



Highlights of [GAO-07-581T](#), a testimony before the Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology; Committee on Homeland Security; House of Representatives

Why GAO Did This Study

The Department of Homeland Security (DHS) is responsible for addressing the threat of nuclear smuggling. Radiation detection portal monitors are key elements in our national defenses against such threats. DHS has sponsored R&D and testing activities to develop a “next generation” portal monitor, known as the advanced spectroscopic portal monitor. However, each one costs 6 times more than a current portal monitor. In March 2006, we recommended that DHS conduct a cost-benefit analysis to determine whether the new portal monitors are worth the additional cost. In June 2006, DHS issued its analysis. In October 2006, we issued our report that assessed the DHS study.

GAO’s statement, based on our October 2006 report, addresses whether DHS’s cost-benefit analysis provides an adequate basis for its decision to purchase and deploy the next generation portal monitors.

What GAO Recommends

GAO’s October 2006 report included two recommendations designed to improve the quality and comprehensiveness of the Department’s analysis. DHS neither agreed nor disagreed with our recommendations, but continued to support its analysis as a solid basis for buying and deploying the new generation of radiation portal monitors.

www.gao.gov/cgi-bin/getrpt?GAO-07-581T.

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.

COMBATING NUCLEAR SMUGGLING

DHS's Decision to Procure and Deploy the Next Generation of Radiation Detection Equipment Is Not Supported by Its Cost-Benefit Analysis

What GAO Found

DHS’s cost-benefit analysis does not provide a sound analytical basis for its decision to purchase and deploy the new portal monitor technology. Our review of the analysis determined that it had the following problems:

Regarding the performance of the portal monitors:

- Instead of using the results of its own portal monitor tests conducted in 2005, DHS assumed that the new portal monitor technology would correctly detect and identify highly enriched uranium (HEU) 95 percent of the time—a performance level that far exceeds the new technology’s current capabilities.
- To determine the performance of the current generation of portal monitors in detecting HEU, DHS used data from limited tests carried out in 2004 that test officials concluded were unreliable for such purposes.
- DHS’s analysis of the new technology portal monitors was incomplete because the analysis focused on identifying HEU, but did not fully consider how well the new portal monitor technology could correctly detect or identify other dangerous radiological or nuclear materials.

Regarding cost estimates:

- In comparing the costs of the new and current technologies, the procurement costs of the current generation portal monitors were highly inflated because DHS assumed a unit cost of about \$131,000. However, the contract price at the time of the analysis was about \$55,000. According to officials who manage the contract, it was to expire and they expected portal monitor prices to increase, but not nearly as much as DHS assumed.
- DHS stated that the primary benefit of deploying the new portal monitors is reducing unnecessary secondary inspections. However, DHS’s analysis does not fully estimate today’s baseline costs for secondary inspections, which makes it impossible to determine whether the use of the new portal monitors as currently planned, will result in significant cost savings for these inspections.
- The new portal monitor contract price has exceeded DHS’s total cost estimate by about \$200 million. The cost-benefit analysis shows the total cost for deploying both current and new portal monitors to be about \$1 billion. However, in July 2006, DHS announced that it had awarded contracts to develop and purchase up to \$1.2 billion worth of the new portal monitors over 5 years.
- DHS’s cost-benefit analysis omitted many factors that could affect the cost of new portal monitors, such as understating the life-cycle costs for operating and maintaining the equipment over time.

For these reasons, DHS’s cost-benefit analysis does not meet the intent of our March 2006 report recommendation to fully assess the costs and benefits before purchasing any new equipment.