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COMBATING NUCLEAR SMUGGLING

Challenges Facing U.S. Efforts to Deploy Radiation Detection Equipment in Other Countries and in the United States

Statement of Gene Aloise, Director
Natural Resources and Environment

March 28, 2006

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Highlights

Highlights of GAO-06-558T, a testimony before the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

GAO is releasing two reports today on U.S. efforts to combat nuclear smuggling in foreign countries and in the United States. Together with the March 2005 report on the Department of Energy's Megaports Initiative, these reports represent GAO's analysis of the U.S. effort to deploy radiation detection equipment worldwide.

In my testimony, I will discuss (1) the progress made and challenges faced by the Departments of Energy (DOE), Defense (DOD), and State in providing radiation detection equipment to foreign countries and (2) the Department of Homeland Security's (DHS) efforts to install radiation detection equipment at U.S. ports of entry and challenges it faces.

What GAO Recommends

In the report on U.S. efforts to combat nuclear smuggling in other countries, GAO made five recommendations to improve, among other things, equipment maintenance, coordination among U.S. programs, and accountability of equipment. Both DOE and State agreed with GAO's recommendations. In the report on radiation detection at U.S. ports of entry, GAO made nine recommendations designed to help DHS speed up the pace of portal monitor deployments, better account for schedule delays and cost uncertainties, and improve its ability to interdict illicit nuclear materials. DHS agreed with GAO's recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-06-558T.

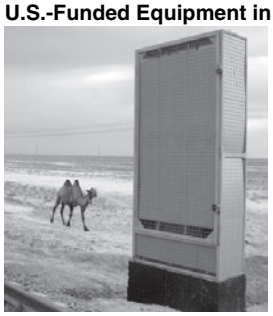
To view the full product, including the scope and methodology, click on the link above. For more information, contact Gene Aloise at (202) 512-3841 or aloisee@gao.gov.

What GAO Found

Regarding the deployment of radiation detection equipment in foreign countries, DOE, DOD, and State have spent about $178 million since fiscal year 1994 to provide equipment and related training to 36 countries. For example, through the end of fiscal year 2005, DOE's Second Line of Defense program had completed installation of equipment at 83 sites, mostly in Russia. However, these agencies face a number of challenges that could compromise their efforts, including corruption of foreign border security officials, technical limitations and inadequate maintenance of some equipment, and the lack of supporting infrastructure at some border sites. To address these challenges, U.S. agencies plan to take a number of steps, including combating corruption by installing multitiered communications systems that establish redundant layers of accountability for alarm response. State coordinates U.S. programs to limit overlap and duplication of effort. However, State's ability to carry out this role has been limited by deficiencies in its interagency strategic plan and its lack of a comprehensive list of all U.S. radiation detection equipment provided to other countries.

Domestically, DHS had installed about 670 radiation portal monitors through December 2005 and provided complementary handheld radiation detection equipment at U.S. ports of entry at a cost of about $286 million. DHS plans to install a total of 3,034 radiation portal monitors by the end of fiscal year 2009 at a total cost of $1.3 billion. However, the final costs and deployment schedule are highly uncertain because of delays in releasing appropriated funds to contractors, difficulties in negotiating with seaport operators, and uncertainties in the type and cost of radiation detection equipment DHS plans to deploy. Overall, GAO found that U.S. Customs and Border Protection (CBP) officers have made progress in using radiation detection equipment correctly and adhering to inspection guidelines, but CBP's secondary inspection procedures could be improved. For example, GAO recommended that DHS require its officers to open containers and inspect them for nuclear and radioactive materials when they cannot make a determination from an external inspection and that DHS work with the Nuclear Regulatory Commission (NRC) to institute procedures by which inspectors can validate NRC licenses at U.S. ports of entry.

