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Fears over missing nuclear material



A few kilos of plutonium is enough for a nuclear bomb

International researchers have warned that the world may be awash in unaccounted weapons-grade uranium and plutonium, after completing a latest database of lost and stolen nuclear material.

The new database by the Institute for International Studies (IIS) at Stanford University said the protection of nuclear and radioactive material was "woefully inadequate", pointing to huge gaps of information on the exact amount of missing material.

"It truly is frightening. I think this is the tip of the iceberg," one of the researchers, Lyudmila Zaitseva, said.

The Stanford Database on Nuclear Smuggling, Theft and Orphan Radiation Sources (DSTO)

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 ”
Lyudmila Zaitseva, Stanford research member

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Low Graphics was released as US senators warned that the so-called "dirty" bombs made of discarded radioactive material could have a significant psycho-social effect and cause mass panic among the population.

The database, which will only be available to carefully vetted researchers, is intended to help governments and international agencies track missing nuclear material worldwide amid concerns over the patchy nature of most of the available information.

Chilling estimates

According to the report, about 40 kilograms of weapons-usable uranium and plutonium have been stolen from poorly protected nuclear facilities in the former Soviet Union during the last decade.

It said that while most of that material had been later retrieved, two kilograms of highly enriched uranium from a reactor in Georgia was still missing.

The database, which combines information from two existing unclassified databases and also adds independently obtained figures, registered 830 incidents of illicit trafficking of radioactive material.

DSTO incident list

- 643 nuclear smuggling incidents
- 107 sources of orphaned radiation
- over 80 cases of fraud or malevolent acts

But Ms Zaitseva said that the real amount of missing weapons-grade material could be 10 times higher than the official figures.

"We don't know what's missing. That's the most frightening thing".

Another member of the research team, nuclear physicist Friedrich Steinhausler, said the biggest hole in the database was that no one

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knew where the smuggled material has gone.

"There is no proof. There is suspicion but there is no proof," he said.

'Orphan' radiation

The Stanford database also lists "orphaned" radiation sources: scientific or medical material that may have been lost or misplaced.

Mr Steinhausler said that such materials also presented a real threat because victims may not know that they have been exposed.

"Many countries don't even have a central register of radioactive materials. If they don't know what they have, they don't know what they've lost," he said, quoting two cases of relatively recent mass accidental contamination in the USA and Brazil.

Ms Zaitseva added that with the collapse of the Soviet Union, a large amount of weapons-grade material was left without adequate protection.

She said the US-sponsored programme to secure nuclear components in the former Soviet Union has locked only one-third of the more than 600 tons of weapons-usable material.

"It's just not protected. This is hot stuff. If you steal 20 kilograms of that material, you can build a nuclear weapon".

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