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THE LAST LINE OF DEFENSE: FEDERAL, STATE, AND LOCAL EFFORTS TO PREVENT NUCLEAR AND RADIOLOGICAL TERRORISM WITHIN THE UNITED STATES

HEARING

BEFORE THE

SUBCOMMITTEE ON CYBERSECURITY, INFRASTRUCTURE PROTECTION, AND SECURITY TECHNOLOGIES

OF THE

COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES

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THE LAST LINE OF DEFENSE: FEDERAL, STATE, AND LOCAL EFFORTS TO PREVENT NUCLEAR AND RADIOLOGICAL TERRORISM WITHIN THE UNITED STATES

Tuesday, July 26, 2011

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON CYBERSECURITY, INFRASTRUCTURE PROTECTION, AND SECURITY TECHNOLOGIES,
Washington, DC.

The subcommittee met, pursuant to call, at 10:11 a.m., in Room 311, Cannon House Office Building, Hon. Daniel E. Lungren [Chairman of the subcommittee] presiding.

Present: Representatives Lungren, Marino, Clarke, Richardson, Richmond, and Keating.

Mr. LUNGREN. Committee on Homeland Security Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies will come to order. The subcommittee is meeting today to examine Federal, State, and local efforts to prevent radiological and nuclear terrorism within the United States.

I would recognize myself for an opening statement. I understand the Ranking Member will be here shortly. But with the permission of the Minority side, we are going to go forward at this time.

The Chairman is very pleased to have this hearing today. We will have an opportunity for Members to ask questions after we have had an opportunity to hear from our panelists.

The subject matter is a very serious one. The detonation of a nuclear radiological device in a U.S. city is one of my greatest fears. It would be a catastrophic event in the truest sense of the word, causing enormous death and destruction, as well as economic disruption.

Since 9/11 there is heightened concern the terrorist may try to smuggle a radiological or nuclear materials or a nuclear weapon into the United States, or acquire such materials within our country. If terrorists smuggle nuclear weapons or materials into the United States, there is no doubt they would attempt to use them either to make an improvised nuclear device or a radiological dispersal device or dirty bomb. The detonation of such a device in an urban area could cause a tremendous number of deaths, along with the destruction of long-term contamination of buildings and critical infrastructure.

In 2005 the President called for the establishment of the Domestic Nuclear Detection Office in the Department of Homeland Secu-

rity. I responded by codifying this office in the SAFE Port Act of 2006, which I introduced with then-Congresswoman Jane Harman to address terrorist threats at our ports of entry.

The mission of the Domestic Nuclear Detection Office was to improve the Nation's capability to detect unauthorized attempts to import, develop, or transport nuclear or radiological materials for use against our Nation. DNDO was also directed to develop in coordination with the Departments of Defense, Energy, and State, and enhance global nuclear detection system of radiation detection equipment and interdiction activities. This system is called the Global Nuclear Detection Architecture.

I want to recognize the outstanding effort of Director Stern in marshaling the first-ever strategic plan for the Global Nuclear Detection Architecture through the very difficult interagency approval process. This office is responsible for implementing the domestic portion of this architecture at the U.S. border, and within the United States, including the efforts of Federal, State, and local governments. It is also responsible for developing and acquiring radiation detection equipment to support the domestic efforts of DHS and other Federal agencies.

Our hearing today will examine how our Nation's domestic defenses under the Global Nuclear Detection Architecture will detect and prevent such a nuclear event, and whether there are Federal, State, and local gaps in the architecture.

Since it was established, this office has been examining nuclear detection strategies along the usual pathways: Air, land, and sea, for smuggling radiological or nuclear material. Through these studies the office concluded that potential smuggling pathways outside of traditional ports of entry, where U.S. Government efforts have been focused, do represent critical gaps in existing nuclear detection strategy. These gaps include land, border areas between ports of entry, international general aviation and small maritime crafts such as recreational boats and commercial fishing vessels.

Reliable technology is essential to the overall success of the Global Nuclear Detection Architecture. Unfortunately, after 5 years of development, testing, and expense, we will be told this morning the DNDO's premier, next generation radiation detection technology, the Advanced Spectroscopic Portal Monitor Program has been terminated. The APS program started well before Director Stern took office, has been very costly failure, evidently, and left the office without the improved radiation detection equipment needed to enhance the domestic portion of the Global Nuclear Detection Architecture.

We look forward to hearing from our witnesses this morning on how they will implement the domestic detection portion on the GNDA, address identified gaps in the architecture—excuse me—and what technology the office will pursue to replace ASP.

The gentlelady from New York is here. We will have an opportunity for her opening statement.

At this time I would ask for unanimous consent to enter State of California's testimony into the record, and their radiological nuclear detection strategy and guide. Without objection, so ordered.*

* The information has been retained in committee files.

All Members of the committee are reminded that opening statements may be submitted for the record.

[The statements of Ranking Member Clarke and Ranking Member Thompson follow:]

PREPARED STATEMENT OF RANKING MEMBER YVETTE D. CLARKE

JULY 26, 2011

Mr. Chairman, thank you for holding this hearing to discuss developments in the Global Nuclear Detection Architecture.

The enormous devastation that would result if terrorists use a nuclear weapon or nuclear materials successfully in a terrorist act requires us to do all we can to prevent them from entering or moving through the United States.

The detection of special nuclear materials being smuggled or otherwise transported into or through the United States is the main mission of the Domestic Nuclear Detection Office (DNDO), and it has a further function in the development of the Global Nuclear Detection Architecture. DNDO also plays a role in nuclear forensics and security of radiological materials.

DNDO is one of the major directorates within the Department, and the two key projects in the nuclear detection area are the deployment of current generation Radiation Portal Monitors (RPM) and the development of the next generations of detection devices. I understand we are going to hear some new developments in today's testimony from Mr. Stern, especially concerning the ASP program.

At the end of March of this year, DNDO met with its interagency partners in the Department of Homeland Security and the Office of National Intelligence, the Nuclear Regulatory Commission, and the Departments of Defense, Energy, Justice, and State, to conduct a joint review of the performance goals identified in the Global Nuclear Detection Architecture Strategic Plan.

I commend Director Stern, for his energetic efforts to produce the GNDA Strategy by the end of 2010, and for moving quickly on the Joint Annual Interagency Review that was delivered to us just a few weeks ago.

It was obvious we needed a strategy, and this subcommittee is glad DNDO was able to put the very complex Interagency Review together quickly and cooperatively.

DNDO now has responsibility for implementing the domestic portion of the plan, and I am anxious to see progress on a rubber-meets-the-road plan.

Additionally, I have noted that DNDO has revisited some past assumptions that guided development of a global nuclear detection strategy—particularly assumptions related to threat intelligence—resulting in the concept that immobility is not a desirable characteristic among nuclear and radiological detection devices.

It is important that this plan anticipate a new focus on State and local resources, which become critical to providing "surge" capabilities in specific regions.

I understand that part of what we will hear today will give us insight into this concept of "surging large numbers of people and devices," and communicating and synthesizing information very rapidly in detecting nuclear material or weapons, and even more importantly, that the Architecture Strategy involves reliance on a massive numbers of State and local officials to address nuclear or radiological threats.

My concern is how do we plan for a complex system like this when we are anticipating a billion-dollar cut in the Department's budget, which will drastically reduce the capabilities of State and local authorities, who depend heavily on DHS grants, and are already stressed under their own considerable State and local workloads.

I will be listening carefully to today's testimony for any indication that planning for the GNDA is taking into consideration the very real possibility that huge budget cuts proposed in this year's appropriations would be approved in the House of Representatives.

Agencies, and especially DNDO, must be fully aware of what implementation goals would look like under these proposed draconian cuts to our National nuclear detection apparatus.

In conclusion, the production of the GNDA Strategic Plan has afforded Members of the subcommittee and DHS leadership a new opportunity to look at the ways DNDO could best fulfill its mission.

In order to prevent the unthinkable, we must deploy the best technology, employ the best people, and do the best planning. I repeat, in these times of severe budget cutbacks, our planning must reflect how we propose to accomplish our National security goals in nuclear detection with harshly restricted assistance to our State and local partners.

Thank you, Mr. Chairman, and I yield back.

PREPARED STATEMENT OF RANKING MEMBER BENNIE G. THOMPSON

JULY 26, 2011

Thank you, Mr. Chairman, for holding this hearing on the development of the Global Nuclear Detection Architecture.

I am pleased to see our witnesses today representing the Federal components of this program, sitting next to the State and local folks who will have responsibility for the day-to-day procedures of this nuclear detection program.

We all know that our nuclear detection strategy and equipment at the time of the 9/11 attacks was limited in its capability.

Radiation detectors could detect radiation but could not identify isotopes.

Radiographic equipment could reveal dense objects, but it would be difficult to pick out a small piece of Special Nuclear Material (SNM).

As technologies become more capable they can plug gaps in the current architecture. For example, remote detection might offer a way to monitor choke points in the United States that terrorists might pass through in transporting weapons.

But we have to address more gaps in this portfolio. For example: Several systems use helium-3 tubes for neutron detection, yet the supply is limited.

Other gaps we need to fill include sensors that can detect Special Nuclear Materials at long range, and sensors that can operate in isolated areas.

Systems now under development have the potential to reduce false positives, speed the flow of commerce, and reduce false negatives—all of which improve security.

Congress has appropriated billions of dollars to deploy available systems, and to support R&D on advanced technologies.

These refinements can make future technologies more effective, and has created an R&D pipeline that is intended to generate a steady stream of new technologies and systems.

But the engine of this pipeline is proper testing and certification of these cutting-edge technologies. We have seen too many reports about detection technologies being deployed without proper testing and certification.

This committee needs to know how DNDO's Global Architecture will relate to the Department's R&D process and any subsequent deployment of new technologies.

It is imperative that the Secretary makes sure there is no more wasted money spent on devices that cannot be tested and certified to keep our citizens safe.

However, given the billion-dollar cut to DHS's budget being considered in this year's appropriations, an emphasis must also be placed on planning for the worst.

The hundreds of millions of dollars in cuts to grants for State and local authorities will, without a doubt, affect their ability to fully participate in the nuclear detection architecture and respond accordingly.

Threats from terrorism persist and continue to evolve, and our nuclear detection architecture must reflect flexibility and the ability to respond quickly in its capabilities.

Mr. Chairman, I look forward to today's testimony, and I yield back.

Mr. LUNGREN. We are pleased to have a very distinguished panel of witnesses before us on this important topic.

Warren Stern, who was appointed by the President to lead the Department of Homeland Security Domestic Nuclear Detection Office in August 2010. In this position he is responsible for countering nuclear and radiological terrorism, as well as detecting nuclear and radiological threats and advancing Federal capabilities for nuclear forensics.

Prior to joining the office, Mr. Stern served as the head of the International Atomic Energy Agency's Instant and Emergency Center from August 2006 to March 2010. He began his career in 1985 at the Central Intelligence Agency, then serving as the senior technical advisor to the U.S. Arms Control and Disarmament Agency. Later served in the office of Senator Hillary Clinton as the Department of State's senior coordinator for nuclear safety and deputy director of the Office of Nuclear Energy, Safety, and Security.

Carl Pavetto serves as deputy associate administrator for the Emergency Operations at the Department of Energy National Nuclear Security Administration.

Prior to current position he spent 20 years in Federal service at the United States Department of the Interior National Oceanographic and Atmospheric Administration, United States Army, and United States Environmental Protection Agency. In addition to his Federal Governmental experience he has served as bureau chief of the Connecticut Department of Environmental Protection where he was in charge of air pollution and radiation control programs.

Richard Daddario, a former assistant United States attorney is New York City Police Department's deputy commissioner for counterterrorism. Mr. Daddario is responsible for the NYPD's Joint Terrorism Taskforce, the department's counterterrorism training and programs, including lower Manhattan and midtown Manhattan security initiatives and the Department of Homeland Security's funded, Securing the Cities initiative. As assistant United States attorney for the southern district of New York since 1996, Mr. Daddario was the supervising or lead prosecutor, investigation prosecution to various crimes including domestic and international terrorism and terrorists' financing cases.

Prior to joining the U.S. Justice Department, Mr. Daddario served as the first deputy commissioner of the New York City Department of Investigation. Before that as chief counsel at the New York State Commission of Investigation. Early in his career he served as assistant counsel of the U.S. House of Representatives Ethics Committee.

Mark Perez serves as special agent in charge of the Florida Department of Law Enforcement's Investigations and Forensic Science Program Office. The office conducts independent and multijurisdictional investigations, coordinates and directs counterterrorism efforts for the State of Florida, and works to implement Florida's domestic security strategy.

Mr. Perez also serves as Florida's Homeland Security advisor, and is a member of the Florida Department of Law Enforcement's Executive Policy Board. He has held various positions while employed in the department. He began his career as a law enforcement officer with the city of Winter Park, Florida.

David Maurer is a director of the U.S. Government Accountability Office Homeland Security and Justice team where he leads GAO's work reviewing DHS and DOJ management issues. His recent work in these areas include DHS management integration, the Quadrennial Homeland Security Review, Secret Service financial management, DOJ grant management and Federal prison system, and assessment of technologies for detecting explosives in the passenger rail environment.

Mr. Maurer has previously worked as an acting director of GAO's Natural Resources and Environmental team where he managed work assessing U.S. global nuclear detection programs, and managed work for GAO's International Affairs and Trade team, where he reviewed U.S. efforts to combat international terrorism and proliferation of weapons of mass destruction, as well as U.S. assistance to the former Soviet Union, peacekeeping in the Balkans, and

several other international issues. He was previously detailed to the House Committee on Appropriations.

We thank all of you for being here. Under our rules we would ask you to confine your comments to approximately 5 minutes. We will take your written testimony, and in each case will be made a part of the record.

So, we will begin with Director Stern.

STATEMENT OF WARREN M. STERN, DIRECTOR, DOMESTIC NUCLEAR DETECTION OFFICE, DEPARTMENT OF HOMELAND SECURITY

Mr. STERN. Good morning, Chairman Lungren, distinguished Members of the subcommittee. I very much appreciate the opportunity to testify before you today, to answer your questions and to discuss any issues you wish to discuss. I am particularly pleased that I am joined by my counterpart from the General Accountability Office, from the great State of Florida, the great city of New York, and of course the Department of Energy, as we all work together in the field of trying to make America safer.

It has been a year since I have started DNDO, and approximately a year since I testified before you last. So, I will use my 5 minutes to describe what we at DNDO have accomplished in the past year. I want to discuss what we have achieved; not just what is in process, but what we have actually completed.

As you know, the architecture is a core element of what DNDO is tasked with completing. So I am very pleased, and as you mentioned it, this year by the end—within the past year, by the end of last year we were able to complete an interagency draft of the Global Nuclear Detection Architecture Strategic Plan.

I recall during my last testimony that this was a particular issue the committee wanted completed, and by the end of last year, as we had promised, we were able to deliver this document, agreed, again, among the seven relevant departments to you.

In addition, just a few months ago, we completed our assessment of the Global Architecture, and were able to deliver to Congress our joint interagency review. Again, cleared and coordinated among the seven departments that are involved in the Global Nuclear Detection Architecture. I am very pleased that we were able to achieve this in the past 12 months.

In addition, we have developed new and innovative devices in the past year. We have just finished and finalized two handheld systems, both of them very advanced.

One is the advanced operation handheld device, which will be available for special teams, specialized teams at the Coast Guard and CBP. It is a very advanced device.

The second is our next generation handheld devices we call the RAD-Seeker. This device uses a novel material that did not exist until just several years ago. A very improved algorithm; it is incredibly light and has much lower maintenance than the existing system.

I am also pleased that people in the field are very much waiting for this device to be rolled out. Our final large-scale decision procurement will occur on this Thursday. We hope to have these de-

vices rolled out, which are more efficient and more effective than the current generation of systems.

