TRACKING TRAFFICKERS
The IAEA Incident and Trafficking Database

Radioactive material is missing from a hospital. Contaminated metal is found in a scrap yard. Smugglers try to peddle nuclear-weapon-usable material. These different scenarios illustrate the risks that these materials can pose to human safety and security. To assess those risks and to develop strategies to reduce them, States must understand the implications and the scope of such incidents that are occurring around the world.

To better understand and respond to these events, the IAEA maintains an Incident and Trafficking Database (ITDB) which collects information from 122 participating States and some select international organizations. They are asked to share data on a voluntary basis about incidents in which nuclear and other radioactive material has fallen "out of regulatory control." This could mean reporting cases of material that has gone missing, or discoveries of material where none was expected. The cases range from the innocent misplacement of industrial radioactive sources to criminal smuggling efforts which could aid terrorist acts.

This information is shared among ITDB participants, and IAEA analysts try to identify trends and characteristics that could help prevent the misuse of these potentially dangerous materials.

"The ITDB has become an internationally recognized tool for States to study the extent and nature of these incidents," said John Hilliard, head of the Information Management and Coordination Section that administers the database. "We've learned a lot by studying them, and we hope the information helps us prevent accidents or crimes in the future."

The IAEA established the database in 1995 after States became alarmed by a growing number of trafficking incidents in the early 1990s. The service was originally operated by the Department of Safeguards, but later moved to the Department of Nuclear Safety and Security, where the Office of Nuclear Security now administers all the data collection and analysis.

ITDB participants reported 2331 confirmed incidents between 1993 and late 2012. Of those, 419 incidents involved unauthorized possession and related criminal activities (such as attempted sales), 615 involved the theft or loss of material (such as material missing from an industrial site), 1244 involved other unauthorized activities and events (such as detections of contaminated metal in scrapyards), and some incidents fell into multiple categories.

"The group of unauthorized possession and related criminal activities usually gets the most attention because it describes the bulk of the malicious security threats," Hilliard said. Reports of incidents in this group have declined since the early 1990s, and they include 16 confirmed incidents involving the unauthorized possession of highly enriched uranium or plutonium. Some of these cases involved attempts to sell or traffic these materials across international borders.

"None of these cases involved material in sufficient quantities to make even a crude nuclear weapon," said Hilliard, "but they do show that some bad guys believe they can sell this stuff on the black market."

Also worrying are some incidents indicating the involvement of nuclear professionals, not just petty criminals.

"We've seen a new breed of trafficker," Hilliard said, "as well as occasional signs of perpetrators working together in small networks."

Reports in the other groups of incidents have increased significantly since 1993, and they appear to have peaked in the mid-2000s. But it can be challenging to identify trends in the statistics, as some of these increases may simply reflect better national detection and reporting capabilities, rather than the actual number of incidents.

"All in all, the ITDB has proven to be a fantastic international resource, and we're working all the time to expand participation. As we add our 20th year of data in 2013, I'm confident the database will be an essential component of the IAEA's nuclear security work for the future," explained Hilliard.

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