U.S.-Funded Equipment in Uzbekistan and at a Northern U.S. Port of Entry



Sources: DOD and GAO.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our work on U.S. government programs to combat nuclear smuggling through the deployment of radiation detection equipment at border crossings and other ports of entry both in foreign countries and in the United States.[1] According to the International Atomic Energy Agency, between 1993 and 2004, there were 662 confirmed cases of illicit trafficking in nuclear and radiological materials worldwide. Twenty-one of these cases involved material that could be used to produce a nuclear weapon, and over 400 involved materials that could be used to produce a device that uses conventional explosives with radioactive material (known as a "dirty bomb"). Especially in the aftermath of the attacks on September 11, 2001, there is heightened concern that terrorists may try to smuggle nuclear material or a nuclear weapon into the United States. This could happen in several ways: nuclear materials could be hidden in a car, train, or ship; sent through the mail; carried in personal luggage through an airport; or walked across an unprotected border. If terrorists were to accomplish this, the consequences could be devastating to our national and economic interests.

In response to these threats, four U.S. agencies, the Departments of Energy (DOE), Defense (DOD), State (State), and Homeland Security (DHS), implement programs to combat nuclear smuggling in foreign countries and in the United States. Regarding U.S. efforts in other countries, the first major initiatives to combat nuclear smuggling during the 1990s concentrated on deploying radiation detection equipment at borders in countries of the former Soviet Union. One of the main U.S. programs providing radiation detection equipment to foreign governments is DOE's Second Line of Defense program, which began installing equipment at key sites in Russia in 1998. In 2003, DOE began a second program, the Megaports Initiative, to combat nuclear smuggling at major

[1]See GAO, *Combating Nuclear Smuggling: DHS Has Made Progress Deploying Radiation Detection Equipment at U.S. Ports of Entry, but Concerns Remain*, GAO-06-389 (Washington, D.C.: Mar. 22, 2006) and *Combating Nuclear Smuggling: Corruption, Maintenance, and Coordination Problems Challenge U.S. Efforts to Provide Radiation Detection Equipment to Other Countries*, GAO-06-311 (Washington, D.C.: Mar. 14, 2006).

foreign seaports.[2] In addition to DOE's efforts, two DOD programs have provided radiation portal monitors, handheld equipment, and radiation detection training to 8 countries in the former Soviet Union and Eastern Europe. Similarly, three State programs have provided radiation detection equipment and training to 31 countries since fiscal year 1994.

Regarding efforts to combat nuclear smuggling in the United States, DHS is responsible for providing radiation detection capabilities at U.S. ports of entry. Until April 2005, U.S. Customs and Border Protection (CBP) managed this program. However, on April 15, 2005, the President directed the establishment, within DHS, of the Domestic Nuclear Detection Office (DNDO), whose duties include acquiring and supporting the deployment of radiation detection equipment.[3] CBP continues its traditional screening function at ports of entry to prevent illegal immigration and interdict contraband, including the operation of radiation detection equipment. DHS is deploying portal monitors in five phases: international mail and express courier facilities; northern border crossings; major seaports; southwestern border crossings; and all other categories, including international airports and remaining border crossings, seaports, and rail crossings. Generally, CBP prioritized these categories according to their perceived vulnerability to the threat of nuclear smuggling (rather than through a formal risk assessment).

My testimony summarizes the findings of our two reports being released today on U.S. programs to combat nuclear smuggling. Specifically, I will discuss (1) the progress made by the various federal agencies tasked with installing radiation detection equipment at ports of entry in foreign countries and the challenges these agencies face and (2) DHS's efforts to install radiation detection equipment at U.S. ports of entry and challenges DHS faces in completing its program.

[2]In addition to the two reports being released today, in March 2005 we reported on DOE's Megaports Initiative. For additional information, see GAO, *Preventing Nuclear Smuggling: DOE Has Made Limited Progress in Installing Radiation Detection Equipment at Highest Priority Foreign Seaports*, GAO-05-375 (Washington, D.C.: Mar. 31, 2005). Through the end of fiscal year 2005, DOE had spent about $101 million to complete installations at four ports in Greece, the Netherlands, Sri Lanka, and the Bahamas. DOE anticipates completing an additional port in Spain in April 2006. DOE has signed agreements to begin work at ports in seven other countries (China, Honduras, Israel, Oman, the Philippines, Thailand, and the United Arab Emirates).

