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## **Official Warns of Unsecured Nuclear Reactors**

*By John Diamond, USA TODAY*

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WASHINGTON — One-third of the world's 130 civilian nuclear research reactors lack security upgrades needed to prevent theft of materials that terrorists could use to build an atomic bomb, the chief U.S. nuclear proliferation official says.

In an interview with USA TODAY, Linton Brooks, director of the National Nuclear Security Administration, said most of these reactors use highly enriched uranium, the easiest fuel used to make atomic bombs. "Fresh" highly enriched uranium — the supply not yet used in reactors — is hard to detect and safe enough to handle with bare hands.

Security was at the heart of the recent furor over a deal that would have turned over terminal management at U.S. ports in six states to a company owned by the Arab emirate of Dubai. Unsecured nuclear fuel, not who manages port terminals, poses the biggest risk for a nuclear weapon entering the USA, said Brooks and former senator Sam Nunn, D-Ga.

The U.S. government won't say specifically where the unsecured reactors are. All reactors in the USA, Russia and Eastern Europe have adequate security, according to the National Nuclear Security Administration and Holly Harrington of the Nuclear Regulatory Commission.

That's an improvement over 10 years ago when many Soviet bloc research reactors were particularly vulnerable to theft. Eight reactors not in those countries are slated to receive improved perimeter fencing, surveillance cameras and material storage. That leaves 47 reactors with inadequate or questionable security in China, Ghana, Jamaica, Pakistan and Uzbekistan, according to an International Atomic Energy Agency list. There are also research reactors in countries hostile toward the United States, including Iran and North Korea. The IAEA, the United Nations' nuclear watchdog, says 38 countries have reactors that use highly enriched uranium.

Brooks said security has improved at former Soviet bloc research reactors with U.S. funds of about \$1 billion a year. The upgrades were driven by concerns that the sites lacked the security of military bases. These reactors, often found at universities or hospitals, contain about 18 tons of highly enriched uranium, according to a 2004 Harvard University study. That is enough for 400 to 800 nuclear weapons.

The world's research reactor security efforts are "at about 3" on a 1-to-10 scale with 10 being safest, said Nunn, who helped create the 1991 U.S. plan to secure nuclear materials.