When I first testified before you last time I spoke a lot about State and locals. A core part of our mission is to improve the interior detection capability. In the interior the core focus must be on supporting State and locals. Consequently, I am very pleased that in the past year the administration has reasserted its support for the STC, the Securing the Cities program. As you know, New York is the one city within the Securing the Cities program and we look forward to expanding the program to an additional city next year.

This year, within the STC program New York held, with our support, a major operational exercise that brought together players throughout the field as well as Federal authorities. We learned a lot through this exercise, and it will help us move forward. I will not belabor the STC program because I imagine Commissioner Daddario, who is the key leader in that area will have more to say.

But I would like to point out in the State and local area that one thing—one additional thing we have is create an executive steering council. It is essential in developing the domestic architecture that State and locals learn from each other, that we in the Federal Government learn from State and locals, and that State and locals learn from us, and are integrated into the DHS, DNDO, and overall Federal structure. So I have created a group called the Executive Steering Council of senior members of State and locals so this type of exchange could happen. We had our first meeting 3—2 months ago, which was very useful and effective.

Finally, in my initial testimony, I must touch on the ASP, the Advanced Spectroscopic Portal. I am very pleased that we as a Department and as a Government have just recently made a final decision on the pathway for the ASP program.

As you indicated, the ASP will not proceed as originally envisioned. We will not seek certification or a large-scale deployment of the ASP. We will deploy the existing systems. We will learn from those systems. We will compensate for the absence of the ASP with this new advanced handheld, which is much cheaper. We will move over time to the approach recommended by the National Academies, the technical approach recommended by the National Academy of Science. We will look at the commercial marketplace for devices that can help compensate for the ASP moving forward.

In conclusion, in the year that I have been at DNDO we have made substantial progress in enhancing America's ability to prevent nuclear terrorism. I have listed several specific examples this morning. Due to time limitations, I cannot go on. But I would like to mention that we have made substantial progress and substantial specific accomplishments in the area of standards setting in the area of helium-3 replacements, in the area of research and development, and in the area of nuclear forensics. I would be happy to review those developments in the question-and-answer period.

Looking to the future, we will build on these successes by defining a new architecture, one that is based on surging assets and that will integrate Federal, State, and local capabilities.

Thank you, Chairman Lungren and distinguished Members of the subcommittee. Again, I very much am honored by the oppor-

tunity to speak before you today, and I am happy to answer any questions you may have.

[The statement of Mr. Stern follows:]

PREPARED STATEMENT OF WARREN M. STERN

JULY 26, 2011

Good afternoon Chairman Lungren, Ranking Member Clarke, and distinguished Members of the subcommittee. As Director of the Department of Homeland Security's (DHS) Domestic Nuclear Detection Office (DNDO), I am pleased to testify today with distinguished colleagues to discuss nuclear detection. Over the past year, DNDO has made great strides in working with our partners and coordinating development of a global nuclear detection architecture (GNDA). I will also talk about the challenges we face at DNDO and our path forward for enhancing and implementing the architecture domestically.

With assistance and participation from a variety of U.S. Government (USG) departments and agencies, DNDO synchronizes and integrates interagency efforts to develop technical nuclear detection capabilities, measure detector system performance, ensure effective response to detection alarms, advance and integrate nuclear forensics efforts, and conduct transformational research and development for advanced detection technologies. Countering nuclear terrorism is a whole-of-government challenge, and DNDO works with Federal, State, local, Tribal, international, and private sector partners to fulfill this mission. Working with partners from across the administration, including the Departments of Energy (DOE), State (DOS), Defense (DOD), Justice (DOJ), the intelligence community (IC), and the Nuclear Regulatory Commission (NRC), DNDO also coordinates the development of GNDA.

GNDA STRATEGIC PLAN AND JOINT INTERAGENCY ANNUAL REVIEW

In December 2010, DNDO delivered the GNDA Strategic Plan to Congress. This interagency product is designed to guide the Nation's nuclear terrorism detection capacity and capability development over the next 5 years.

Recently, DNDO submitted the report on the "Global Nuclear Detection Architecture Joint Annual Interagency Review 2011" (2011 GNDA Annual Report) to Congress. The 2011 report includes information about the multiple USG programs that collectively seek to prevent nuclear or radiological terrorism against the United States by means of detection, analysis, and reporting on nuclear or radiological materials out of regulatory control.[1] This report fulfills a requirement of Section 1907 of the Homeland Security Act of 2002 (6 U.S.C. 101 et seq.) as added by Section 1103 of the "Implementing Recommendations of the 9/11 Commission Act of 2007" (Pub. L. 110–53), which mandates a Joint Annual Interagency Review of the GNDA. The report was jointly prepared by interagency partners including DOD, DOS, DOE, and DOJ, the Office of Director of National Intelligence (ODNI), and the NRC.

The Annual Report has enhancements in terms of structure and content to provide additional insight into the development of the GNDA as well as more analytical rigor. The revised definition of the GNDA and the roles and responsibilities specified for each department or agency in the GNDA Strategic Plan are reflected in this year's report. Further, this report reflects a more thorough analysis and review of the architecture. The report is better focused and is based on the GNDA boundaries defined in the strategic plan. The Annual Report contains extensive details and, for the first time, includes recommendations that highlight areas where there currently are opportunities to strengthen the GNDA.

I envision both the Strategic Plan and the Annual Report as part of a series of projects that help to define the GNDA. The Strategic Plan established the USG definition of the GNDA and established a framework for nuclear detection efforts. In the Annual Report, departments and agencies were asked to specifically report on the performance goals identified in the GNDA Strategic Plan. Building upon these foundational documents and internalizing the recommendations will pave the way for our continued implementation of the architecture.

[1] The term "out of regulatory control" refers to materials that are being imported, possessed, stored, transported, developed, or used without authorization by the appropriate regulatory authority, either inadvertently or deliberately.

THE DOMESTIC ARCHITECTURE

DNDO is responsible for coordinating the GNDA and implementing, by working with operational partners, the domestic portion of the GNDA.

On-going work on the GNDA emphasizes mobile or agile detection components, which will increase our capability to respond to escalated threat levels by focusing detection assets on effective interdiction. The architecture must account for physical and technical limitation in order to achieve the best strategies, systems, and operations for nuclear detection. We will use existing capabilities and a variety of operations and assets at the Federal, State, local, and Tribal levels to surge our radiological and nuclear detection abilities in a coordinated fashion in response to suspected threats. We have many programs, assets, and capabilities that contribute to surge-related, radiological, and nuclear detection response activities, and we must work to enhance coordination and implementation mechanisms to ensure that we make the best use of all available personnel, equipment, and knowledge. A more flexible architecture will strategically bring together the assets and capabilities for detection and search operations into a unified effort for the domestic prevention of radiological and nuclear terrorism.

PORTS OF ENTRY

Our current architecture reflects a layered defense with an emphasis on static systems. DHS has made considerable progress at the border to provide comprehensive radiation detection capabilities with the majority of resources concentrated at ports of entry (POEs). The Department has focused on these authorized pathways at POEs, underscored by Section 121 of the SAFE Port Act, which requires that "all containers entering the United States through the 22 ports through which the greatest volume of containers enter the United States by vessel shall be scanned for radiation." A key consideration is the need to effectively detect threats without impeding the flow of commerce across the border.

When DNDO was founded in 2005, there were a total of 552 radiation portal monitors (RPMs) at our land and seaports of entry. Today, there are a total of 1,462 RPMs. Our on-going work with U.S. Customs and Border Protection (CBP) to facilitate container security has resulted in the scanning of over 99 percent of all incoming containerized cargo for radiological and nuclear threats at our land and seaports of entry. As this work has matured over the last few years, DNDO has shifted its focus to place a greater emphasis on our land borders between POEs, as well as maritime and air pathways, and all pathways within our borders.

ADVANCED SPECTROSCOPIC PORTAL (ASP)

The ASP Program was established in 2004 to improve radiation and nuclear detection capabilities at our seaports and land border crossings and to address technical deficiencies in the existing radiation portal program. Over the years, there have been many challenges to the ASP program. In February 2010, the then Acting Director of DNDO briefed Congress that we were limiting consideration of certification of the ASP program to secondary scanning rather than primary scanning due to technical challenges and cost.

Since then, there have been several important developments. The most recent field validation revealed that the original design specification for ASP, jointly developed by DNDO and CBP in 2007, does not adequately reflect the operational needs in the field, particularly truck speeds in secondary inspection. In addition, there are now competing commercially-available portal radiation detection systems that were not on the market when the ASP program began.

In order to most effectively strengthen radiological and nuclear detection capabilities, DHS has concluded that the best course of action is to not seek certification of the ASP system for full deployment in either primary or secondary inspections. At my recommendation and with concurrence from the Department's Acquisition Review Board, Secretary Napolitano has directed DNDO and CBP to end the ASP program as originally conceived and to instead utilize 13 of the existing ASP systems at select ports of entry to facilitate operational familiarity with the systems and gather data to support a future acquisition program that will include competition from commercially-available alternatives.

Secretary Napolitano has directed DNDO and CBP to work with the Office of Management and Budget and the appropriations subcommittees to make recommendations on redeploying the requested fiscal year 2012 resources, prioritizing handheld detection and identification systems. CBP will also apply more rigorous concepts of operation for use in secondary inspections with handheld detectors, as recommended by the National Academies of Sciences.

Deploying advanced detection and identification systems that provide security at our ports while facilitating commerce remains an important objective. We will continue to pursue this in the most cost-effective way possible and in the context of the overall nuclear detection architecture. We are confident that this plan will result a better linkage between operations and technology.

IMPLEMENTING A DOMESTIC ARCHITECTURE

Beyond the ASP program, DNDO is making significant progress in implementing an operational architecture for threat detection. DNDO has procured thousands of personal radiation detectors (PRDs), radiological isotope identification devices (RIIDs), and backpack detectors for CBP, United States Coast Guard (USCG), Transportation Security Administration (TSA), and State, local, and Tribal law enforcement across the country to scan cars, trucks, and other items and conveyances for the presence of radiological and nuclear materials. All TSA Visible Intermodal Prevention and Response (VIPR) teams and USCG teams are now equipped with radiation detection capabilities, including USCG personnel specifically trained to board and search vessels. DNDO has also made radiological and nuclear detection training available to over 15,000 State and local officers and first responders.

We have recently reached an important milestone in the development of the next generation human-portable systems and will be deploying an advanced handheld technology to support CBP, USCG, TSA, and other emergency response officials on the front lines. Handheld detectors have many applications and are used by nearly all operators, providing radiological and nuclear detection and identification capabilities. Following the success of our advanced handheld, the small area search handheld system, RadSeeker, is scheduled for production and deployment this year. This next-generation handheld uses a novel detection material and is lightweight, enhancing detection capabilities and providing for operational ease of use. Our work will continue to enhance our Federal capabilities and build on these efforts so that the pieces are linked together and can respond as needed. The fiscal year 2012 budget includes $20 million to procure human portable radiation detection equipment including next-generation devices that provide enhanced detection capability.

As I have said previously, State and local law enforcement and public safety officials are our operational partners on the front lines of responding to threats. DNDO has received an increasing number of requests from these partners to assist them in assessing their extant capabilities and operations, which supports our emphasis on implementing the domestic architecture. Accordingly, DNDO will increase the number of engagements with these partners to conduct covert testing.

The President's fiscal year 2012 budget request includes funding for a Radiological and Nuclear Challenge that will be initiated to provide a forum for information sharing among the Federal, State, local, and Tribal stakeholders, as well as a competition within the radiological and nuclear detection community. We will invite industry to provide product capability demonstrations, which will increase awareness of detection products and how operators use these systems.

The budget request also includes investments for the upgrade of three Mobile Detection Deployment Units (MDDU) systems to a larger equipment set. DNDO maintains five MDDU systems that provide a surge capability that can be readily deployed to support radiological and nuclear detection operations for special events and intelligence-driven searches. The systems offer a radiological and nuclear detection package that can be utilized by a myriad of State and local public safety and Federal agencies and provide a force multiplier capability to USG Federal assets for special events or in response to threats.

The President's fiscal year 2012 budget request also proposes expanding the Securing the Cities (STC) initiative to one additional urban area, designed to enhance the Nation's ability to detect and prevent a radiological or nuclear attack in the highest-risk cities, to include additional Urban Areas Security Initiative (UASI) jurisdictions while continuing to support efforts in the New York City region. Expanding this program will provide DNDO assistance to more regional partners for implementing self-supported sustainment of capabilities and real-time sharing of data from fixed, mobile, maritime, and human-portable radiation detection systems. Through STC, nearly 11,000 personnel in the region have been trained in radiological and nuclear detection operations and nearly 6,000 pieces of radiological detection equipment have been deployed. In April 2011, DNDO and the New York Police Department (NYPD) collaborated with other STC partners to conduct a very successful, full-scale exercise in the New York City region to assess the ability of STC partners to detect radiological and nuclear materials and deploy personnel, equipment, and special units in accordance with established protocols and in response to threat-based intelligence.

To further support State, local, and Tribal jurisdictions to identify and develop targeted levels of radiological and nuclear detection capability based on risk factors and increased likelihood of encountering illicit material, DNDO has developed a Preventive Radiological and Nuclear Detection (PRND) Capability Development Framework (CDF). The PRND CDF aids State, local, and Tribal jurisdictions in identifying their current levels of capability as well as the targeted level of PRND capability that can then be used to support grant applications. The framework was developed by DNDO with the support of Federal, State, and local subject matter experts.

Working with the Federal Emergency Management Agency (FEMA), DNDO has finalized Preventive Radiological/Nuclear Detection (PRND) National Incident Management System (NIMS) Resource Type Definitions. This foundational National preparedness guidance supports our State, local, and Tribal partners, enabling them to build their own radiological and nuclear detection capabilities. PRND NIMS Resource Typing provides a common definition of detection resources, including teams, equipment, and personnel, to assist them in their planning and operations. This initiative will support the creation of PRND programs and help identify capability gaps, while increasing the effectiveness of interstate mutual aid requests for special events or surge operations.

DNDO's outreach also includes a State and Local Stakeholder Working Group with 25 States and territories meeting quarterly to bring the Nation's radiological and nuclear detection community together, inform participants on activities within DNDO and the nuclear detection community, and obtain feedback on DNDO's programs and initiatives. DNDO has conducted Nation-wide radiological and nuclear detection situational awareness briefings with 52 UASI regions and metropolitan area emergency responder and law enforcement agencies. This spring I took DNDO's engagement one step further by establishing a State and local Executive Steering Council. In conjunction with our State and Local Stakeholder Working Group meetings, I invited State and local leadership to meet with me personally and discuss strategic issues related to radiological and nuclear detection programs, as well as challenges and areas for future collaboration. The response to this Executive Steering Council was very positive and leaders were able to share details about their efforts and identify issues for partnerships, as well as learn about the full range of DNDO activities that could benefit their jurisdictions. DNDO is particularly interested in not only developing capability through equipment, training, and program assistance, but also making available the best and most reliable information on equipment, practices, and technical expertise.

To address detection issues in the maritime pathway, DNDO has done significant work with Federal, State, and local partners. We are currently collaborating with the USCG and CBP Office of Air and Marine to develop small vessel standoff radiation detection capabilities. USCG detailees to DNDO are collaborating with DNDO employees and the Homeland Security Studies & Analysis Institute to determine the best system concept that fits the end user requirements. Through the development of strong collaborative relationships with end-users and the use of rigorous acquisition processes, we are creating the conditions to deliver new capabilities to prevent nuclear terrorism.

DNDO has also recently completed the West Coast Maritime Pilot in Puget Sound and San Diego. The pilot was coordinated through each of the regions' Area Maritime Security Committees and successfully developed and deployed adaptable small vessel detection capabilities that are able to surge deployed assets when necessary. We are currently in process of designing a maritime-focused program assistance mechanism to assist other port areas in developing similar capabilities.