[3]See National Security Presidential Directive No. 43/Homeland Security Presidential Directive No. 14, Domestic Nuclear Detection (Apr. 15, 2005).

Summary

Regarding deployment of radiation detection equipment in foreign countries, DOE, DOD, and State have spent a total of about $178 million since fiscal year 1994 to provide assistance to 36 countries. For example, DOE's Second Line of Defense program has installed equipment at 83 sites, mostly in Russia, at a cost of about $130 million. However, DOE, DOD, and State face challenges that could compromise their programs' effectiveness, including (1) corruption of foreign border security officials, (2) technical limitations of some equipment at foreign sites, (3) problems with maintenance of some handheld equipment, and (4) the lack of infrastructure and harsh environmental conditions at some border sites.

- According to officials from several countries we visited, corruption is a pervasive problem within border security organizations. DOE, DOD, and State officials told us they are concerned that corrupt foreign border security personnel could compromise the effectiveness of U.S.-funded radiation detection equipment by either turning off equipment or ignoring alarms. To mitigate this threat, DOE and DOD plan to deploy communications links between individual border sites and national command centers so that alarm data can be simultaneously evaluated by multiple officials.

- Some portal monitors that State and other U.S. agencies previously installed at foreign border sites have technical limitations and can only detect gamma radiation, which makes them less effective at detecting weapons-usable nuclear material than equipment with both gamma and neutron radiation detection capabilities. Since 2002, DOE has maintained this equipment but has only upgraded equipment at one site. Until the remaining sites receive equipment with both gamma and neutron detection capabilities, they will be vulnerable to certain forms of nuclear smuggling.

- DOE has not systematically maintained handheld radiation detection equipment provided by State and other agencies. As a result, many pieces of handheld equipment, which are vital for border officials to conduct secondary inspections, may not function properly.

- Finally, many border sites are located in remote areas that often do not have access to infrastructure essential to operate radiation detection equipment and associated communication systems. Additionally, environmental conditions at some sites, such as extreme heat, can affect equipment performance. To mitigate these concerns, DOE, DOD, and State have provided generators and other equipment at remote border sites to ensure stable electricity supplies and, when appropriate, heat shields or other protection to ensure the effectiveness of radiation detection equipment.

In addition, State is the lead interagency coordinator charged with limiting overlap and duplication of effort among U.S. programs, but its ability to carry out this role has been limited by deficiencies in its strategic plan for interagency coordination and its lack of a comprehensive list of all U.S. radiation detection equipment provided to other countries.

Regarding deployment of radiation detection equipment at U.S. ports of entry, through December 2005, DHS had installed about 670 portal monitors— about 22 percent of the portal monitors DHS plans to deploy— at U.S. border crossings, seaports, and international mail and express courier facilities at a cost of about $286 million. DHS plans to deploy a total of 3,034 portal monitors by 2009 at a total cost of $1.3 billion. However, the final costs and deployment schedule are highly uncertain because of delays in releasing appropriated funds to contractors, difficulties in negotiating with seaport operators, and uncertainties in the type and cost of radiation detection equipment DHS plans to deploy. Specifically:

- DHS's cumbersome review process for providing requested information to the Congress has resulted in funds being unavailable until later in the fiscal year. This review process involves multiple approvals within DHS and the Office of Management and Budget and has held up the release of program funds, which has delayed the deployment of radiation detection equipment at U.S. ports of entry.

- Difficult negotiations with seaport operators about placement of portal monitors and screening of railcars have delayed deployments at U.S. seaports. Many seaport operators are concerned that radiation detection equipment may inhibit the flow of commerce through their ports. In addition, seaports are much larger than land border crossings, consist of multiple terminals, and may have multiple exits, which may require a greater number of portal monitors.

- DHS's $1.3 billion cost estimate for completing its domestic radiation detection program is uncertain, in part, because DHS would like to deploy advanced technology portal monitors that will likely cost significantly more than current models. However, tests have shown that these new advanced technology portal monitors are not demonstrably more effective than current models in their core function of identifying the presence of radiation. Consequently, it is not clear that the benefits of the new portal monitors would be worth the increased cost.

