned out to be efficient and is recommended for use in IAEA member-states.

Country or International Organization

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Session Classification: Promoting the Interface Between Nuclear Safety, Security and Safeguards