TECHNOLOGY AND CROSSCUTTING EFFORTS TO SUPPORT THE ARCHITECTURE

To fulfill its mandate to develop, acquire, and support the deployment of radiological and nuclear detection technologies, DNDO has embarked on ambitious research and development programs. Since its inception, DNDO has initiated more than 250 research and development projects with National laboratory, academic, and industrial partners to advance detection technologies. These research and development projects examine a variety of important areas that contribute to new and improved detection capabilities to better support our front-line operations.

Years before the recent helium-3 shortage was identified, DNDO was exploring options for better, more cost-effective alternatives for neutron detection. DNDO is currently independently testing eight different alternative technologies for neutron detection at the Nevada National Security Site. These systems reflect advancements in developing neutron detectors that do not use helium-3 gas, which are crucial in mitigating the current world-wide helium-3 shortfall. By working with several vendors simultaneously to find a commercial solution to an alternative technology to

helium-3-based neutron detectors, DNDO is encouraging competition which will lead to cost reductions, increased availability, and an acceleration of the replacement detectors to the commercial market.

Further out on the horizon, DNDO's research and development programs have identified approximately 14 different technology approaches in the pipeline that could be used as alternatives to helium-3, including those based on boron or lithium. Some of these technologies have been accelerated and have advanced to a point where they can be tested with other, more near-term alternative neutron detection technologies.

Over the years, DNDO's test program has grown and matured. To date, DNDO has conducted more than 50 separate test and evaluation campaigns at over 20 experimental and operational venues. These test campaigns were planned and executed with interagency partners using rigorous, reproducible, peer-reviewed processes. Tested detection systems include pagers, handhelds, portals, backpacks, mobiles, boat- and spreader bar-mounted detectors, and next generation radiography technologies. The results from DNDO's test campaigns have informed Federal, State, local, and Tribal operational users on the technical and operational performance of radiological and nuclear detection systems, allowing them to select the most suitable equipment and effective concepts of operations to keep the Nation safe from nuclear terrorist threats.

Historically, we have focused on developing technology and detection systems to address identified needs. Today, DNDO is transitioning to a new approach to address detection needs, focusing on commercially developed devices, developing Government standards, and testing to those standards. Because industry has repeatedly demonstrated the ability to rapidly improve detection technologies, we have an opportunity to shift our approach to one that is more flexible and adaptable and looks to the private sector—as well as other DHS components and other Government agencies—to enhance existing products and develop new devices. This technical transition will also include a new approach at the systems level, which defines strategic interfaces at various points in the detector/system architecture, allowing system upgrades without wholesale changes. Utilizing a "commercial first" approach, we intend to leverage the important industry-led innovations and developments.

We also have supported the development, publication, and adoption of National consensus standards for radiation detection equipment. Several such standards now exist for use in homeland security. In 2007, DNDO collaborated with the National Institute of Standards and Technology to conduct a review of all National and international consensus standards for preventive radiological and nuclear detection systems. This survey information was used to support the formation of an interagency working group to draft Government-unique technical capability standards (TCS) in April 2008. I am very pleased that we are currently finalizing the TCS for handheld systems. We are also coordinating two additional draft standards with the interagency.

The DNDO Graduated Radiological/Nuclear Detector Evaluation and Reporting (GRaDER^{SM}) Program is using available standards to test and evaluate commercially developed systems. GRaDER^{SM} is a conformity assessment program that provides independent standards compliance information for selected radiation detection equipment. The program has created the infrastructure for voluntary, vendor testing of commercial off-the-shelf radiological/nuclear detection equipment by independent, accredited laboratories against National consensus standards and Government-unique TCS. Final test results for our initial GRaDER^{SM} testing are expected this month. We anticipate that the GRaDER^{SM} Evaluated Equipment List—which is supported by the FEMA's guidance for compliance in relation to their grants program—will enable Federal, State, local, Tribal, and territorial agencies to make more-informed radiological/nuclear detector procurement decisions. Since we anticipate further testing facilitated through the GRaDER^{SM} program will be funded by the technology vendors, the President's fiscal year 2012 budget request includes minimal funding for initiating phase 2 of the program, which will evaluate systems against Government TCS and maintain the GRaDER^{SM} Evaluated Equipment List. GRaDER^{SM} supports both DNDO's work with industry, by encouraging commercial development of products that can be tested to published standards, as well as by enhancing our outreach and engagement with State and local partners who benefit from being able to access the verified equipment performance reports.

Beyond our work with DHS Component and State and local partners, DNDO's testing expertise and experience is sought by interagency partners, such as DOE and DOD, and international partners such as the United Kingdom, Canada, Israel, the European Union, and the International Atomic Energy Agency. DNDO has an active partnership with the European Commission's Joint Research Center to conduct the Illicit Trafficking Radioactive Assessment Program+10 (ITRAP+10), an am-

bitious 3-year test program to evaluate nine classes of radiological/nuclear detection systems in U.S. and European test facilities.

PATH FORWARD

Nearly a year into my tenure at DNDO, I feel we have accomplished much and are on track to develop and implement an architecture that will be better-able to address operational detection requirements. Our approach at DNDO is evolving at every level to be more rigorous while being more responsive to the needs of operators and inclusive of all technologies that may improve capabilities. We are working with the IC including DHS's Office of Intelligence and Analysis to develop realistic threat scenarios that we can then map to existing and future capabilities that we may need in order to appropriately respond to various situations. This will guide our future development of the GNDA and provide us with a framework for developing metrics that will provide insight into the effectiveness of our assets and capabilities for addressing threats. This work will help us better coordinate and implement a nuclear detection architecture that integrates Federal, State, and local efforts.

Chairman Lungren, Ranking Member Clarke, I thank you for this opportunity to discuss the nuclear detection architecture and the progress of DNDO. I am happy to answer any questions the subcommittee may have.

Mr. LUNGREN. Thank you very much, Mr. Stern.

Before we continue with the other panelists, my Ranking Member and Ranking Member of the subcommittee is present. I would just like to give her a chance for any statement she would like to make.

Ms. CLARKE. Thank you, Mr. Chairman. Thank you for holding the hearing to discuss developments in the Global Nuclear Detection Architecture.

Good morning to our panelists.

The enormous devastation that would result if terrorists use a nuclear weapon or nuclear materials successfully in a terrorist act requires us to do all we can to prevent them from entering or moving through the United States. The detection of special nuclear materials being smuggled or otherwise transported into or through the United States is the main mission of the Domestic Nuclear Detection Office, DNDO, and it has a further function in the development of the development of the Global Nuclear Detection Architecture.

DNDO also plays a role in nuclear forensics and security of radiological materials. DNDO was one of the major directorates within the Department, and the two key projects in the nuclear diction area are the deployment of current generation radiation portal monitors, RPM, and the development of the next generations of detection devices.

I understand we are going to hear some new developments in today's testimony from Mr. Stern, which we just heard, especially concerning the ASP program. I will have a couple questions about that a little bit later.

At the end of March of this year DNDO met with its interagency partners in the Department of Homeland Security and the Office of National Intelligence, the Nuclear Regulatory Commission, the Departments of Defense, Energy, Justice, and State to conduct a joint review of the performance goals identified in the Global Nuclear Detection Architecture Strategic Plan. I commend Director Stern for his energetic efforts to produce the GNDA Strategic Strategy—excuse me—by the end of 2010, and for moving quickly

on the joint annual interagency review that was delivered to us just a few weeks ago.

It was obvious we needed a strategy, and this subcommittee was glad DNDO was able to put the very complex interagency review together quickly and cooperatively. DNDO now has responsibility for implementing the domestic portion of the plan, and I am anxious to see progress on the rubber-meets-the-road plan.

Additionally, I have noted that DNDO has revisited some past assumptions that guided development of a global nuclear detection strategy, particularly assumptions related to threat intelligence resulting in the concept in immobility is not a desirable characteristic among nuclear and radiological detection devices. It is important that this plan anticipate a new focus on State and local resources, which become critical to providing surge capabilities in specific regions.

I understand that part of what we will hear today will give us insight into this concept of surging large number of people and devices, and communicating and synthesizing information very rapidly, and detecting nuclear material or weapons, and even more importantly, that the architecture strategy involves reliance on massive numbers of State and local officials to address nuclear or radiological threats.

My concern is how do we plan for a complex system like this when we are anticipating a billion-dollar cut in the Department's budget, which will drastically reduce the capabilities of State and local authorities who depend heavily on DHS grants, and are already stressed under their own considerable State and local workloads?

I will be listening carefully to today's testimony for any indication that planning for the GNDA is taking into consideration the very real possibility that huge budget cuts proposed in this year's appropriations would be approved in the House of Representatives. Agencies, and especially DNDO, must be fully aware of what implementation goals would look like under these proposed Draconian cuts to our National nuclear detection apparatus.

In conclusion, the production of the GNDA Strategic Plan has afforded Members of the subcommittee and DHS leadership a new opportunity to look at the way DNDO could best fulfill its mission. In order to prevent the unthinkable, we must deploy the best technology, employ the best people and do the best planning. I repeat, in these times of severe budget cutbacks, our planning must reflect how we propose to accomplish our National security goals in nuclear detection with harshly restricted assistance to our State and local partners.

Thank you, Mr. Chairman. I yield back.

Mr. LUNGREN. Thank you very much for your statement.

Now we will continue with the panel. We now recognize Mr. Pavetto to testify.

STATEMENT OF CARL S. PAVETTO, DEPUTY ASSOCIATE ADMINISTRATOR, OFFICE OF EMERGENCY OPERATIONS, NATIONAL NUCLEAR SECURITY ADMINISTRATION, DEPARTMENT OF ENERGY

Mr. PAVETTO. Good morning, Chairman Lungren, Ranking Member Clarke, and Members of the subcommittee. My name is Carl Pavetto, and I am the deputy associate administrator for the U.S. Department of Energy's National Nuclear Security Administration. I am the deputy for the Office of Emergency Operations.

First I would like to express my sincere appreciation for the opportunity to speak to you today regarding the contribution that DOE makes in preventing domestic radiological and nuclear terrorist attacks through the conduct of detection and search operations.

As you may know, the National Nuclear Security Administration was established by Congress in 2000 as a semiautonomous entity within DOE. The NNSA maintains the safety, security, and effectiveness of the U.S. nuclear weapons stockpile. We accelerate efforts to reduce the global threat posed by nuclear proliferation and terrorism. We provide safe and effective nuclear propulsion systems for the U.S. Navy.

We also possess robust technical capabilities, and support the world's top professional scientists, engineers, and other leading nuclear experts that are resident in our National laboratories. Within NNSA and the Office of Emergency Operations we draw on these experts in order to execute our mission and to maintain the U.S. Government's Federal response capabilities for radiological consequence management, render-safe, and the purpose of today's hearing, radiological and nuclear detection and search.

The U.S. Government strategy for interdicting radiological or nuclear materials or devices involves a multifaceted and multiagency cooperative approach. To maintain our Nation's capability to respond to specific nuclear and radiological threats, staff from my office, the Office of Emergency Operations, work cooperatively with the Departments of Homeland Security and the FBI, the Department of Defense, specifically DNDO, to develop the interagency domestic radiological nuclear search operations plan, or the RNSOP.

This plan was a product of the Countering Nuclear Terrorism Interagency Planning Committee and was approved by the National security staff on May 27 of this year. Radiological and nuclear search is a law enforcement function of the Global Nuclear Detection Architecture. It is led by the Federal Bureau of Investigation. The plan defines a targeted response that increases the probability for interdicting a credible radiological or nuclear threat to prevent an attack within the United States.

As the technical lead for the RNSOP and support of FBI as the lead agency, personnel from my office support the bureau by providing advanced technical capabilities needed to support evaluation of the credibility of the threat and for planning and conducting search operations in support of investigative or tactical objectives. Specifically, our teams are ready to respond and provide the technical expertise needed.

We—in addition we provide support for the Department of Homeland Security's DNDO as it carries out its responsibilities for im-

plementation of the Global Nuclear Detection Architecture or GNDA in two aspects. One is the day-to-day operations, the steady state preventative radiological nuclear detection. The other is the enhanced steady-state, and if there is an actual terrorist threat or potential terrorist threat.

During the steady-state operations we provide technical experts to our partners and lead agencies, including DNDO, to develop and provide training to State and local first responders. We work with DNDO in providing radiological and nuclear detection and search training to a variety of groups, in particular the National Guard civil support teams to enhance the capability and have the—direct the resources to meet the threat.

For the enhanced steady-state we support planning efforts and detection operations associated with mass public gatherings such as National Special Security Events, and we rely primarily on our radiological assistance program teams, which are spread throughout the country. These units are well-trained and equipped to—with the search and detection capabilities.

I am pleased to report the roles and responsibilities of DNDO—I am sorry, of NNSA in the Global Nuclear Detection Architecture, and that they are through the work led by Mr. Stern. We are much—the responsibilities are much clearly—much more clearly defined than before. We continue to make progress, and are working to further clarify agency roles and responsibilities.

It is our goal to continue to bring our unique technical capabilities to bear to address radiological and nuclear threats, and increase risk. Our top priority is to develop and enhance our Federal capabilities with the architecture and strategies.

Once again, thank you, Chairman Lungren and Ranking Member Clarke and Members of the subcommittee for giving me this opportunity. I look forward to answering any questions you may have.

[The statement of Mr. Pavetto follows:]

PREPARED STATEMENT OF CARL S. PAVETTO

JULY 26, 2011

Good morning Chairman Lungren, Ranking Member Clarke, and Members of this subcommittee. My name is Carl Pavetto, and I am the Deputy Associate Administrator for the U.S. Department of Energy (DOE) National Nuclear Security Administration's Office of Emergency Operations. First, I would like to express my sincere appreciation for the opportunity to speak to you today regarding the contribution DOE makes in preventing domestic radiological and nuclear terrorist attacks through the conduct of detection and search operations.

As you may know, the National Nuclear Security Administration, or NNSA, was established by Congress in 2000 as a semi-autonomous entity within DOE. The NNSA maintains the safety, security, and effectiveness of the U.S. nuclear weapons stockpile, accelerates efforts to reduce the global threat posed by nuclear proliferation and terrorism, and provides safe and effective nuclear propulsion systems for the U.S. Navy. We also possess robust technical capabilities and support the world's top professional scientists, engineers, and other leading nuclear experts resident in our National Laboratories. Within NNSA, the Office of Emergency Operations draws upon these experts to execute its mission to maintain the U.S. Government's Federal response capabilities for radiological consequence management, render-safe, and the purpose of today's hearing, radiological and nuclear detection and search.

The U.S. Government's strategy for interdicting radiological or nuclear materials or devices involves a multi-faceted and multi-agency cooperative approach. To maintain our Nation's capability to respond to specific nuclear and radiological threats, staff from my office—the Office of Emergency Operations—works cooperatively with the Department of Homeland Security, the Federal Bureau of Investigation, and the

Department of Defense to develop the *Interagency Domestic Radiological Nuclear Search Operations Plan (RNSOP).* This plan was a product of the Countering Nuclear Terrorism Interagency Planning Committee, and was approved by the National Security Staff on May 27, 2011. Radiological and nuclear search is a law enforcement function of the global nuclear detection architecture (GNDA) led by the Federal Bureau of Investigation (FBI). RNSOP defines a targeted response that increases the probability for interdicting a credible radiological or nuclear threat to prevent an attack within the United States.