In addition, CBP officers have made progress in using radiation detection equipment correctly and adhering to inspection guidelines, but we identified ways to improve CBP's secondary inspection procedures. For example, when detection equipment alarms to indicate the presence of radioactivity, CBP officers are not expressly required to open containers and inspect their interiors, even though, under some circumstances, doing so can increase the chances that the source of radioactivity will be correctly located and identified. Furthermore, although radiological materials shipped into the United States are generally required to have a Nuclear Regulatory Commission (NRC) license, importers are not required to present these licenses at U.S. ports of entry, and CBP inspectors are not required to verify the authenticity of these licenses and do not have a system to do so. My GAO colleague, Mr. Greg Kutz, will be testifying on a GAO operation that was conducted to test CBP's inspection procedures and certain NRC licensing procedures.

In our report on U.S. efforts to combat nuclear smuggling in other countries, we made five recommendations. Specifically, we recommended that DOE take steps to upgrade U.S.-funded portal monitors in foreign countries that do not have both gamma and neutron detection capabilities and improve program cost estimates for anticorruption measures. Additionally, we recommended that State, working with DOE and DOD, ensure maintenance is provided for all handheld radiation detection equipment supplied by U.S. programs; strengthen its interagency coordination plan by including specific performance measures, overall cost estimates, and projected time frames for completion of U.S. efforts; and compile, maintain, and share a master list of all U.S. radiation detection assistance. Both DOE and State agreed with our recommendations. In our report on DHS's efforts to deploy radiation detection equipment at U.S. ports of entry, we made nine recommendations, including a series of actions designed to help DHS speed up the pace of portal monitor deployments, better account for schedule delays and cost uncertainties, make the most efficient use of program resources, and improve its ability to interdict illicit nuclear materials. DHS agreed with our recommendations and is taking steps to implement them.

Background

Detecting illicit trafficking in nuclear material is complicated because one of the materials of greatest concern—highly enriched uranium—has a relatively low level of radioactivity and is, therefore, among the most difficult to detect. In contrast, medical and industrial radioactive sources, which could be used to construct a dirty bomb, are highly radioactive and,

therefore, easier to detect. Although their levels of radioactivity differ, uranium and radioactive sources are similar in that they generally emit only gamma radiation, which is relatively easily shielded when encased in high-density material, such as lead. For example, we reported in March 2005 that a cargo container containing a radioactive source passed through radiation detection equipment DOE had installed at a foreign seaport without being detected because the source was surrounded by large amounts of scrap metal in the container.

Plutonium, another nuclear material of great concern, emits both gamma and neutron radiation. Although most currently fielded radiation detection equipment has the capability to detect both gamma and neutron radiation, shielding neutron radiation can be more difficult than shielding gamma radiation. Consequently, plutonium can usually be detected by a neutron detector regardless of the amount of shielding from high-density material. According to DOE officials, neutron radiation alarms are caused only by man-made materials, such as plutonium, while gamma radiation alarms are caused by a variety of naturally occurring sources, including commercial goods such as bananas, ceramic tiles, and fertilizer, as well as by dangerous nuclear materials, such as uranium and plutonium.

Because of the complexities of detecting and identifying nuclear material, customs officers and border guards who are responsible for operating detection equipment must be trained in using handheld radiation detectors to pinpoint the source of an alarm, identify false alarms, and properly respond to cases of nuclear smuggling. The manner in which radiation detection equipment is deployed, operated, and maintained can also limit its effectiveness. Given the difficulties in detecting certain nuclear materials and the inherent limitations of currently deployed radiation detection equipment, it is important that the equipment be installed, operated, and maintained in a way that optimizes authorities' ability to interdict illicit nuclear materials.

