

**Opening Statement  
Of  
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**Before the House Homeland Security Committee  
Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology**

**“Countering the Nuclear Threat to the Homeland: Evaluating the  
Deployment of Radiation Detection Technologies”**

**March 21, 2007**

## **Introduction**

Good afternoon, Chairman Langevin, Ranking Member McCaul, and distinguished members of the subcommittee. As Director of the Domestic Nuclear Detection Office (DNDO), my office is responsible for developing new technologies, but also ensuring that we deploy detection systems properly across the domestic nuclear detection architecture. I would like to thank the committee for the opportunity to discuss existing and future deployments of radiological and nuclear detection capabilities to the Northern and Southern land borders. I will also speak about how we plan to gradually introduce next-generation technologies into the field.

A lot of recent emphasis has been placed on deployment of radiation detection equipment to our seaports to scan incoming containerized cargo. While this is an essential step to securing our Nation, it is only one part of a broader, risk-based strategy to provide detection capabilities to all ports of entry (POEs). RPM deployments to the Nation's 22 busiest ports are also complete. By the end of calendar year 2007, it is our goal to screen at least 98 percent of all containers entering the United States by sea for radiological and nuclear material, using Radiation Portal Monitors (RPMs). Our colleagues at Customs and Border Protection (CBP) are responsible for the deployment of Non-Intrusive Imaging (NII) systems, while we at DNDO are responsible for the successful acquisition and deployment of RPMs. So my testimony today will focus primarily on the RPM piece of this equation.

Before I go further, I would like to remind the Committee that our work is closely coupled with CBP. Our founding charter made it clear that DNDO has a centralized planning and reporting responsibility; and within the domestic interior, we are also responsible for procuring systems and deploying them successfully into the field. We could not do this without the operator – in this case, CBP – intimately involved in the planning process. DNDO's current deployment plan to all POEs is described in its RPM Program Project Execution Plan (PEP), which details the schedule for remaining deployments. The project baseline outlined in the PEP is aligned with the Joint DNDO/CBP Deployment Strategy for Domestic Border Crossing Nuclear Detection System document, which describes how we can deploy an optimized mix of both current and next-generation systems (i.e. Advanced Spectroscopic Portals, or ASP). Both the PEP and the Joint Deployment Strategy were developed in conjunction with CBP. We had to consider how to best balance our need for better detection capabilities with wisely managing cost and minimizing the impact to the flow of legitimate commerce.

We have prioritized planned installations based on risk, vulnerability, or consequence, as influenced by major populations, industries, importance to the economy and supply chain, or military bases located nearby. We also consider prior records of illicit activities. Finally, we consider whether locations had upcoming port reconfiguration; again, bringing into focus the issue of how construction can cause scheduling delays.

## **Current Status of Deployments**

Overall, we are making good progress on the Northern and Southern land border deployments. Two years ago, less than 40 percent of incoming containerized cargo was being scanned for radiological and nuclear threats at our land borders. As of March 9th, there are 241 RPMs operating on the Northern border and 329 RPMs operating on the Southern border. This results in scanning 91 percent of containerized cargo coming across the Northern Border and 96 percent coming across the Southern. In addition, a total of 63 RPMs are deployed to other sites such as mail and express courier consignment facilities and test locations. By focusing on major ports of entry first, we have been able to dramatically boost the scanning levels of incoming cargo. We are also conducting scanning of privately owned vehicles (POVs). Our detection equipment currently scans 81 percent of POV traffic coming across the Northern border and 91 percent across the Southern.

There are multiple components to our land border deployments. The system is comprised of current-generation stationary, mobile, and handheld radiation detectors (primary and secondary inspection RPMs and radiation isotope identifier devices, or RIIDs) and NII technologies (large-scale imaging systems), and also incorporates physical searches, information technology infrastructure, and, most importantly, law enforcement assets such as CBP officers. It is a complex setup, so integrating RPM infrastructure and operations can be quite challenging. We are also challenged by construction schedules and other factors pertaining to the physical infrastructure of the port itself.