DOE/NNSA is the technical lead for RNSOP in support of the FBI as the lead agency. Personnel from the Office of Emergency Operations support the Bureau by providing the advanced technical capabilities needed to support evaluation of the credibility of the threat and for planning and conducting search operations in support of investigative or tactical objectives. Specifically, our teams are ready to respond and provide technical expertise by:

- assessing the technical and operational characteristics of a radiological or nuclear threat;
- integrating technical analysis into situational planning efforts, such as calculating detection ranges and speed of passage, identifying the appropriate detection equipment for the assumed source, and issuing guidance on search techniques for specific environments;
- providing specialized assets capable of conducting and tracking aerial, maritime, and land-based search operations to locate and identify the threat;
- interpreting the results of search operations while in progress and conducting post-operational analysis that result in data products that represent completed operations; and
- performing rapid scientific evaluation of radiation spectral data and final adjudication of special nuclear material through DOE's Triage Program. (Triage, is DOE's system of reachback capabilities to advanced scientific support for hazards and risks assessments.)

In addition, DOE/NNSA provides support to the Department of Homeland Security's Domestic Nuclear Detection Office (DNDO) as DNDO carries out its responsibilities for the domestic implementation of the Global Nuclear Detection Architecture (GNDA) in two aspects: (1) Steady-state Preventive Radiological Nuclear Detection, or PRND and (2) enhanced steady-state PRND.

During steady-state PRND, we provide technical experts to our partner departments and lead agencies, including the DNDO, to develop and provide training to State and local first responders. Moreover, we work with DNDO in providing radiological and nuclear detection and search training to National Guard Civil Support Teams across the United States and specialized Federal assets, such as the Transportation Security Administration's Visible Intermodal Prevention and Response Teams. Another example of these efforts can be seen in our assistance through DNDO to State and local planning for steady-state PRND in the National Capital Region, and the cities of New York and Chicago.

For enhanced steady-state PRND, we support planning efforts and detection operations associated with mass public gatherings, such as National Special Security Events. Additionally, our regionally based Radiological Assistance Program, or RAP teams, support the maintenance and deployment of DNDO's Mobile Detection Deployment Units. These units are used during planned mass public gatherings to provide training delivered by RAP personnel to State and local responders. It should be noted that steady-state or enhanced steady-state PRND can be executed concurrently with targeted RNSOP operations.

I am pleased to report that the roles and responsibilities of DOE/NNSA in the GNDA are now more clearly defined and articulated. We continue to make progress and are working to further clarify agency roles and responsibilities, in close coordination with our Federal partners, during both steady-state and enhanced steady-state operations. It is our goal to continue to bring our unique technical capabilities to bear to address radiological and nuclear threats and increased risk.

Once again, thank you Chairman Lungren, Ranking Member Clarke, and Members of the subcommittee for affording me the opportunity to speak with you today regarding the DOE/NNSA's capability to enhance our National security by providing advanced technical support during detection and search operations. I look forward to answering any questions you may have.

Mr. LUNGREN. Thank you very much, Mr. Pavetto.

Now the Chairman will recognize Mr. Daddario to testify.

STATEMENT OF RICHARD DADDARIO, DEPUTY COMMISSIONER FOR COUNTERTERRORISM, NEW YORK CITY POLICE DEPARTMENT

Mr. DADDARIO. Good morning, Mr. Chairman, Ranking Member Clarke, and Members of the subcommittee. Thank you for the invitation to represent the New York City Police Department before this subcommittee.

The subject of this morning's hearing, preventing nuclear and radiological terrorism within the United States, presents enormous challenges to all of us. President Obama has often expressed his concern about the threat of nuclear and radiological terrorism.

He has said the greatest danger to the American people is the threat of a terrorist attack with a nuclear weapon and the spread of nuclear weapons to dangerous regimes. We must ensure that terrorists never acquire a nuclear weapon. This is the most immediate and extreme threat to global security.

Congress, through the Bipartisan Commission on the Prevention of Weapons of Mass Destruction, Proliferation and Terrorism, has stated similar concerns in no uncertain terms. In its 2008 report the commission said that it is more likely than not that a weapon of mass destruction will be used somewhere in the world by the end of 2013.

The threat of a nuclear or radiological weapon being used against New York City is also among the foremost concerns of Police Commissioner Raymond Kelly. Through the Securing the Cities program the NYPD has committed significant resources to guard against a nuclear radiological weapon, the use of which might well overwhelm the capacity to recover of even so great and resilient a city as New York.

The STC is a two-part Federally funded effort to protect New York City from the threat of an improvised nuclear device or a radiological dispersal device, in other words, dirty bomb. The first part of the program involves equipping New York State and local regional partners the state-of-the-art mobile radiological detection equipment and training them in its proper use.

The NYPD has 12 principal partners in New York, New Jersey, and Connecticut. These 12 principal partners represent 150 local law enforcement and public safety agencies within a 40-mile radius of New York City.

The STC funding dispersed to date has enabled the NYPD and its regional partners to achieve several important accomplishments. Among them are these.

The NYPD has taken delivery of over 4,200 personal radiation detectors, 156 pack guide backpacks, 77 radiological isotope identification devices and 15 mobile detection systems, and completed distribution of this equipment to its regional partners. We are now in the process of acquiring additional equipment for us and our partners.

The NYPD has networked many of these radiological sensors and enabled them to provide real-time radiation data into a coordination center as part of the lower and midtown Manhattan security initiatives. At the center officers can monitor real-time radiation levels from equipment in the field installed on vans, boats, and the rooftops of precincts.

The NYPD has also developed a Bluetooth gateway device that we are in the process of procuring, which will enable real-time transmission of radiation data from personal radiation detectors on police officers' belts. We tested this device, and it works perfectly.

The system is designed to alert officers in real-time to potentially dangerous radiation levels in the field. To my knowledge, this effort to network this type of sensor in one system is unprecedented.

The NYPD and its regional partners have developed one concept of operation for detection and interdiction of illicit radioactive material. This concept of operations will enable the regional partners to lock down and secure the region based on 400 predetermined choke points in the face of an imminent threat.

The NYPD and its regional partners have conducted land-based, maritime, and transportation-based exercises involving surreptitiously transported radiological substances. In April the NYPD and its partners conducted a full-scale regional exercise designed to evaluate our ability to detect and interdict illicit radiological materials. The 5-day exercise, which by all accounts was successful, involved choke points and other activity in New York, Connecticut, and New Jersey both on land, including rail and highways, and in the waterways of the region.

The second part of the program involves putting in place a permanent radiological defensive ring through the installation of fixed radiological detection equipment to monitor traffic at all bridges and tunnels that lead into New York City. We are continuing to work with DNDO and Director Stern to put this system in place.

The STC program is an extraordinary example of interagency and intergovernmental collaboration. DHS, through DNDO provides the technical expertise and funding for procurement, research, and development. State and local regional partners provide manpower, and in the case of the NYPD, various foundational technical infrastructure systems.

From the outset, the STC program was developed—was intended to develop an operationally viable regional architecture for radiological and nuclear detection that can be replicated in cities across the country. Both the mobile detection and fixed-site detection portions of the STC program require additional funding to achieve this goal. This additional funding is required to achieve—if I could have a few—1 more minute.

The additional funding is required to achieve wireless connectivity. We are making great progress in this effort to network the mobile radiation detection equipment so that the data will be viewable in real time at the Lower Manhattan Security Coordination Center.

We also need funding to enhance capability and sustainability. We need to procure more advanced equipment that will enhance land, air, and sea protection capabilities, and enforce procedures and programs for inventory control, standardization, maintenance, and calibration of equipment. We also need to ensure usability to increase and continue training, and to develop interdiction operations through the conduct of advanced deployment on a regional scale.

I also want to note that in addition to administering the Securing the Cities program, we recently entered into a memorandum of un-

derstanding with the National Nuclear Security Agency. As part of this agreement NNSA will install remote monitoring systems in New York City medical, academic, and commercial-industrial facilities that house radiotherapy and radiation devices that contain highly radioactive isotopes, which if removed by terrorists can be used to create a dirty bomb. We will receive real-time video alarm from these remote monitoring systems.

I thank you again for affording me as a representative of the New York City Police Department the opportunity to appear before you today, and I look forward to answering any questions you may have.

[The statement of Mr. Daddario follows:]

PREPARED STATEMENT OF RICHARD DADDARIO

Good morning Mr. Chairman, Ranking Member Thompson, Members of the subcommittee. Thank you for the invitation to represent the New York City Police Department (NYPD) before the Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies. For the record, my name is Richard Daddario, and I am the Police Department's Deputy Commissioner of Counterterrorism.

The subject of this morning's hearing—preventing nuclear and radiological terrorism within the United States—presents enormous challenges to all of us. President Obama has often expressed his concern about the threat of nuclear and radiological terrorism. He has said:

"The gravest danger to the American people is the threat of a terrorist attack with a nuclear weapon and the spread of nuclear weapons to dangerous regimes."

"The threat of global nuclear war has gone down, but the risk of nuclear attack has gone up."

"We must ensure that terrorists never acquire a nuclear weapon. This is the most immediate and extreme threat to global security."

Congress, through the bipartisan Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, has stated similar concerns in no uncertain terms. In its 2008 report, the Commission staid that is "more likely than not that a weapon of mass destruction will be used somewhere in the world by the end of 2013."

The threat of a nuclear or radiological weapon being used against New York City is also among the foremost concerns of Police Commissioner Raymond Kelly. Through the Securing the Cities Program (STC), the NYPD has committed significant resources to guard against a nuclear or radiological weapon, which might well overwhelm the capacity to recover of even so great and resilient a city as New York.

The STC is a two-part Federally funded effort to protect New York City from the threat of an improvised nuclear device or a radiological dispersal device (dirty bomb).

The first part of the program involves equipping New York's State and local regional partners with state-of-the-art mobile radiological detection equipment and training them in its proper use. The NYPD has 12 principle partners in New York, New Jersey, and Connecticut. These 12 principle partners represent 150 local law enforcement and public safety agencies within a 40-mile radius of New York City.

The STC funding disbursed to date has enabled the NYPD and its regional partners to achieve several important accomplishments, among them:

- The NYPD has taken delivery of over 4,200 personal radiation detectors (PRDs), 156 PackEye backpacks, 77 radiological isotope identification devices, and 15 mobile detection systems; and completed distribution of this equipment to its regional partners. The NYPD has already placed an additional order for 1,000 PRDs, approximately 100 PackEye backpacks, and five mobile platform vehicles.
- The NYPD has networked many of these radiological sensors and enabled them to provide real-time radiation data into a Coordination Center, as part of the Lower and Midtown Manhattan Security Initiatives. At the Center, officers can monitor real-time radiation levels from equipment in the field installed on vans, boats, and the rooftops of precincts. The NYPD has also developed a Bluetooth gateway device that we are in the process of procuring which will enable real-time transmission of radiation data from personal radiation detectors on police officers belts. The system is designed to alert officers in real-time to potentially

dangerous radiation levels in the field. To my knowledge, this effort is unprecedented.

- The NYPD and its regional partners have developed one concept of operations for detection and interdiction of illicit radioactive materials; this concept of operations will enable the regional partners to lock down and secure the region based on 400 pre-determined chokepoints in the face of an imminent threat.
- The NYPD and its regional partners have conducted land-based, maritime, and transportation-based exercises involving surreptitiously transported radiological substances. In April, the NYPD and its STC partners conducted a full-scale, regional exercise designed to evaluate our ability to detect and interdict illicit radiological materials. The 5-day exercise, which by all accounts was successful, involved chokepoints and other activity in New York, Connecticut, and New Jersey both on land, including rail and highways, and in the waterways of the region.

The second part the program involves putting in place a permanent radiological defensive ring through the installation of fixed radiological detection equipment to monitor traffic at all bridges and tunnels that lead into New York City.

The STC program is an extraordinary example of interagency and intergovernmental collaboration. DHS, through the Domestic Nuclear Detection Office (DNDO), provides the technical expertise and funding for procurement research and development; State and local regional partners provide manpower and, in the case of the NYPD, various foundational technical infrastructure systems.

From the outset, the STC program was intended to develop an operationally viable regional architecture for radiological and nuclear detection that can be replicated in cities across the country. Both the mobile detection and fixed-site detection portions of the STC program require additional funding to achieve this goal.

This additional funding is required to:

- *Achieve wireless connectivity*.—We want to network the mobile radiation detection equipment purchased with STC program funds so that the data will be viewable in real-time at the Lower Manhattan Security Coordination Center.
- *Enhance capability and sustainability*.—We need to procure more advanced equipment that will enhance land, air, and sea detection capabilities; and enforce procedures and programs for inventory control, standardization, maintenance, and calibration of equipment purchased with STC program funds across the region.
- *Ensure usability*.—We need to continue equipment training and exercises with the regional partners; and
- *Develop interdiction operations*.—It is vitally important to conduct advanced radiation detection and interdiction deployments on a regional scale.

I should note that in addition to administering the Securing the Cities Program, the NYPD recently signed a Memorandum of Understanding with the National Nuclear Security Agency as part of its Global Threat Reduction Initiative. As part of this Agreement, NNSA will install remote monitoring systems at New York City medical, academic, and commercial/industrial facilities that house radiotherapy and irradiation devices that contain highly radioactive isotopes, which, if removed by terrorists, can be used to create dirty bombs. The NYPD will receive real-time video alarms from these remote monitoring systems. Thank you once again for affording me, as a representative of the New York City Police Department, the opportunity to appear before you today. I would be happy to answer any of your questions.

Mr. LUNGREN. Thank you, Mr. Daddario. I will refrain from asking you whether it has been easier to work with all of the Government agencies here in the United States than it was when you were liaison to Russian law enforcement at the embassy in Moscow.

But Mr. Perez, you are recognized for 5 minutes.

STATEMENT OF MARK PEREZ, HOMELAND SECURITY ADVISOR, FLORIDA DEPARTMENT OF LAW ENFORCEMENT

Mr. PEREZ. Good morning, Chairman Lungren, Ranking Member Clarke, and distinguished Members of the subcommittee. Thank you for allowing me the opportunity to present my testimony before you today on Florida's State-wide PRND capabilities.

I have the distinct honor of serving as Florida's homeland security advisor. When Florida created its domestic security and gov-

ernance structure, it took into account the diverse cultures and landscape that shape our great State. An inclusive structure was formed that encouraged and facilitated multijurisdictional and multidisciplinary participation at all levels of government. The main components of our State structure include seven regional domestic security taskforces who collectively support our State's strategic plan and form the critical link between policymakers at the State level and boots-on-the-ground partners.

The State working group, led by an executive board and supported by multidisciplinary subject matter experts from each regional taskforce affords the opportunity for State-wide consistency in plain development, planning, and delivery of training and exercise, and equipment recommendations. Finally, our Domestic Security Oversight Council, which provides executive direction and leadership, and serves as an advisory council, providing guidance to the regional taskforces and State working group.

In 2006 Florida began partnering with DHS' DNDO when our State Department of Transportation and Department of Health worked on the Southeast Transportation Corridor Pilot installing fixed radiological portal monitors at weigh station facilities. The DNDO further assisted our efforts by helping our State develop a mobile detector capable of being deployed at weigh stations, special event venues, intelligence-driven locations, and using control operations.

In addition, the DNDO assisted our Florida Fish and Wildlife Conservation Commission by developing a small craft initiative used to interdict waterborne radiological nuclear threats in our State.

In 2007, our Domestic Security Oversight Council recognized these efforts and moved to further build out our State's PRND capabilities. A collaborative effort was forged between Federal, State, and local partners. This group became the focus of the DNDO's program assistance pilot, facilitating the development of a State-wide PRND enterprise model which could be implemented in other States and territories.

Some of the early challenges identified in the development of the State-wide PRND strategy were the procurement, training, and use of scientific equipment not previously used by law enforcement. As this activity was relatively new to law enforcement in our State, a concept of operations had to be created, and we sought guidance from DNDO and other entities which have been engaged in PRND operations.