Although efforts to combat nuclear smuggling through the installation of radiation detection equipment are important, the United States should not and does not rely upon radiation detection equipment at U.S. or foreign borders as its sole means for preventing nuclear materials or a nuclear warhead from reaching the United States. Recognizing the need for a broad approach to the problem, the U.S. government has multiple initiatives that are designed to complement each other that provide a layered defense against nuclear terrorism. For example, DOE works to secure nuclear material and warheads at their sources through programs that improve the physical security at nuclear facilities in the former Soviet

Union and in other countries. In addition, DHS has other initiatives to identify containers at foreign seaports that are considered high risk for containing smuggled goods, such as nuclear and other dangerous materials. Supporting all of these programs is intelligence information that can give advanced notice of nuclear material smuggling and is a critical component to prevent dangerous materials from entering the United States.

U.S. Efforts to Provide Radiation Detection Equipment to Other Countries Face Corruption, Maintenance, and Coordination Challenges

One of the main U.S. efforts providing radiation detection equipment to foreign governments is DOE's Second Line of Defense program, which began installing equipment at key sites in Russia in 1998. According to DOE, through the end of fiscal year 2005, the program had spent about $130 million to complete installations at 83 sites, mostly in Russia. Ultimately, DOE plans to install radiation detection equipment at a total of about 350 sites in 31 countries by 2012 at a total cost of about $570 million. In addition to DOE's efforts, other U.S. agencies also have programs that provide radiation detection equipment and training to foreign governments. Two programs at DOD—the International Counterproliferation Program and Weapons of Mass Destruction Proliferation Prevention Initiative—have provided equipment and related training to eight countries in the former Soviet Union and Eastern Europe at a cost of about $22 million. Similarly, three programs at State—the Nonproliferation and Disarmament Fund, Georgia Border Security and Law Enforcement program, and Export Control and Related Border Security program—have spent about $25 million to provide radiation detection equipment and training to 31 countries.

However, these agencies face a number of challenges that could compromise their programs' effectiveness, including (1) corruption of foreign border security officials, (2) technical limitations of equipment at some foreign sites, (3) problems with maintenance of handheld equipment, and (4) the lack of infrastructure and harsh environmental conditions at some border sites. First, according to officials from several recipient countries we visited, corruption is a pervasive problem within the ranks of border security organizations. DOE, DOD, and State officials told us they are concerned that corrupt foreign border security personnel could compromise the effectiveness of U.S.-funded radiation detection equipment by either turning off equipment or ignoring alarms. To mitigate this threat, DOE and DOD plan to deploy communications links between individual border sites and national command centers so that alarm data can be simultaneously evaluated by multiple officials, thus establishing redundant layers of accountability for alarm response. In addition, DOD

plans to implement a program in Uzbekistan to combat some of the underlying issues that can lead to corruption through periodic screening of border security personnel.

Second, some radiation portal monitors that State and other U.S. agencies previously installed have technical limitations: they can detect only gamma radiation, making them less effective at detecting some nuclear material than equipment with both gamma and neutron radiation detection capabilities. Through an interagency agreement, DOE assumed responsibility for ensuring the long-term sustainability and continued operation of radiation portal monitors and X-ray vans equipped with radiation detectors that State and other U.S. agencies provided to 23 countries. Through this agreement, DOE provides spare parts, preventative maintenance, and repairs for the equipment through regularly scheduled maintenance visits. Since 2002, DOE has maintained this equipment but has not upgraded any of it, with the exception of at one site in Azerbaijan. According to DOE officials, new implementing agreements with the appropriate ministries or agencies within the governments of each of the countries where the old equipment is located are needed before DOE can install more sophisticated equipment.

Third, since 2002, DOE has been responsible for maintaining certain radiation detection equipment previously deployed by State and other agencies in 23 countries. However, DOE is not responsible for maintaining handheld radiation detection equipment provided by these agencies. As a result, many pieces of handheld equipment, which are vital for border officials to conduct secondary inspections of vehicles or pedestrians, may not function properly. For example, in Georgia, we observed border guards performing secondary inspections with a handheld radiation detector that had not been calibrated (adjusted to conform with measurement standards) since 1997. According to the detector's manufacturer, yearly recalibration is necessary to ensure that the detector functions properly.

