

CONTROLLING RADIOACTIVE SOURCES

STRONGER "CRADLE-TO-GRAVE" SECURITY NEEDED, IAEA SAYS

The radioactive materials needed to build a "dirty bomb" can be found in almost any country in the world, and more than 100 countries may have inadequate control and monitoring programs necessary to prevent or even detect the theft of these materials, the IAEA reported in a press release 25 June 2002.

The IAEA pointed out that while radioactive sources number in the millions, only a small percentage have enough strength to cause serious radiological harm. It is these powerful sources that need to be focused on as a priority.

Around the world, radioactive sources have been widely used for decades to benefit humankind — to diagnose and treat illnesses, to monitor oil wells and water aquifers, to process food for health and safety reasons, and for many other uses.

The IAEA has identified radioactive sources used in industrial radiography, radiotherapy, industrial irradiators and thermo-electric generators as those that are the most significant from a safety and security standpoint because they contain powerful amounts of radioactive material — such as cobalt-60, strontium-90, caesium-137, and iridium-192.

"What is needed is cradle-to-grave control of powerful radioactive sources to protect them against terrorism or theft," said IAEA Director General Mohamed ElBaradei. "One of our priorities is to assist States in creating and strengthening



national regulatory infrastructures to ensure that these radioactive sources are appropriately regulated and adequately secured at all times." Mr. ElBaradei pointed out that while a number of countries which have regulatory systems in place are urgently stepping up security measures, many countries lack the resources or the national structures to effectively control radioactive sources.

"Orphaned" radioactive sources — a term utilized by nuclear regulators to denote radioactive sources that are outside official regulatory control — are a widespread phenomenon in the Newly Independent States (NIS) of the former USSR. Even the United States Nuclear Regulatory Commission reports that US companies have lost track of nearly 1500 radioactive sources within the country since 1996, and more than half were never recovered. A European Union

(EU) study estimated that every year up to about 70 sources are lost from regulatory control in the EU. A recent European Commission report estimated that about 30,000 disused sources in the EU that are held in local storage at the users' premises are at risk of being lost from regulatory control. The majority of these sources would not pose a significant radiological risk if used in a dirty bomb.

In a significant recent development, the IAEA, United States, and Russian Federation agreed to form a working group on the security of radioactive sources. (See box, page 3).

Millions of sources have been distributed worldwide over the

Photo: In June 2002, the IAEA and experts from its Member States assisted authorities in the Republic of Georgia to search for orphan radioactive sources. (Credit: Pavlicek/IAEA)

RUSSIA, USA & IAEA JOIN FORCES

A new tripartite working group on "Securing & Managing Radioactive Sources" was launched in June 2002 by the United States, Russian Federation, and the IAEA. The group will focus on developing a coordinated and proactive strategy to locate, recover, secure, and recycle orphan radioactive sources throughout the former Soviet Union that are most vulnerable to theft and misuse.

The collaboration between the US Department of Energy (DOE), Russia's Ministry of Atomic Energy (MINATOM), and the IAEA signals a concerted international response to the threat posed by vulnerable radioactive sources in the former Soviet Union. Funding and expertise is being provided by DOE and MINATOM. The USA expects to earmark \$20 million in 2002.

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past 50 years, with hundreds of thousands currently being used, stored, and produced. Many of these sources are weakly radioactive, and they pose little radiological risk.

Through its programmes to help countries improve their national infrastructures for radiation safety and security, the IAEA has found that more than 100 countries may have no minimum infrastructure in place to properly control radiation sources. However, many IAEA Member States — in Africa, Asia, Latin America, and Europe — are making progress through an IAEA project to strengthen their capabilities to control and regulate radioactive sources. The IAEA is

also concerned about over 50 countries that are not IAEA Member States, as they do not benefit from IAEA assistance and are likely to have no regulatory infrastructure.

The IAEA has been active in lending its expertise to search out and secure orphaned sources in several countries. Additionally, more than 70 States have joined with the IAEA to collect and share information on trafficking incidents and other unauthorized movements of radioactive sources and other radioactive materials.

The IAEA and its Member States are working hard to raise levels of radiation safety and security, especially focusing on countries known to have urgent

needs. In March 2002, the IAEA Board of Governors approved a multi-faceted Action Plan to Combat Nuclear Terrorism that includes upgrading radiation safety and security. One programme is designed to ensure that significant, uncontrolled radioactive sources are brought under regulatory control and properly secured by providing assistance to Member States in their efforts to identify, locate and secure or dispose of orphan sources.

For full coverage on the safety and security of radioactive sources — and other aspects of the IAEA's work to upgrade levels of nuclear security — see the Agency's WorldAtom Web site at <http://www.iaea.org>.