The other important factors were the identification of resources related to budget and staffing, as well as a State-wide equipment acquisition strategy ensuring that all regional PRND needs were identified and met with common equipment in order to simplify logistical support, operational sustainment, and training and requirements. The acquisition strategy was defined and implemented to meet basic and specialized capabilities, as well as defining requirements to provide for future technological insertion and upgrades to existing equipment.

Training officers in the operation of specialized equipment was also a factor. Historically, this was accomplished by attending courses offered by DHS. However, once trained, the individual ju-

risdictions had to provide the training and the concept of operations, as well as the policy and procedures for a specific jurisdiction.

Furthermore, due to the high demand for the training and limited availability of the courses offered, we developed our own capabilities so that the training needs of Florida agencies could be promptly met. A training model was created utilizing the Florida college system, and the State public-private workforce system.

Currently Florida has a cadre of instructors certified by DHS who have successfully trained hundreds of our officers throughout the State. Florida has a strong, State-wide PRND strategy built upon the foundation of our State's strategic plan and structure that encourages and facilitates multijurisdictional and multidisciplinary participation at all levels. We have shared our PRND strategy with other States and territories to assist with their build-out efforts, as well as soliciting feedback on how it can be improved upon.

In closing, I take a statement from the Greek playwright Sophocles, "success is dependent on effort." Without the combined efforts from our Federal, State, and local and territorial partners, we cannot be successful with ensuring the continued successes of our PRND mission. Thank you.

[The statement of Mr. Perez follows:]

PREPARED STATEMENT OF MARK PEREZ

JULY 25, 2011

Good morning Mr. Chairman and committee Members, thank you for allowing me the opportunity to present my testimony before you today on Florida's State-wide PRND capabilities.

My name is Mark Perez and I am a special agent in charge with the Florida Department of Law Enforcement; I also have the honor of serving as Florida's Homeland Security Advisor. Florida is heralded as one of the top tourist destinations in the world; it has the second-longest coastline in our country; and is the fourth-most populated State in our great Nation; home to nearly 19 million Floridians, who cultures are as unique and diverse as our State's landscape. These are some of the same influences that formed the basis for Florida's Domestic Security Strategic Plan and Governance Structure into an inclusive structure designed to encourage and facilitate multi-jurisdictional and multi-disciplinary participation at all levels of government. The structure has three main components:

(1) Our seven Regional Domestic Security Task Forces (RDSTF) serve as the foundation of our State's domestic security structure. Each RDSTF consists of local, multidisciplinary representatives who collectively support our State's strategic plan and form the critical link between policy makers at the State level and local "boots-on-the-ground" partners faced with the daily challenges of protecting our communities.

(2) Our State Working Group on Domestic Preparedness (SWG), which is headed by an Executive Board, is made up of multi-disciplinary subject matter experts from each RDSTFs and designated urban areas, as well as other key agency liaisons. The SWG structure affords the opportunity for State-wide consistency in plan development, planning and delivery of training and exercises, and equipment recommendations.

(3) Our Domestic Security Oversight Council (DSOC) provides executive direction and leadership with respect to Florida's strategic plan and serves as an advisory council by providing guidance to the RDSTFs and SWG. The DSOC also make recommendations to the Governor and the Legislature related to Florida's counter-terrorism and domestic security efforts.

In February 2006, Florida began partnering with the Department of Homeland Security's (DHS) Domestic Nuclear Detection Office (DNDO) when the State's Department of Transportation's Office of Motor Carrier Compliance (OMCC), in conjunction with the Florida Department of Health's Bureau of Radiation Control (BRC) worked on the Southeast Transportation Corridor Pilot (SETCP). The project installed fixed radiological portal monitors at weigh station facilities, however, due

to the limitations of the fixed portal monitors, DNDO agreed to develop a mobile detector which was capable of being deployed at weigh stations, special event venues, intelligence driven locations, as well as used in patrol operations.

In addition, the Florida Fish and Wildlife Conservation Commission (FWCC) Division of Law Enforcement also worked with the DNDO in developing a Small Craft Initiative in an attempt to interdict waterborne radiological/nuclear threats.

In the fall of 2007, the DSOC recognized these efforts and created the Preventative Radiological/Nuclear Detection (PRND) Sub-Committee of the State Working Group's Operations and Plans Committee. In a collaborative effort between various Federal, State, and local partners, this group became the focus of the DNDO's Program Assistance pilot. The purpose of this pilot was to facilitate the development of a State-wide PRND Enterprise Model which would then be implemented in other States and territories.

Over the next 2 years this group worked tirelessly to create Florida's PRND Strategy; its mission," . . . to protect the people, economy, and natural resources of Florida against threats posed by the unauthorized use of radiological and nuclear materials."

Some of the early challenges identified in the development of a State-wide PRND strategy were the procurement, training, and use of scientific equipment not previously used by law enforcement. If the procurement and cost associated with the acquisition of this specialized equipment wasn't enough of a challenge; maintaining the proficiency of officers assigned to use the equipment certainly was.

Because this type of activity was relatively new to law enforcement in our State, a well-defined Concept of Operations (CONOPS) and operating and policies and procedures had to be created. We received input from DNDO and other entities which had been engaged in PRND operations and created a deeper integration of Florida's law enforcement, fire/rescue, emergency management, and Florida National Guard efforts to ensure that the PRND Program Goals would be met.

Other important factors related to the development of a State-wide PRND strategy was the identification of resources, related to budget and staffing; as well as a State-wide equipment acquisition strategy. This ensured that all regional PRND needs were identified and met with common equipment in order to simplify logistical support, operational sustainment and training requirements. The acquisition strategy was defined and implemented to meet basic and specialized capabilities as well as defining requirements to provide for future technological insertion/upgrades to existing equipment.

Training officers in the operation of specialized equipment has always been a factor when dealing with PRND capabilities. Historically this has been accomplished by having officers attend courses offered by the DHS. However, the individual jurisdictions must provide the training in the concept of operations (CONOPS) as well as the policies and procedures for a specific jurisdiction. Due to the high demand for the training and limited availability of courses offered, Florida's PRND Strategy identified and developed its own capabilities so that the training needs of Florida's agencies could be met promptly and with minimal travel required by the attendees. A training model was created utilizing the Florida College System in conjunction with the State's public-private workforce system; the DNDO and the Florida Department of Health's Bureau of Radiation Control provided assistance with the development of the training program and curricula integrity. Currently, Florida has a cadre of instructors certified by DHS, who have successfully trained hundreds of our officers throughout the State.

Florida has a strong State-wide PRND strategy, built upon the foundation of our State's strategic plan and structure that encourages and facilitates multi-jurisdictional and multidisciplinary participation at all levels. We have shared our PRND strategy with other States and territories, to assist with their build-out efforts and solicit feedback on how it can be improved upon.

As the Greek playwright Sophocles stated, "Success is dependent on effort." Without the combined efforts, from our Federal, State, local, and territorial partners we cannot be successful with ensuring the continued success of our PRND mission.

Thank you.

Mr. LUNGREN. Thank you very much, Mr. Perez.

Now Mr. Maurer, you are recognized for 5 minutes.

STATEMENT OF DAVID C. MAURER, DIRECTOR, HOMELAND SECURITY AND JUSTICE ISSUES, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. MAURER. Thank you. Good morning, Chairman Lungren, Ranking Member Clarke, and other Members and staff. I am pleased to be here today to discuss our prior work examining DHS' efforts to combat nuclear smuggling.

As you well know, preventing terrorists from carrying out a nuclear attack in the United States is a top National priority. To address this threat, DNDO has the lead in coordinating the Global Nuclear Detection Architecture or GNDA. This is a multidepartment effort to detect nuclear material in foreign countries, at the U.S. border and inside the United States before it can be used in an attack.

Given the global span of this effort and the number of agencies involved, we have previously recommended that DHS develop a strategic plan that clearly spells out overall objectives, roles, and responsibilities, the resources necessary to meet those objectives, and mechanisms to assess progress along the way. My comments today are based on previously issued GAO work and focus on three key issues: DHS' efforts to develop a strategic approach, DHS' progress in deploying radiation detection equipment, and DHS' challenges in developing new technologies to detect radiation.

On the first point there is encouraging news. In response to our prior work, DHS has developed a strategic plan for the GNDA. In December 2010 DNDO issued its plan, which defines the overall objectives and assigns missions to the various Federal entities. Earlier this year DNDO also issued its Congressionally-mandated annual review of GNDA activities. In tandem these documents show clear progress in addressing our prior recommendations.

However, DNDO's plans to date do not discuss key elements for addressing gaps. Neither document clearly establishes the resources needed to meet the objectives. They also do not discuss strategies or time frames for addressing previously identified gaps in the domestic portion of the GNDA such as the land border areas between ports of entry and small maritime vessels.

DNDO tells us they are working on an implementation plan that will address these key missing elements, and hopes to have that plan completed by the end of this year.

On the second point, DHS' efforts to deploy radiation detection technology, the news is generally good. As we reported in June 2010, DHS has made significant progress and now scans nearly all cargo and vehicles entering the United States through ports of entry. Having the capability to detect radiation at the most commonly used official points into the United States is a major accomplishment.

However, there are remaining gaps that still need to be addressed. DHS has made less progress scanning international rail, air cargo, and commercial aviation. Going forward it would be reasonable to expect DHS will pay greater attention to addressing these gaps, in part by developing and acquiring new technologies.

Which brings me to my third point: DHS' efforts to develop new technologies. The news here has been bad for years. As we have re-

ported numerous times, DNDO's efforts to develop enhanced technology to detect radiation have floundered.

The ASP in CAARS program in particular have been plagued with significant problems with cost, performance, and lack of rigor and testing. Further, DNDO's focus on areas where the threat was already being addressed distracted them from addressing gaps in other portions of the GNDA.

But that was the past. Director Stern's announcement this morning about the ASP program is encouraging, and hopefully sets the stage for mid-course corrections in the strategic direction of the GNDA.

In addition, as I testified earlier this month, the problems with ASP in cars are symptomatic of broader DHS challenges in developing and acquiring new technologies to meet homeland security needs. DHS leadership is currently taking its steps to address the numerous problems we recorded in our prior work. But the key is execution. DHS needs to turn its plan into action to ensure that systems are delivered on time, within budget, and capable of meeting critical mission needs.

This same theme applies to DNDO's recent strategic plan and promised implementation plan. Words on paper need to become concrete action to ensure priorities are identified, tasked, resourced, and executed.

We are encouraged by DNDO's efforts to revamp a strategic approach, and hopefully it will take action to address all of our recommendations from our prior work. In doing so, DNDO will enhance the U.S. ability to address the critical threat of nuclear terrorism.

Mr. Chairman, thank you for the opportunity to testify this morning. I look forward to your questions.

[The statement of Mr. Maurer follows:]

PREPARED STATEMENT OF DAVID C. MAURER

JULY 26, 2011

COMBATING NUCLEAR SMUGGLING.—DHS HAS DEVELOPED A STRATEGIC PLAN FOR ITS GLOBAL NUCLEAR DETECTION ARCHITECTURE, BUT GAPS REMAIN

GAO–11–869T

Chairman Lungren, Ranking Member Clarke, and Members of the subcommittee: We are pleased to be here today to discuss our past work examining the Department of Homeland Security's (DHS) progress and efforts in planning, developing, and deploying its global nuclear detection architecture (GNDA). The overall mission of the GNDA is to use an integrated system of radiation detection equipment and interdiction activities to combat nuclear smuggling in foreign countries, at the U.S. border, and inside the United States. Terrorists smuggling nuclear or radiological material into the United States could use these materials to make an improvised nuclear device or a radiological dispersal device (also called a "dirty bomb"). The detonation of a nuclear device in an urban setting could cause hundreds of thousands of deaths and devastate buildings and physical infrastructure for miles. While not as damaging, a radiological dispersal device could nonetheless cause hundreds of millions of dollars in socioeconomic costs as a large part of a city would have to be evacuated—and possibly remain inaccessible—until an extensive radiological decontamination effort was completed. Accordingly, the GNDA remains our country's principal strategy in protecting the homeland from the consequences of nuclear terrorism.

The GNDA is a multi-departmental effort coordinated by DHS's Domestic Nuclear Detection Office (DNDO).[1] DNDO is also responsible for developing, acquiring, and deploying radiation detection equipment to support the efforts of DHS and other Federal agencies. Federal efforts to combat nuclear smuggling have largely focused on established ports of entry, such as seaports and land border crossings. However, DNDO has also been examining nuclear detection strategies along other potential pathways and has identified several gaps in the GNDA, including: (1) Land border areas between ports of entry into the United States; (2) international general aviation; and (3) small maritime craft, such as recreational boats and commercial fishing vessels. Developing strategies, technologies, and resources to address these gaps remains one of the key challenges in deploying the GNDA.

Even before DNDO's inception in 2005,[2] we were highlighting the need for a more comprehensive strategy for nuclear detection. In 2002, we reported on the need for a comprehensive plan for installing radiation detection equipment, such as radiation portal monitors, at all U.S. border crossings and ports of entry.[3] We reported that this plan should: (1) Address vulnerabilities and risks; (2) identify the complement of radiation detection equipment that should be used at each type of border entry point—air, rail, land, and sea—and whether equipment could be immediately deployed; (3) identify longer-term radiation detection needs; and (4) develop measures to ensure that the equipment is adequately maintained. More recently, in July 2008, we testified that DNDO had not developed an overarching strategic plan and recommended that DHS coordinate with the Departments of Defense, Energy, and State to develop one.[4] In January 2009, we recommended that the Secretary of Homeland Security develop a strategic plan for the domestic part of the global nuclear detection strategy to help ensure the success of initiatives aimed at closing gaps and vulnerabilities in the United States.[5] We stated that this plan should focus on, among other things, establishing time frames and costs for the three gaps DNDO had identified—land border areas between ports of entry, aviation, and small maritime vessels. DHS agreed with the recommendation that we made in our 2008 testimony on the need for an overarching strategic plan to guide future efforts to combat nuclear smuggling and move toward a more comprehensive global nuclear detection strategy. DHS did not comment on our 2009 recommendation to develop a plan for the domestic portion of the GNDA but noted that it aligned with DNDO's past, present, and future actions.

As we will discuss today, some progress has been made, but DHS and other Federal agencies have yet to fully address gaps in the global nuclear detection architecture. Specifically, this testimony discusses DHS's efforts to: (1) Address our prior recommendations to develop a strategic plan for the GNDA, including developing strategies to prevent smuggling of nuclear or radiological materials via the critical gaps DNDO identified, (2) complete the deployment of radiation detection equipment to scan all cargo and conveyances entering the United States at ports of entry, and (3) develop new technologies to detect nuclear or radioactive materials.

This testimony is based on our prior work on U.S. Government efforts to detect and prevent the smuggling of nuclear and radiological materials issued from October 2002 through September 2010. We updated this information in July 2011 to reflect DHS's efforts to address our prior recommendations by meeting with DNDO officials and reviewing recent DNDO documents, such as the 2010 GNDA Strategic Plan and the 2011 GNDA Joint Annual Interagency Review.[6] Our comments on

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[1] Other departments and agencies contributing to the GNDA include the Departments of Energy, State, Defense, and Justice; the Office of the Director of National Intelligence; and the Nuclear Regulatory Commission.

[2] National Security Presidential Directive 43/Homeland Security Presidential Directive 14, Domestic Nuclear Detection, April 15, 2005. DNDO was established in statute by the Security and Accountability for Every Port Act of 2006 (SAFE Port) Act, Pub. L. No. 109–347, § 501 (codified at 6 U.S.C. §§ 591–596a).

[3] GAO, *Customs Service: Acquisition and Deployment of Radiation Detection Equipment,* GAO–03–235T (Washington, DC: Oct. 17, 2002).

[4] GAO, *Nuclear Detection: Preliminary Observations on the Domestic Nuclear Detection Office?'s Efforts to Develop a Global Nuclear Detection Architecture,* GAO–08–999T (Washington, DC: July 16, 2008).