Finally, many border sites are located in remote areas that often do not have access to reliable supplies of electricity, fiber optic lines, and other infrastructure essential to operate radiation detection equipment and associated communication systems. Additionally, environmental conditions at some sites, such as extreme heat, can affect the performance of equipment. To mitigate these concerns, DOE, DOD, and State have provided generators and other equipment at remote border sites to ensure stable supplies of electricity and, when appropriate, heat shields or other protection to ensure the effectiveness of radiation detection equipment.

We also reported that State's ability to carry out its role as lead interagency coordinator of U.S. radiation detection equipment assistance has been limited by deficiencies in its strategic plan for interagency coordination and by its lack of a comprehensive list of all U.S. radiation detection equipment assistance. In response to a recommendation we made in 2002, State led the development of a governmentwide plan to coordinate U.S. radiation detection equipment assistance overseas. This plan broadly defines a set of interagency goals and outlines the roles and responsibilities of participating agencies. However, the plan lacks key components, including overall program cost estimates, projected time frames for program completion, and specific performance measures. Without these elements in the plan, State will be limited in its ability to effectively measure U.S. programs' progress toward achieving the interagency goals.

Additionally, in its role as lead interagency coordinator, State has not maintained accurate information on the operational status and location of all radiation detection equipment provided by U.S. programs. While DOE, DOD, and State each maintain lists of radiation detection equipment provided by their programs, they do not regularly share such information, and no comprehensive list of all equipment provided by U.S. programs exists. For example, according to information we received from program managers at DOE, DOD, and State, more than 7,000 pieces of handheld radiation detection equipment had been provided to 36 foreign countries through the end of fiscal year 2005. Because much of this equipment was provided to the same countries by multiple agencies and programs, it is difficult to determine the degree to which duplication of effort has occurred. Without a coordinated master list of all U.S.-funded equipment, program managers at DOE, DOD, and State cannot accurately assess if equipment is operational and being used as intended, determine the equipment needs of countries where they plan to provide assistance, or detect whether an agency has unknowingly supplied duplicative equipment.

DHS Has Made Progress in Deploying Radiation Detection Equipment at U.S. Ports of Entry, but Concerns Remain

Through December 2005, DHS had installed about 670 radiation portal monitors nationwide— about 22 percent of the portal monitors DHS plans to deploy—at international mail and express courier facilities, land border crossings, and seaports in the United States. DHS has completed portal monitor deployments at international mail and express courier facilities and the first phase of northern border sites—57 and 217 portal monitors, respectively. In addition, by December 2005, DHS had deployed 143 of 495 portal monitors at seaports and 244 of 360 at southern border sites.[4] As of February 2006, CBP estimated that, with these deployments, it has the ability to screen about 62 percent of all containerized shipments entering the United States (but only 32 percent of all containerized seaborne shipments) and roughly 77 percent of all private vehicles. DHS plans to deploy 3,034 portal monitors by September 2009 at a cost of $1.3 billion. However, the final costs and deployment schedule are highly uncertain because of delays in releasing appropriated funds to contractors, difficulties in negotiating with seaport operators, and uncertainties in the type and cost of radiation detection equipment DHS plans to deploy. Further, to meet this goal, DHS would have to deploy about 52 portal monitors a month for the next 4 years—a rate that far exceeds the 2005 rate of about 22 per month.

In particular, several factors have contributed to the delay in the deployment schedule. First, DHS provides the Congress with information on portal monitor acquisitions and deployments before releasing any funds. However, DHS's cumbersome review process has consistently caused delays in providing such information to the Congress. For example, according to the House Appropriations Committee report on DHS's fiscal year 2005 budget, CBP should provide the Congress with an acquisition and deployment plan for the portal monitor program prior to funding its contractors. This plan took many months to finalize, mostly because it required multiple approvals within DHS and the Office of Management and Budget prior to being submitted to the Congress. The lengthy review process delayed the release of funds and, in some cases, disrupted and delayed deployment.