### **Future Deployment Plans**

The metrics that I just gave you about our progress on the land borders does tell a positive story, but a lot of work remains. If you look at where we are in terms of our geographic coverage of the Northern and Southern border, you will see that we are around the half way mark when it comes to 100 percent coverage of POEs on the Northern and Southern border. Of the estimated 611 RPMs required on the Northern border, 40 percent are in place. Of the estimated 380 RPMs required on the Southern border, 88 percent are in place. Current funding levels will allow us to complete planned deployments to the remaining land crossings by the end of fiscal year 2013.

As for the status of our seaport deployments, we are currently scanning 89 percent of cargo coming through our seaports using 333 RPMs. Moreover, at select major seaports, exit scanning now covers 100 percent of all containers and vehicles. By the end of this calendar year, 98 percent of all containerized sea cargo entering into the United States will be scanned for radiological and nuclear threats.

Our strategy up to now has been to focus on risk and volume to prioritize our deployment. Our priority remains to finish deploying RPMs to high volume seaports and land border crossings. However, our future plans are addressing the hundreds of smaller crossings that dot the Northern and Southern borders, including rail crossings. We will also begin scanning of international air cargo. We plan to deploy an additional 165 RPMs during fiscal year 2007 and 274 RPMs during fiscal year 2008 to seaports and land border crossings.

We are already taking steps to prepare for additional land border deployments and are conducting site surveys, developing site designs, and starting negotiations to eventually award construction contracts for each of the crossings. As a general practice, DNDO works with the port authority to proactively schedule construction to coincide with any other activities at the port. This helps prevent scheduling delays and expedites the deployment process overall.

### **Introducing Next-Generation Technologies into the Field**

Another significant piece of our future deployment plan is the introduction of next-generation technology into the field. I would like to touch briefly on our rationale for gradually introducing these new systems into the mix of deployed equipment.

During calendar year 2006 alone, over 7.5 million trucks were screened at land crossings with 69,000 alarms resolved. The majority of ports and crossings have relatively low alarm rates, but some locations deal with many more alarms due to the nature of the cargo going through the port. Commerce like ceramics or kitty litter – products that are high in naturally occurring radioactive material (NORM) – do trigger alarms in current-generation RPMs. These nuisance alarms can take several minutes to resolve causing some impact on the flow of commerce.

There is a significant benefit to deploying next-generation systems that can quickly identify NORM to these locations. In fact, our Joint Deployment Strategy with CBP is predicated on placing ASP systems at the highest throughput ports, where reductions to secondary inspection rates will have the greatest benefit. Current-generation systems will continue to be deployed to lower volume ports in primary scanning operations, while ASP will be deployed for secondary scanning, where operations can be easily sustained while still meeting detection threshold requirements.

In July 2006, we provided approximately \$44.5 million to three vendors to complete their designs for ASP. Based on systems performance test results from tests that we are just completing, DNDO plans to award up to \$1.2 billion over a five-year period to complete both development and acquisition for ASP. We intentionally designed the contract so that once ASP is certified to provide significant improvements in performance, we could enter into production without major delays. We knew that we could not afford to wait up to a full year to get production contracts in place. We have worked with CBP to select field validation sites for ASP that will present a good variety of cargo and challenge the systems to demonstrate significant improvements in performance. We selected seaports and land crossings, as well as Northern and Southern locations. The first four field validation sites are: Long Beach, California; Port Huron, Michigan; Newark, New Jersey; and Laredo, Texas. By fiscal year 2008, based on a comprehensive test and evaluation process, we expect to have entered full-rate production of ASP, with initial installations into secondary screening operations at high volume POEs.

While deployment efforts proceed for ASP cargo portals, we will complete development and test phases and begin production for: truck-mounted ASP systems that provide mobility for several applications, including relocatable chokepoint applications in State and local

operations, or at low-volume POEs where fixed systems may not be cost effective; and shuttle carrier-mounted ASP systems that address the challenge presented by several seaports that load cargo directly from ships to rail cars, therefore bypassing typical exit gate scanning operations. By focusing on developing additional passive detection design variants that meet unique port requirements, DNDO is well on its way to providing technical solutions that enable us to scan 100 percent of cargo containers entering the United States. To support all of our passive systems, we will also be upgrading the standard ASP cargo portals with software improvements and better controls and displays based on feedback that we receive from operational deployments.