[5] GAO, *Nuclear Detection: Domestic Nuclear Detection Office Should Improve Planning to Better Address Gaps and Vulnerabilities,* GAO–09–257 (Washington, DC: Jan. 29, 2009).

[6] The Global Nuclear Detection Architecture Joint Annual Interagency Review 2011 was produced by DNDO in response to Section 1103 of the "Implementing Recommendations of the 9/11 Commission Act of 2007" (Pub. L. No. 110–53), which mandates a Joint Annual Interagency Review of the GNDA and the joint submission of a report on that review to the President and specified Congressional Committees by the Secretaries of Homeland Security, State, Defense, Energy; the Attorney General; and the Director of National Intelligence.

DNDO's efforts to develop new technologies to detect nuclear material are based on our prior work on DHS's progress and challenges developing and acquiring new technologies issued from May 2009 through July 2011. Details on the scope and methodology for those reviews are available in our published reports.[7] We conducted this work in accordance with generally accepted Government auditing standards.

In summary, since December 2010, DNDO has issued both a strategic plan to guide the development of the GNDA and an annual report on the current status of the GNDA. The new strategic plan addressed some key components of what we previously recommended be included in a strategic plan, such as identifying the roles and responsibilities for meeting strategic objectives. However, neither the plan nor the annual report identifies funding needed to achieve the strategic plan's objectives or employs monitoring mechanisms to determine programmatic progress and identify needed improvements. DHS officials informed us that they will address these missing elements in an implementation plan, which they plan to issue before the end of this year.

As we reported in September 2010, DHS has made progress in deploying both radiation detection equipment and developing procedures to scan cargo entering the United States through land and sea ports of entry for nuclear and radiological materials.[8] For example, according to DHS officials, the Department scans nearly 100 percent of the cargo and conveyances entering the United States through land borders and major seaports. However, as we reported in July 2011, DHS has experienced challenges in developing new technologies to detect nuclear and radiological materials, such as developing and meeting key performance requirements.[9] DHS has plans to enhance its development and acquisition of new technologies, although it is still too early to assess their impact on addressing the challenges we identified in our past work.

DHS HAS DEVELOPED A STRATEGIC PLAN FOR GNDA, BUT IT DOES NOT YET DISCUSS KEY ELEMENTS FOR ADDRESSING GAPS

In our past work on GNDA, we made recommendations about the need for a strategic plan to guide the development of the GDNA. Among other things, in July 2008, we recommended that DHS develop an overall strategic plan for the GNDA that: (1) Clearly defines the objectives to be accomplished, (2) identifies the roles and responsibilities for meeting each objective, (3) identifies the funding necessary to achieve those objectives, and (4) employs monitoring mechanisms to determine programmatic progress and identify needed improvements.[10] In January 2009, we also recommended that DHS develop strategies to guide the domestic aspects of the GNDA including establishing time frames and costs for addressing previously identified gaps in the GNDA—land border areas between ports of entry, international general aviation, and small maritime vessels.[11] DHS concurred with our 2008 recommendation to develop an overall strategic plan and did not comment on our 2009 recommendation to develop a plan for the domestic portion of the GNDA, but noted that it aligned with DNDO's past, present, and future actions.

In December 2010, DNDO issued a strategic plan for the GNDA. The strategic plan establishes a broad vision for the GNDA, identifies cross-cutting issues, defines several objectives, and assigns mission roles and responsibilities to the various Federal entities that contribute to the GNDA. For example, the Department of Energy has the lead for several aspects of enhancing international capabilities for detecting nuclear materials abroad, DHS has the lead for detecting nuclear materials as they cross the border into the United States, and the Nuclear Regulatory Commission has the lead on reporting and sharing information on lost or stolen domestic radiological material. In addition, earlier this year, DNDO released the *Global Nuclear Detection Architecture Joint Annual Interagency Review 2011.* This review describes the current status of GNDA and includes information about the multiple Federal programs that collectively seek to prevent nuclear terrorism in the United States.

However, neither the strategic plan nor the 2011 interagency review identifies funding needed to achieve the strategic plan's objectives nor establishes monitoring mechanisms to determine programmatic progress and identify needed improvements—key elements of a strategic plan that we previously identified in our rec-

[7] See a list of related GAO products at the end of this statement.

[8] GAO, *Combating Nuclear Smuggling: Inadequate Communication and Oversight Hampered DHS Efforts to Develop an Advanced Radiography System to Detect Nuclear Materials,* GAO–10–1041T (Washington, DC: Sept. 15, 2010).

[9] GAO, *Homeland Security: DHS Could Strengthen Acquisitions and Development of New Technologies,* GAO–11–829T (Washington, DC: July 15, 2011).

[10] GAO–08–999T.

[11] GAO–09–257.

ommendations. Furthermore, while the plan and the 2011 interagency review discuss previously identified gaps in the domestic portion of the architecture, neither discusses strategies, priorities, time frames, or costs for addressing these gaps.

In our view, one of the key benefits of a strategic plan is that it is a comprehensive means of establishing priorities, and using these priorities to allocate resources so that the greatest needs are being addressed. In times of tight budgets, allocating resources to address the highest priorities becomes even more important. Accordingly, while DNDO's new strategic plan represents an important step forward in guiding the development of the GNDA, DNDO could do more to articulate strategies, priorities, time frames and costs in addressing gaps and further deploying the GNDA in order to protect the homeland from the consequences of nuclear terrorism. In discussing these issues with DHS officials, they indicated that they will be producing a GNDA implementation plan later this year that will address several of these issues.

DHS CONTINUES TO MAKE PROGRESS IN DEPLOYING RADIATION DETECTION EQUIPMENT

As we reported in June 2010, DHS has made significant progress in deploying both radiation detection equipment and developing procedures to scan cargo and conveyances entering the United States through fixed land and sea ports of entry for nuclear and radiological materials, deploying nearly two-thirds of the radiation portal monitors identified in its deployment plan. According to DHS officials, the Department scans nearly 100 percent of the cargo and conveyances entering the United States through land borders and major seaports. However, as we reported, DHS has made less progress scanning for radiation in: (1) Railcars entering the United States from Canada and Mexico; (2) international air cargo; and (3) international commercial aviation aircraft, passengers, or baggage.

Fixed Land and Sea Ports of Entry

According to DHS officials, since November 2009, almost all non-rail land ports of entry have been equipped with one or more radiation detection portal monitors and 100 percent of all cargo, conveyances, drivers, and passengers driving into the United States through commercial lanes at land borders are scanned for radiation, as are more than 99 percent of all personally operated vehicles (non commercial passenger cars and light trucks), drivers, and passengers. Similarly, at major seaports, according to DHS officials, the Department scans nearly all containerized cargo entering U.S. seaports for nuclear and radiological materials. DHS has deployed radiation portal monitors to major American seaports that account for the majority of cargo entering the United States. However, some smaller seaports that receive cargo may not be equipped with these portal monitors. DHS officials stated that current deployment plans have been in place to address all the remaining gaps in the deployment of portal monitors to seaports but that current and future budget realities require a re-planning of the deployment schedule.

International Rail

DHS has made much less progress scanning international rail. As we reported in June 2010, there is limited systematic radiation scanning of the roughly 4,800 loaded railcars entering the United States each day from Canada and Mexico. Much of the scanning for radioactive materials that takes place at these ports of entry is conducted with portable, handheld radioactive isotope identification devices. According to DHS officials, international rail traffic represents one of the most difficult challenges for radiation detection systems due to the nature of trains and the need to develop close cooperation with officials in Mexico and Canada. In addition, DHS officials told us that rail companies resist doing things that might slow down rail traffic and typically own the land where DHS would need to establish stations for primary and secondary screening. DHS is in the early stages of developing procedures and technology to feasibly scan international rail traffic.

International Air Cargo and Commercial Aviation

As we reported in 2010, DHS is in the early stages of addressing the challenges of scanning for radioactive materials presented by air cargo and commercial aviation. DHS officials are also developing plans to increase their capacity to scan for radioactive materials in international air cargo conveyed on commercial airlines. DHS officials stated that their experience in scanning air cargo at a few major international airports in the United States has helped them develop scanning procedures and inform current and future deployment strategies for both fixed and mobile radiation detection equipment. These officials said that they believe that further operational experience and research is necessary before they can develop practical mobile scanning strategies and procedures. DHS is also developing plans to effectively

scan commercial aviation aircraft, passengers, and baggage for radioactive materials.

DHS HAS HAD DIFFICULTY IN DEVELOPING NEW TECHNOLOGIES TO DETECT NUCLEAR MATERIALS

Since 2006, we have reported that DHS faces difficulties in developing new technologies to detect nuclear and radiological materials. Specifically, we have reported on long-standing problems with DNDO's efforts to deploy advanced spectroscopic portal (ASP) radiation detection monitors. The ASP is a more advanced and significantly more expensive type of radiation detection portal monitor to replace the polyvinyl toluene (PVT) portal monitors in many locations that the Customs and Border Protection (CBP), an agency within DHS, currently uses to screen cargo at ports of entry. We have issued numerous reports regarding problems with the cost and performance of the ASPs and the lack of rigor in testing this equipment. For example, we found that tests DNDO conducted in early 2007 used biased test methods that enhanced the apparent performance of ASPs and did not use critical CBP operating procedures that are fundamental to the performance of current radiation detectors.[12] In addition, in 2008 we estimated the life cycle cost of each standard cargo version of the ASP (including deployment costs) to be about $822,000, compared with about $308,000 for the PVT portal monitor, and the total program cost for DNDO's latest plan for deploying radiation portal monitors to be about $2 billion.[13] Based in part on our work, DHS informed this committee in February 2010, after spending over $280 million, that the Department had scaled back its plans for the development and use of ASP technology.

In September 2010, we also reported that DNDO was simultaneously engaged in the research and development phase while planning for the acquisition phase of its cargo advanced automated radiography system (CAARS) to detect certain nuclear materials in vehicles and containers at CBP ports of entry.[14] DNDO pursued the deployment of CAARS without fully understanding that it would not fit within existing inspection lanes at ports of entry and would slow down the flow of commerce through these lanes, causing significant delays. DHS spent $113 million on the program since 2005 and cancelled the acquisition phase of the program in 2007. As we reported in September 2010, no CAARS machines had been deployed, and CAARS machines from various vendors were either disassembled or sitting idle without being tested in a port environment.

DNDO's problems developing the ASP and CAARS technologies are examples of broader challenges DHS faces in developing and acquiring new technologies to meet homeland security needs. Earlier this month, we testified that DHS has experienced challenges managing its multi-billion-dollar acquisition efforts, including implementing technologies that did not meet intended requirements and were not appropriately tested and evaluated, and has not consistently completed analysis of costs and benefits before technologies were implemented.[15] In June 2011, DHS reported to us that it is taking steps to strengthen its investment and acquisition management processes across the Department. For example, DHS plans to establish a new model for managing Department-wide investments, establish new councils and boards to help ensure that test and evaluation methods are appropriately considered, and is working to improve the quality and accuracy of program cost estimates. As we testified, we believe these are positive steps and, if implemented effectively, could help the Department address many of its acquisition challenges. However, it is still too early to assess the impact of DHS's efforts to address these challenges. Going forward, we believe DHS will need to demonstrate measurable, sustained progress in effectively implementing these actions.

Chairman Lungren, Ranking Member Clarke, and Members of the subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

Mr. LUNGREN. Thank you very much, Mr. Maurer.

Thank all of you for your testimony. We appreciate not only the testimony, but the work that it reveals.

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[12] GAO, *Combating Nuclear Smuggling: Additional Actions Needed to Ensure Adequate Testing of Next Generation Radiation Detection Equipment,* GAO–07–1247T (Washington, DC: Sept. 18, 2007).

[13] GAO, *Combating Nuclear Smuggling: DHS's Program to Procure and Deploy Advanced Radiation Detection Portal Monitors Is Likely to Exceed the Department's Previous Cost Estimates,* GAO–08–1108R (Washington, DC: Sept 22, 2008).

[14] GAO–10–1041T.

[15] GAO–11–829T.

I will now recognize myself for 5 minutes of questions and then we will proceed with other panelists.

Mr. Stern, the ASP program, you mentioned that it does not seem to work very well. Yet we have 13 of the systems that you are going to put out there. If it does not work, why are we putting it out there? Are you telling us it works for a limited purpose?

Also you mentioned the handheld utilizing new material that was not available until very recently. Is there any adaptation of that material to the larger monitors such that you know trucks can go through them as opposed to handheld? Because we have all talked about the labor-intensive nature of the handheld, the difficulty in getting around and checking the entire cargo and so forth.

Mr. STERN. Yes. Thank you. I appreciate the question.

The decision on ASP was a very difficult one. As you know over the years a significant amount of money has been invested in the ASP.

When I came to be director of DNDO I looked at the ASP program and since then two key things have occurred. One is we have our National Academies of Science report that suggests that our testing in the past was not optimum. The second is in working in field validation with the user, we discovered that the requirement that had been agreed at the beginning for the speed passing through it is no longer valid. So, we had to make a course correction.

Now, that course correction involves many elements. Your specific question is about the 13 ASP systems that we have and whether we are testing them. The answer is no, we are not testing them for the purpose of going forward.

We have these 13 systems billed and paid for. Four of them are already in the field. We are using them so that we can learn from them so that users in the field can understand what a spectroscopic portal can do for them generically. They can help define their requirements for some future commercial competition.

For us at the technical level, there is a big need if we are going to move to the model-test-model approach recommended by the National Academies of Science. There is a big need for being able to model the stream of commerce and the radiation that is in the environment.

So, again, these systems have been paid for. There is some additional cost in actually deploying them. But the benefit to making the best use of the money that we have invested, of learning technically from them that the data will go forward, as well as users defining their need, I think are worthwhile applications for the existing systems.

Mr. LUNGREN. The whole reason we were developing the ASP is that we thought that the PVT program was not sufficient. Have we discovered ways to make the PVT programs more efficient? How do we sort of integrate that with the secondary screening? Are there inefficiencies that we have been able to work ourselves through?

Even though with the handheld that you have there, we still have the question of the labor-intensiveness of that. So how do you integrate that with the existing PVTs?

Mr. STERN. Yes. Well, thank you for the question. This is right on target.

The ways we are going to mitigate the loss of the ASP include an enhanced program for improving the PVTs. Now, the PVTs can do some degree of efficient analysis of radiation environment, but not nearly as much as spectroscopic portals.

So, we have an on-going program to improve the ability of the PVT to effectively identify radiation that is in the stream of commerce. That is actually going quite well. But I do not want to mislead you. A PVT is never going to be as effective in identifying nuclear material as a spectroscopic portal.

The handheld with the advanced concept of operation will help to identify new nuclear material. It obviously will not be as, again, effective as the large portal because size matters. But the—with the enhanced material we think we are making America safer by putting these out, but they are next.

I wanted to respond to your first question of whether we could make a portal out of the material that is in this device. In theory you can. I mean, there are challenges in building—in making large crystals. But the fundamental answer is when we go, when we are ready and when Congress is ready for us to look at commercial portals, spectroscopic portals, this material may be part of that portal structure in the commercial sector, or it may not be. We will have to see.

Right now spectroscopic portals are really made of one or two different materials, and not the materials in this device. But you know when we put out our requirements that will be well-defined over the next year. It may be that the commercial sector may decide that this material is—lanthanum bromide is an effective portal material. But we will have to see. It is the marketplace.

Mr. LUNGREN. Do we still have problems with false positives?

Mr. STERN. False positives will always be an issue. The more efficient a detector and effective a detector and the larger the detector you have, the less you will have.

Mr. LUNGREN. Was that not one of the reasons we thought ASP would be better than the PVT?

Mr. STERN. Yes. It is.

Mr. LUNGREN. Okay.

The Chairman recognizes Ms. Clarke for questions.