Second, difficult negotiations with seaport operators about placement of portal monitors and screening of railcars have delayed deployments at U.S. seaports. Many seaport operators are concerned that radiation

[4]In addition, three portal monitors had been installed at the Nevada Test Site to analyze their detection capabilities, and four had been retrofitted at express mail facilities.

detection equipment may inhibit the flow of commerce through their ports. In addition, seaports are much larger than land border crossings, consist of multiple terminals, and may have multiple exits, which may require a greater number of portal monitors. Further, devising an effective way to conduct secondary inspections of rail traffic as it departs seaports without disrupting commerce has delayed deployments. This problem may worsen because the Department of Transportation has forecast that the use of rail transit out of seaports will probably increase in the near future.

Finally, DHS's $1.3 billion estimate for the project is highly uncertain, in part, because of uncertainties in the type and cost of radiation detection equipment that DHS plans to deploy. The estimate is based on DHS's plans for widespread deployment of advanced technology portal monitors, which are currently being developed. However, the prototypes of this equipment have not yet been shown to be more effective than the portal monitors now in use, and DHS officials say they will not purchase the advanced portal monitors unless they are proven to be clearly superior. Moreover, when advanced technology portal monitors become commercially available, experts estimate that they will cost between about $330,000 and $460,000 each, far more than the currently used portal monitors whose costs range from about $49,000 to $60,000. Even if future test results indicate better detection capabilities, without a detailed comparison of the two technologies' capabilities it would not be clear that the dramatically higher cost for this new equipment would be worth the investment.

We also identified potential issues with the procedures CBP inspectors use to perform secondary inspections that, if addressed, could strengthen the nation's defenses against nuclear smuggling. For example, CBP's procedures require only that officers locate, isolate, and identify radiological material. Typically, officers perform an external examination by scanning the sides of cargo containers with handheld radiation detection equipment during secondary inspections. CBP's guidance does not specifically require officers to open containers and inspect their interiors, even when their external examination cannot unambiguously resolve the alarm. However, under some circumstances, opening containers can improve security by increasing the chances that the source of radioactivity that originally set off the alarm will be correctly located and identified. The second potential issue with CBP's procedures involves NRC documentation. Individuals and organizations shipping radiological materials to the United States must generally acquire a NRC license, but according to NRC officials, the license does not have to accompany the shipment. Although inspectors examine such licenses when these

shipments arrive at U.S. ports of entry, CBP officers are not required to verify that shippers of radiological material actually obtained required licenses and to authenticate licenses that accompany shipments. We found that CBP inspectors lack access to NRC license data that could be used to authenticate a license at the border.

This concludes my prepared statement. I would be happy to respond to any questions that you or other Members of the Subcommittee may have.

GAO Contact and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-3841 or at aloisee@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. R. Stockton Butler, Nancy Crothers, Jim Shafer, and Eugene Wisnoski made key contributions to this statement.

Related GAO Products

Combating Nuclear Smuggling: DHS Has Made Progress in Deploying Radiation Detection Equipment at U.S. Ports of Entry, but Concerns Remain. GAO-06-389. Washington, D.C.: March 22, 2006.

Combating Nuclear Smuggling: Corruption, Maintenance, and Coordination Problems Challenge U.S. Efforts to Provide Radiation Detection Equipment to Other Countries. GAO-06-311. Washington, D.C.: March 14, 2006.

Combating Nuclear Smuggling: Efforts to Deploy Radiation Detection Equipment in the United States and in Other Countries. GAO-05-840T. Washington, D.C.: June 21, 2005.

Preventing Nuclear Smuggling: DOE Has Made Limited Progress in Installing Radiation Detection Equipment at Highest Priority Foreign Seaports. GAO-05-375. Washington, D.C.: March 31, 2005.

Container Security: Current Efforts to Detect Nuclear Materials, New Initiatives, and Challenges. GAO-03-297T. Washington, D.C.: November 18, 2002.

Customs Service: Acquisition and Deployment of Radiation Detection Equipment. GAO-03-235T. Washington, D.C.: October 17, 2002.

Nuclear Nonproliferation: U.S. Efforts to Combat Nuclear Smuggling. GAO-02-989T Washington, D.C.: July 30, 2002.

Nuclear Nonproliferation: U.S. Efforts to Help Other Countries Combat Nuclear Smuggling Need Strengthened Coordination and Planning. GAO-02-426. Washington, D.C.: May 16, 2002.

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