Nevertheless, deploying ASP at our POEs only fulfills one element of the overall nuclear detection architecture. This architecture must be a multilayered strategy designed to maximize the opportunity to encounter a threat, regardless of its pathway into the U.S. We know that there are places along our Northern and Southern borders that are not official POEs, but could provide a means of entry for an adversary. As such, we are increasing focus on threats entering into the United States between our POEs. This presents a whole other set of technical and operational challenges that are still under evaluation.

We are working with the Border Patrol to develop a joint strategy to provide improved detection capabilities to their agents. DNDO is looking at how we can provide a whole suite of detection equipment and technical support that will meet the Border Patrol's needs. They require highly mobile applications in addition to connectivity so that alarm data can be communicated and resolved in a timely fashion. Our Human Portable Radiation Detection System (HPRDS) program will provide improved handheld and backpack systems that Border Patrol agents and other operators like the Coast Guard need. The HPRDS program is looking at improvements in capability, but also human factors concerns such as weight and ease of use from standardized displays and controls. As we get our plans with the Border Patrol solidified, I would be happy to share the outcome with this Committee.

I just mentioned the Coast Guard as one of the operators that we support. We have made very good progress with them. We have a joint acquisition plan in place that will allow DNDO to both develop and acquire systems for the Coast Guard. As the Secretary has stated in the past, one major goal for this Department is the deployment of radiation detection capabilities to all Coast Guard inspection and boarding teams by the end of 2007. We are on track to meeting that goal. DNDO is providing handheld and backpack radiation detection devices to fulfill imminent operational needs in fiscal year 2007. We are also developing next-generation technologies that have the identification capabilities, connectivity, and ruggedness required in the maritime environment.

### **Operations Support**

At the very beginning of my testimony, I stated that DNDO is responsible for ensuring that we deploy detection systems properly across the entire domestic nuclear detection architecture. This does not just mean equipment. An essential part of what we do at DNDO is operations support – providing the technical expertise to train personnel and help resolve

alarms, but also conducting trend analysis so that we can better understand our operating environment and maintain situational awareness.

Our Joint Analysis Center (JAC) is now up and running. We have personnel on staff from the Departments of Defense and Energy, the Federal Bureau of Investigation, the Nuclear Regulatory Commission, as well as experts from within DHS. We have a help line available 24 hours a day for radiological alarm resolution. We have established procedures and connectivity to three regional reachback laboratories as well as the National Operations Center and the Intelligence Community. Our technical reachback program has adjudicated 24 nationwide alarms this year. We expect to resolve 65 alarms by the end of fiscal year 2007.

We have also developed and delivered preventive radiological and nuclear detection training. Since January 2006, 1,086 law enforcement officers, emergency response personnel and public officials have been trained. In fiscal year 2007 alone, we plan to train over 1,200 personnel. In fiscal year 2008, our training goal is 2,400 additional Federal, State and local personnel. We also plan to address the FBI Joint Terrorism Task Force Executive Board and senior stakeholders in the 45 Tier 1 and 2 UASI Urban Areas as part of a broader State and local engagement strategy.

### **Conclusion**

DNDO is acutely aware that we must continue to deploy systems not only to our seaports, but to our Northern and Southern land borders. We are working closely with CBP and other partners like the Coast Guard to deploy both current and next-generation technologies in a timely manner. Whether we are providing systems to an officer at a POE or a Border Patrol agent between our POEs, DNDO is committed to providing technologies that have the capabilities to successfully detect radiological and nuclear threats and the necessary operational support to ensure effective response.

This concludes my prepared statement. Chairman Langevin, Ranking Member McCaul, and Members of the Subcommittee, I thank you for your attention and will be happy to answer any questions that you may have.