Ms. CLARKE. Good morning. Mr. Stern, I just wanted to do a little follow-up on the whole issue of the ASP. With the 13 systems out there are you making an additional budget request to Secretary Napolitano to continue the use of these 13 systems? Were there any types of contractual obligations of the vendor to recoup any of the funds paid in the event that the systems were not working?

Mr. STERN. I will have to check back on the contractual obligations. Our contract with the vendor has expired as of this month. Of last month, I am sorry. So, I do not believe there are any on-going contractual obligations.

Again, we will put the 13 systems in use that we have already paid for, and learn from them for the future.

Ms. CLARKE. Okay. Had there been a budgetary request of the Secretary for the maintenance of the deployment of the 13?

Mr. STERN. Yes. There has not yet been a budgetary request. That will be in the future, and we will need to work with OMB to examine exactly how that maintenance will be—or the data collection will be funded.

Relative to the cost of this program, it will be quite small. Again, the costs of this program have primarily been invested prior to 2009.

Ms. CLARKE. Okay.

Mr. Maurer, as a follow-up, your agency has done extensive investigation into the ASP systems. What is your initial reaction to this news? What questions would you have from GAO's perspective?

Mr. MAURER. Sure. Thank you.

I think my initial reaction to it was it helps turn the page for DNDO and the Department. This has been a troubling chapter for them for many years. It is good to see that they are sort of moving on.

It gives them also the opportunity to focus more broadly on the GNDA as a whole, rather than become fixated on ASP. So, I think it is good from that perspective.

More specifically, the plan to potentially deploy 13 of these systems to allow them to be used in real-world settings, we think that that sounds like a reasonable approach. I mean, obviously we have not looked into all the details.

But it does seem to address one of the fundamental concerns we have had over the years with DHS in that they have struggled sometimes in defining clear requirements for acquisition systems, including ASPs, as with many others. So, they can get better real-world information how this kind of system could be used, it could help make better decisions later down the road for future technologies.

Obviously the key caveat there is we would not want to see the continued fixation on the ASP program to the detriment of all the other aspects of the GNDA.

Ms. CLARKE. Thank you.

Mr. Pavetto and Mr. Stern, the Advanced Research Initiative is a joint DNDO-National Science Foundation program that seeks novel cross-cutting research.

I read recently that researchers at Fisk University and Wake Forest University have partnered to develop certain crystals that can be used to detect nuclear threats, and this research came through a $900,000 grant from the Office of Nuclear Proliferation R&D of the National Security—National Nuclear Security Administration. Can you explain the importance of promoting research of this kind throughout our Nation's universities?

Mr. STERN. Sure. I will start. Fundamentally we are at a state in detector technology that is a little bit ahead of where we were 40 years ago. Detectors are bigger, they are more efficient, they are better able to identify threats. But they are nowhere as near the physical limits of where they can be.

To move in that direction in a serious way we need dedication, discipline, and focus. We need basic research. Some of that basic research has to be done at laboratories.

We at DNDO—I mean at the universities and laboratories using the ARI program and other programs in DNDO we have already produced new material that can help move forward into the future that, for example, can help first responders and policemen and firemen by allowing them to identify and detect certain types of radiation you know with handheld devices they could not have a few years ago.

So, supporting basic research as well as more advanced research and development is an essential part of making America safer and preventing a nuclear attack.

Ms. CLARKE. Thank you.

Mr. Pavetto, just quickly.

Mr. PAVETTO. Thank you for the question. Yes, I will be very quick.

In addition to developing new technologies, in part because of the aging nature of our technical capability what we are doing is training the next—you know the next generation of scientists, engineers, and folks who can lend their expertise and their creative abilities to solving the problems that come up in the future.

Ms. CLARKE. Thank you very much.

I yield back, Mr. Chairman.

Mr. LUNGREN. Gentlelady yields back.

Now the baseball ringer for the Democratic Party, the one who hit his arm until he got out on the field, Mr. Richmond, is recognized for 5 minutes.

Mr. RICHMOND. Thank you, Mr. Chairman. Every once in a while somebody gets lucky, so I just had a lucky day.

Mr. LUNGREN. For nine innings?

Mr. RICHMOND. Extremely lucky day.

I just have—and to Mr. Stern, just a quick question. As we look at this, and I am trying to look at it from a comprehensive level as a Congressman who represents an area that has five of the largest 15 cargo ports in the United States, and the largest port complex in the world.

What we heard from our city and our leaders in New Orleans was that we were just cut from I believe it was the UASI grant program to help us in security. So, how do I reconcile the fact that we get cut on one hand, and then read your testimony and listen to the testimony where we talk about how important ports are in making sure that radioactive and nuclear devices do not come into our country?

So, I am having a hard time reconciling that. Not to mention that with three trade agreements on tap for sometime this year that could also increase the number of cargo that comes into the Port of New Orleans. It is kind of hard to do that. Maybe you can help me do that.

Mr. STERN. Yes. I cannot speak in detail to the UASI grant process as it is not within DNDO's focus. But, I mean fundamentally, we are being cut in many places. That presents challenges, which forces us to prioritize. This is actually one of the key reasons I think that in my testimony and in other times have talked about a new form of architecture, a surge architecture that is more economically, financially efficient.

It is unfortunate that we have to make certain cuts. At DNDO we work with State and locals to try and make sure that they understand the threats and the risks and how to approach grant applications and things like that. So, we try and bring the greatest force possible and the greatest forces available to nuclear detection. But there are sometimes bigger forces that affect all of us.

Mr. RICHMOND. In terms of risk assessment or probability of where a device or products or ingredients would come from, where does ports or seawater, where does that rank in terms of the likelihood of being used to get one of these devices into the United States?

Mr. STERN. Yes. There are various models that look at this. We have what is called the rentra process to examine different pathways into the United States.

Ports will always be an important element because they are an opportunity to constrain your adversary. So, the best that we can do at ports, and perhaps what we are doing now, is to ensure that they are good enough to deter the adversary from using those ports.

I think even on a smaller scale, and for example at New York City they use a similar approach in the sense that the best you can do is make that pathway more difficult than any other pathway. I think we are accomplishing that at ports.

Mr. RICHMOND. If anyone else wanted to comment on it, you very well can because I would be interested in hearing your information.

If not, Mr. Chairman, I will yield back.

Mr. LUNGREN. Thank you.

Okay. We have time for a second round.

I want to—I do not want to just focus on the ports, but if you know anything about the ports, if anybody knows anything about the ports you realize the tremendous challenge that is there with the—I mean the size of our cargo ships. I think you have—I think if I am not mistaken—I hope I do not get this wrong. I think it is like 8,000 cargo equivalents can be—units can be on a single ship. I mean it is enormous.

So the challenge of course is with all those opportunities for someone to do mischief, both bringing something into the port by way of truck, but also when it is delivered from overseas, the importance of being able to scan these things, to screen these things in an efficient manner is huge. That is why I keep coming back to the handheld.

That is great that we have the new material and that it can be used and so forth. But when you look at the magnitude of the challenge with these thousands of cargo units coming in, it just seems to me that while we do not want to fixate on the ASP, the program that has just been cancelled. I call it canceled; I realize you still got the 13.

The efficiency would require us to come up with something which allows us to do something more effectively with those that are not handheld. Is it that we just do not have the technology to do that? That the technological challenge has proven to be too much?

I guess I would ask you what is the fundamental problem with the program that we spent so much money and time on that you have now basically cancelled?

Mr. STERN. Okay. Thank you for the question.

The fundamental problem, if it is a problem, is that we have had a number of setbacks. In the interim in the commercial sector companies have developed a number of portals that again are commercially available. With that, and the challenges that I described earlier, it is my view and the Department's view that it does not make sense to proceed as we have been proceeding, but instead to take a step back and say the world has changed.

The amount of money that were invested many years ago were invested and there is nothing we can do about that. But we need to show leadership and make a core decision that makes the best use of American dollars——

Mr. LUNGREN. So, you are not giving up on the idea of portal monitors being something that we can improve in the future. But perhaps there is alternative ways of solving that problem.

Mr. STERN. Exactly. No question that I believe that at some point in the future America will have a next generation spectroscopic system. I think the decision today is that it does not have to be a system that—the specific system we have been working on.

Now, it may be when we open this up to commercial competition, it may be that that company will decide to compete, and it may be that they win.

Mr. LUNGREN. Okay.

Mr. STERN. We cannot prejudge that. But—and eventually we will have to replace the PVTs also.

Mr. LUNGREN. Mr. Daddario, especially for the interior layer, the local and State agencies do much that the GNDA would rely on in terms of detecting the movement of smuggling nuclear radiological materials. Yet, as I understand it the GNDA Strategic Plan addresses only the activities of the Federal agencies, unless I am mistaken on that.

Did your agency—city—police department participate in the development of the GNDA Strategic Plan? How have any of the Federal agencies with which you work solicited your comment on input on the role and responsibilities identified within the GNDA Strategic Plan?

Mr. DADDARIO. Mr. Chairman, I do not believe that we participated in the development of the plan. However, we do work closely with DNDO as part of Securing the Cities to create a strategy or an architecture, to use the word I think that commonly employed, for the protection of local areas, in our case New York City and the surrounding communities. But we were not involved in the development of the GNDA itself.

Mr. LUNGREN. Does that cause you any concern? In other words, do you think there is something that you and your department could contribute to the implementation, if not the development of the GNDA?

Mr. DADDARIO. We always think we can offer something useful. I would be concerned, except for the fact that we are working so closely and I think effectively now with DNDO on the Securing the Cities program that the fact that there is the plan, the GNDA plan that was created separately is really not of concern to me.

My—our concern at the police department is: Do we have the assistance of the Federal Government in supporting our objectives? I think we do have that.

Mr. LUNGREN. Thank you very much.

At this time I recognize the gentlelady from California, Ms. Richardson, for 5 minutes.

Ms. RICHARDSON. Thank you, Mr. Chairman.

Good morning, everyone, and thank you for being here in your service. Just a couple of questions that I would like to focus on; it seems as if we are still continuing to have problems with international air cargo. Our progress has not been as great as we would like.

Why has not DHS simply deployed sufficient PVTs and RIIDs to scan baggage and passengers at airports as you already do at land border crossings?

Mr. STERN. I am assuming that question is for me. Yes, we do have challenges in international air cargo. Each airport, unlike ports, is defined—are created very differently.

So, it is very hard to come up with a generic approach. Of course we have to find where a PVT effectively fit. So, we have not yet gotten to the point where we can define a localized architecture for an airport for commercial cargo.

I will take this just quickly as an opportunity to state, the way I am looking at the architecture, and the way we are looking at the architecture now is very differently than we looked at the architecture a year ago. When I came in we were looking at a very static architecture.

But as an engineer and a physicist I know that technically and financially that is not achievable. So we are looking at the ability to surge assets in response to specific threats. We will be looking at air cargo in the same way.

Ms. RICHARDSON. Okay.

My next question is both the Chairman and I happen to come by way of California. My question is: Why has DHS made so little progress on systematically scanning railcars entering the United States from Mexico and Canada for nuclear and radiological materials?

You have told GAO that the rail companies can be difficult to deal with, and that this is a part of the reason for the lack of progress. What exactly are the rail companies' concerns? Is there anything this committee can do to help resolve the problem?

Mr. STERN. I have to say I am not familiar with that particular statement regarding the rail companies. But rail, as air cargo, does present a particular issue on a day-to-day basis because of the way trains operate.

In a sense, in an approach that relies on looking at trains on a day-to-day basis. On a day-to-day basis it is going to be very difficult to convince companies that are making a profit to stop their trains, for example, so that we can effectively measure their radiation.

But again, if we look at this new surge concept that when there is intelligence, when there is a threat, when there is a reason to act, we will have greater flexibility in the steps that we take to

scan, for example, trains or air cargo. I think we will come up with a very different solution and approach.

Ms. RICHARDSON. Okay. Let me be more specific. Do you have a process with screening at the railcars currently?

Mr. STERN. No——

Ms. RICHARDSON. With the various——

Mr. STERN. We have a program called IRAIL to try and find a solution to the problem. We do not have yet a process to scan railcars.

Ms. RICHARDSON. When do you expect to have that?

Mr. STERN. When do—I cannot give you a date right now because, again, we are reevaluating the way that we look at the architecture. The scanning that we do on a day-to-day basis will be different from the scanning that we do when there is a high-end threat.

Ms. RICHARDSON. Sir, are we talking about a year? Two years? Five years?

Mr. STERN. Years.

Ms. RICHARDSON. Years.

Mr. STERN. Not months, if that is the question.

Ms. RICHARDSON. Are you working with the industry themselves at this point?

Mr. STERN. I do not know. I will have to get back to you on that.

Ms. RICHARDSON. Who handles this area?

Mr. STERN. It is an element within DNDO.

Ms. RICHARDSON. Okay. But who is responsible?

Mr. STERN. I am.

Ms. RICHARDSON. Okay. So, you will get back to the committee on this information.

Mr. STERN. Yes, I will provide full detail.

Ms. RICHARDSON. Okay.

Mr. Chairman, I yield back.

Mr. LUNGREN. Gentlelady yields back.

The Ranking Member's recognized for 5 minutes, second round.

Ms. CLARKE. Thank you, very much, Mr. Chairman.

Let me just ask that you also get back with us regarding the contract on the ASP and whether there is anyway to recoup any dollars. We are just trying to find money wherever we can.

Let me say that as a native New Yorker how proud I am, Mr. Daddario, of the work that the New York City Police Department has been doing with its partners. Certainly this development of the wireless technology capability that you have talked about is extraordinary. You are to be commended for your pursuit of various technologies that could help not only our city, but cities across the Nation.

I have been a fervent supporter of the Securing the Cities Initiative along with our full Chairman, Mr. Thompson. We have worked very closely to preserve as much as we can the funding because we think that, as you have been able to demonstrate, with a focused support we can provide other municipalities and areas around the Nation with technologies that can be of assistance to them as well in protecting our Nation.

Let me ask: How successful as the STC program been in the New York City region? How much of that success depends upon coordi-

nation and cooperation between State and local partners? I am concerned about the partnership aspect of this.

Mr. Stern, if you could add also.

Mr. DADDARIO. First, Congresswoman, thank you for your kind remarks about the police department and your support for the STC program.

Coordination is essential for the success of this program. I think that what the police department and its partners have been able to do here is really unprecedented. We have put together really a community of law enforcement and public safety agencies working toward a common purpose, and I think very effectively is borne out in the April exercise.

But there is more to it than that. It is the way we have developed the system is to use at its core a network, and that is the—which Lower Manhattan Security Initiative and the control center. I would like to invite any member of the committee who would like to come and visit it to do so.

The network allows data from all kinds of sensors including cameras and radiation detectors to come to a common point and to be reviewed and the data to be collected and be subject to analysis. I think there is no other system like that anywhere.

With the development and the rolling out of the wireless capability we will be able to get enormous amounts of data, which I think will be useful to DNDO to assess the effectiveness of equipment, and to help figure out ways to both improve it and to improve the way in which it is deployed. There may be solutions, innovative solutions to the detection of radiological sources moving through time and space that will become apparent once this data is analyzed.

So, that is something we really want to be able to work closely with Dr. Stern and his people on. I know Dr. Stern has invited us to meet with his researchers, and I think that is a very good step and a strong sign of the good partnership we have with the Federal Government.

Mr. STERN. Yes, just to echo quickly what Deputy Commissioner said, coordination is one of the primary benefits of the STC program. Within which 13 local organizations led by the NYPD have acted together. This was demonstrated, of course, in the exercise this spring.

I think there is good cooperation and coordination between the STC program and Federal entities. But I think as part of this surge concept we need to move forward and enhance that. That, of course, is one of the key elements of the next phase of the STC program.

