



Highlights of [GAO-05-840T](#), a testimony before the Subcommittees on the Prevention of Nuclear and Biological Attack and on Emergency Preparedness, Science, and Technology, Committee on Homeland Security, House of Representatives

## Why GAO Did This Study

According to the International Atomic Energy Agency, between 1993 and 2004, there were 650 confirmed cases of illicit trafficking in nuclear and radiological materials worldwide. A significant number of the cases involved material that could be used to produce either a nuclear weapon or a device that uses conventional explosives with radioactive material (known as a “dirty bomb”). Over the past decade, the United States has become increasingly concerned about the danger that unsecured weapons-usable nuclear material could fall into the hands of terrorists or countries of concern. In the aftermath of September 11, 2001, there is heightened concern that terrorists may try to smuggle nuclear materials or a nuclear weapon into the United States.

My testimony today summarizes the results of our previous reports on various U.S. efforts to combat nuclear smuggling both in the United States and abroad. Specifically, I will discuss (1) the different U.S. federal agencies tasked with installing radiation detection equipment both domestically and in other countries, (2) problems with coordination among these agencies and programs, and (3) the effectiveness of radiation detection equipment deployed in the United States and other countries.

[www.gao.gov/cgi-bin/getrpt?GAO-05-840T](http://www.gao.gov/cgi-bin/getrpt?GAO-05-840T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gene Aloise at (202) 512-3841 or [aloisee@gao.gov](mailto:aloisee@gao.gov).

# COMBATING NUCLEAR SMUGGLING

## Efforts to Deploy Radiation Detection Equipment in the United States and in Other Countries

### What GAO Found

Four U.S. agencies, the Departments of Energy (DOE), Defense (DOD), State, and Homeland Security (DHS), are implementing programs to combat nuclear smuggling by providing radiation detection equipment and training to border security personnel. From fiscal year 1994 through fiscal year 2005, the Congress has appropriated about \$800 million for these efforts, including about \$500 million to DOE, DOD, and State for international efforts and about \$300 million to DHS for installing radiation detection equipment at U.S. points of entry. The first major initiatives to combat nuclear smuggling concentrated on deploying radiation detection equipment at borders in countries of the former Soviet Union. In particular, in 1998, DOE established the Second Line of Defense program, which has installed equipment at 66 sites mostly in Russia through the end of fiscal year 2004. In 2003, DOE began its Megaports Initiative to focus on the threat posed by nuclear smuggling at major foreign seaports and to date has completed installations at two ports. Regarding efforts at U.S. points of entry, the U.S. Customs Service began providing its inspectors with portable radiation detection devices in 1998 and expanded its efforts to include larger-scale radiation detection equipment after September 11, 2001. This program is continuing under DHS, which reported in May 2005 that it has installed more than 470 radiation portal monitors nationwide at mail facilities, land border crossings, and seaports.

A common problem faced by U.S. programs to combat nuclear smuggling is the lack of effective planning and coordination among the responsible agencies. For example, we reported in 2002 that there was no overall governmentwide plan to guide U.S. efforts, some programs were duplicative, and coordination among U.S. agencies was not effective. We found that the most troubling consequence of this lack of effective planning and coordination was that the Department of State had installed less sophisticated equipment in some countries leaving those countries' borders more vulnerable to nuclear smuggling than countries where DOE and DOD had deployed equipment. Since the issuance of our report, the agencies involved have made some progress in addressing these issues. Regarding the deployment of equipment in the United States, we reported that DHS had not effectively coordinated with other federal agencies and DOE national laboratories on longer-term objectives, such as attempting to improve the radiation detection technology. We found that a number of factors hindered coordination, including competition between DOE national laboratories and the emerging missions of various federal agencies with regard to radiation detection.

The effectiveness of the current generation of radiation detection equipment is limited in its ability to detect illicitly trafficked nuclear material, especially if it is shielded by lead or other metal. Given the inherent limitations of radiation detection equipment and difficulties in detecting certain materials, it is important that the equipment be installed, operated, and maintained in a way that optimizes its usefulness. It is also important to note that the deployment of radiation detection equipment—regardless of how well such equipment works—is not a panacea for the problem of nuclear smuggling. Rather, combating nuclear smuggling requires an integrated approach that includes equipment, proper training of border security personnel in the use of radiation detection equipment, and intelligence gathering on potential nuclear smuggling operations.