So, overall there is incredible amount of cooperation and coordination on the local and State level, and with the Federal level. But in terms of moving the program forward I think we need to put this together into one big surge concept where when there is a threat we are all ready to act.

Ms. CLARKE. So, having that construct in place already makes that surge capability more likely and certainly enables it to happen more fluidly. Would not you say?

Mr. STERN. No question. You are completely correct. State and local authorities have to be the cornerstone of the surge because

they are the only ones that have control on the ground with the capabilities and the manpower. So.

Ms. CLARKE. Thank you very much.

I yield back, Mr. Chairman.

Mr. LUNGREN. Thank you very much. Gentlelady yields back.

I want to thank the witnesses for the valuable testimony, and the Members for their questions. The Members of the committee may have some additional questions for you. If we do, we will submit those to you in writing. We would ask that you would respond to these in writing.

This hearing record will be held open for 10 days. Thank you, not only for your testimony, but for the service that you are rendering this Nation in your particular responsibilities.

This subcommittee stands adjourned.

[Whereupon, at 11:27 a.m., the subcommittee was adjourned.]

APPENDIX

QUESTIONS FOR WARREN M. STERN FROM CHAIRMAN DANIEL E. LUNGREN

ADVANCED SPECTROSCOPIC PORTAL (ASP) PROGRAM

Question 1a. Given the news in your testimony that after 5 years, you will be ending the ASP program, can you please explain: How the Department came to this decision now?

Answer. The ASP Program was established in 2004 to improve radiation and nuclear detection capabilities at our seaports and land border crossings and to address technical deficiencies in the existing radiation portal program. Over the years, the program has faced many operational and technical challenges. In February 2010, the then-Acting Director of DNDO briefed Congress that we were limiting consideration of certification of the ASP program to secondary scanning rather than primary scanning due to technical challenges and cost.

Since then, there has been an important development. The most recent field validation revealed that the original design specification for ASP, jointly developed by CBP and DNDO in 2007, does not adequately reflect the operational needs in the field, particularly truck speeds for secondary inspection.

Question 1b. Why will you be deploying 13 ASP systems?

Answer. We will immediately begin to utilize a total of 13 existing ASP Low Rate Initial Production (LRIP) systems at select ports of entry to facilitate operational familiarity with the systems and gather data to support future acquisition programs.

Question 1c. Where are the funds to deploy the 13 ASP systems coming from?

Answer. DNDO will use Radiation Portal Monitor Program (RPMP) funds to deploy 9 of the 13 ASP LRIP units to ports of entry and to move the 4 currently deployed units to new positions at ports of entry. Secretary Napolitano has directed DNDO and CBP to work with the Office of Management and Budget and the Appropriations subcommittees to make recommendations on redeploying the requested fiscal year 2012 resources, prioritizing the procurement of next-generation handheld detection and identification systems.

Question 1d. What is the anticipated time frame for initiating a future acquisition program of advanced radiological and nuclear detection systems to replace the ASP effort?

Answer. We anticipate that a new acquisition program, incorporating revised operational requirements and the model-test-model approach recommended by the National Academy of Sciences to detector evaluation will be initiated based on the data collected from the ASP LRIP units.

Question 2. It has been reported by GAO that energy windowing might improve the ability of the current PVT radiation portal monitors to detect certain nuclear materials and be more cost-effective than ASPs. Have you completed this energy windowing research and updated this capability of the currently deployed PVTs? If not, when will this be complete?

Answer. We are developing methods for improving the current generation of polyvinyl toluene (PVT)-based portal monitors, including studies on energy windowing. We expect to evaluate these projects for PVT improvements and make a determination on deployments in fiscal year 2012. Please note that PVT systems are equipped with current energy windowing algorithms that were upgraded previously. Additionally, improved material detection, while laudable, is not a satisfactory substitute for material identification, and PVT systems with energy windowing will not be capable of identifying nuclear material.

HELIUM-3 SHORTAGE

Question 3a. I understand that DNDO is developing alternative neutron detection technologies to replace Helium–3 detectors in radiation portal monitors because of the shortage. But the validation process appears to be moving slowly.

What is the status of this effort for near-term alternatives?

Answer. Boron-lined tube alternative to 3He The Alternate Neutron Detector Module (ANDM) has been integrated into an RPM and the system was successfully installed at the Port of Oakland for field validation that was recently completed.

DNDO also sponsored the Neutron Detector Replacement Program (NDRP). By working with several vendors simultaneously to find a commercial solution to an alternative technology to helium-3 based neutron detectors, DNDO is encouraging competition that we expect will lead to cost reductions, increased availability, and an acceleration of the replacement detectors to the commercial market. DNDO tested a total of 11 near-commercial-ready systems at the Nevada National Security Site this summer. (Please see table below.) Testing recently concluded and we are analyzing the results.

Four of the 11 systems were provided in response to a DNDO-issued request for proposal.

MODULES TESTED AT NNSS

Item No.	
1	^{6}LiF/ZnS(Ag) Wavelength-Shifting Fibers
2	5″x60″ LiF/ZnS(Ag) Wavelength-Shifting Fibers
3	Boron-lined copper tube proportional counters (straws)
4	PVT Wavelength-Shifting Light Guide
5	NeuSand© Neutron Detector Module
6	Boron Tri-Fluoride (BF_3) Design
7	n-Gamma PVT detector for both gamma-ray and neutron detection (test against neutron sources only)
8	Gas Avalanche Neutron Detector (GAND)
9	Neutron Reference Detection System (NRDS) (formerly referred to as the R3D)*
10	HPGe spectrometer (ground truth)*
11	Shielded Neutron Assay Probe (SNAP)*

*Numbers 9, 10, and 11 are reference detectors (i.e., used to analyze) that were not tested but were utilized to provide measurement information.

Question 3b. When do you plan to resume production and deployment of radiation portal monitors with the new technology?

Answer. At the end of July 2011 DNDO completed its evaluation of the boron lined tube alternative to helium-3. Although the alternative passed all the functional requirements, the has demonstrated that there are other more cost-effective technologies available that should be considered before the final selection is made. Furthermore, by evaluating the other alternative technologies to replace the helium-3-based neutron detectors, DNDO is encouraging competition in the commercial sector, reducing the overall cost, and improving manufacturability of the new technologies. The current plan is to complete the evaluation process against possible alternatives to helium-3 neutron detection and procure the new systems in the last fiscal quarter of fiscal year 2012.

Question 4. What are your top three priorities with respect to implementation of the domestic GNDA?

Answer. Priority No. 1: Domain awareness remains the No. 1 GNDA priority. The ability to detect, identify, and encounter conveyances and people in land, air, and sea pathways as they cross U.S. borders establishes the foundation for the prevention of radiological and nuclear threats being transported into the United States.

Priority No. 2: The development of advanced technology that increases the ability of the United States to detect and identify radiological/nuclear threats, particularly the more difficult to detect nuclear weapons, component parts, or special nuclear materials.

Priority No. 3: Reinforcing nuclear detection capabilities within the interior by increasing State and local nuclear detection programs and partnerships. State and local agencies serve as a force multiplier, significantly augmenting Federal nuclear detection capabilities within the U.S. interior. Efforts such as the Securing the Cities Initiative establish a baseline nuclear detection capability for State and local agencies, which can be mobilized in the event of actionable intelligence in addition to providing a deterrence effect in day-to-day operations.

Question 5a. Although the DHS strategic plan for the Global Nuclear Detection Architecture issued in December 2010 is a very positive development, the plan is very short on the specific information that might give this committee some indica-

tion on whether acceptable progress in developing and deploying the architecture is being made.

How do you measure progress and sufficiency in implementation of the GNDA?

Answer. DNDO uses a number of mechanisms to measure progress and effectiveness of various elements of the GNDA. Examples include, but are not limited to, exercises, pilot-programs, stake-holder working groups, and red team assessments. In addition, DNDO, in partnership with the National Academy of Sciences (NAS), has started a project to develop metrics for the GNDA. With the help of the NAS, DNDO will be developing quantitative and qualitative metrics to measure effectiveness of the GNDA. These metrics will be incorporated into the GNDA Implementation Plan, currently in development and expected to be completed by the end of this calendar year.

Question 5b. How would you rate overall progress in implementing the GNDA, as well as the performance of the various agencies within it?

Answer. As reported in Section 6 of the GNDA Annual Report 2011, there have been substantial improvements to the GNDA in the past 5 years. While quantitative ratings are difficult to generate, overall progress in deploying systems and establishing detection capabilities has been very good. Additionally, significant progress has been made in the past year on coordination and reporting.

Question 6. How is the GNDA being used to inform program planning and prioritization?

Answer. The GNDA is used throughout the solutions development process to prioritize and plan all DNDO programs. In particular, the GNDA is used in the first stage of the process to identify and prioritize needs in the GNDA that must be addressed by U.S. Government programs. From this analysis, DNDO prioritizes its programs to address the gaps within DNDO's area of responsibility. The GNDA is used later in the process to evaluate effectiveness of DNDO programs and to refocus resources to ensure DNDO continually targets its resources to the highest priority gaps.

Question 7. Does DNDO provide any GNDA analysis support to other Federal, State, and local agencies to help inform planning and prioritization of their activities?

Answer. DNDO's GNDA analysis, created with its the stakeholders, can serve as a useful data point to help inform planning and prioritization of activities, identify gaps and vulnerabilities, and offer potential solutions to address weaknesses.

DNDO has also developed a Preventive Radiological and Nuclear Detection Capability Development Framework for use by State, local, and Tribal agencies in determining targeted levels of radiological and nuclear detection capability based on risk factors and increased likelihood of encountering illicit radiological and nuclear material. The CDF serves as a tool for users to determine targeted levels of assets and capabilities for nuclear detection.

Additionally, DNDO's Joint Analysis Center examines radiological/nuclear-related information from detectors, the intelligence community, law enforcement, and other sources to help develop, improve, and operate the GNDA. This information and related analyses are provided to stakeholders/decision makers in a timely manner to help them plan and prioritize their activities.

Question 8. What mechanisms are in place to harmonize efforts among agencies involved in the GNDA so that their programs all work together toward the GNDA strategic goals?

Answer. DNDO is in the process of formalizing the interagency governance structure leveraged for the development of the GNDA Strategic Plan and the Joint Interagency Annual Review. This coordinating body will include representatives from the DHS Nuclear Terrorism Working Group and Nuclear Terrorism Sub Group, as well as representatives from the interagency.

Question 9a. The GNDA strategic plan identifies Federal agency roles and responsibilities within the GNDA. While State and local radiological and nuclear detection capabilities are key to the success of the GNDA, especially in the interior layer, the GNDA strategic plan does not attempt to assign roles or responsibilities to State or local officials.

What input did DNDO gather from State and local agencies during the development of the GNDA strategic plan?

Answer. DNDO did not expressly solicit input from State and local agencies for the GNDA strategic plan during its development; however, DNDO personnel have had extensive interaction with the State and local community over the past several years, and insights gleaned from those interactions significantly contributed to the development of the strategic plan.

Question 9b. How are the Federal roles and responsibilities communicated to State and local participants?

Answer. Since the release of the GNDA Strategic Plan in December 2010, DNDO has shared the GNDA Strategic Plan with State and locals through outreach forums such as DNDO's State and Local Executive Steering Council, the State and Local Stakeholder Working Group meeting, and the Community of Interest website.

Question 10a. While the GNDA strategic plan is complete, no plan yet exists to implement this plan.

What are your plans to develop a domestic implementation plan?

Answer. DNDO currently is coordinating development of a DHS Domestic Implementation Plan, which is expected to be completed by the end of calendar year 2011.

Question 10b. Will this plan reflect only DHS roles and responsibilities or will it include other Federal, State, and local domestic efforts?

Answer. The current plan will address DHS roles and responsibilities within the domestic portion of the GNDA and will address other Federal, State, and local efforts as related to DHS's programs and efforts.

Question 10c. When will a Federal domestic implementation plan including all participating agencies be complete?

Answer. The current plan is for DNDO to coordinate a Government-wide domestic implementation plan immediately after completion of the DHS Domestic Implementation Plan. We expect that effort to begin in calendar year 2012.

Question 11a. The Federal approach to the GNDA appears to have shifted from being highly technology-focused to a "surge architecture," in which intelligence information and other factors play a more prominent role.

What prompted this philosophical change?

Answer. The change emphasizes the importance of having the ability to surge GNDA assets and capabilities in response to specific intelligence information. Much of the GNDA is designed to conduct steady-state (day-to-day) operations. However, the systems that comprise the GNDA also need the ability to adjust to information and intelligence. Given the physical limitations of detection and the current fiscal environment, in order to respond to warnings or advance information about threats we will need to operate in ways that we could not sustain on a day-to-day basis, and will need to surge capabilities, thus the term "surge architecture." Ensuring that those plans, procedures, and capabilities exist and can be executed on short notice when needed is the thrust of this new focus. Notwithstanding, both steady-state and "surge" operations are vital to ensuring a holistic approach to combating the threat.

Question 11b. Can you give a couple of examples of how the architecture would surge?

Answer. Surge means to augment or introduce additional nuclear and radiological detection or search assets and capabilities into a geographic area or pathway for a limited time to address a potential threat or heightened vulnerability, increase deterrence, or respond to a credible threat.

For example, if information is received that indicates a threat is inbound to a target, the components of the architecture can "surge" (through the augmentation or introduction of additional assets and capabilities) to a specific area to address the threat.

A second example would be a major public event (NSSE or SEAR level) in which additional assets and capabilities can be introduced to a venue during the event.

Question 11c. Has this conceptual shift altered existing programs in terms of deployments and budgets?

Answer. The impact of surge to date has been more focused on ensuring that existing programs and systems have the ability to surge if needed, although future year budget requests include small shifts to focus on the development of additional "surge-able" Federal assets.

Question 11d. Would DNDO's "surge" concept apply globally, as well as domestically?

Answer. The concept would apply both globally and domestically.

Question 12. DNDO appears to be making progress in developing standards for nuclear detection systems. How are these standards applied to equipment used at the Federal, State, and local level?

Answer. DNDO has two primary standards programs: A program to support voluntary consensus standards development and a program to support the development of Government-unique technical capability standards.

DNDO works with the National Institute of Standards and Technology (NIST) to support working groups including representation from vendors, users, customers, Government, and academia. The working groups identify standards requirements and develop consensus standards to satisfy those requirements. Existing consensus standards are also periodically reviewed to determine when updates are required. These identify the basic criteria for performance, functionality, and operability and

are used across Government and the private sector for equipment development and design. These voluntary standards are applicable to equipment in use at the Federal, State, and local level.

DNDO has also created the Graduated Radiological/Nuclear Detector Evaluation and Reporting (GRaDER^{SM}) program to facilitate vendor-funded testing of commercial-off-the-shelf (nuclear detection and identification equipment, against consensus standards. DNDO is working with NIST National Voluntary Laboratory Accreditation Program to accredit laboratories to test vendor equipment against the consensus standards at any time, in addition to DNDO-funded testing. Test results may be made available, with vendor permission, to appropriate Federal, State, and local entities through the FEMA Responder Knowledge Base website. GRaDER^{SM} tests equipment in a uniform way against the consensus standards and makes sure that results are presented in a standardized format.

The Government unique standards program is threat-informed and supports the development of technical capability standards (TCS) for radiological and nuclear detection. The SAFE Port Act of 2006 directed the Secretary, through the Director of DNDO, in collaboration with NIST, to develop TCS for non-intrusive imaging and radiation detection equipment in the United States. The TCS Working Group is an interagency group also supported by several National laboratories. The TCS will be used to define testing requirements in addition to those contained in existing voluntary consensus standards. This additional testing will assist Federal, State, and local agencies in identifying the particular equipment best suited to their needs.

Question 13a. Can you briefly explain progress being made to address gaps in the architecture that DHS and GAO have raised in the past? Specifically:

Scanning railcars entering the U.S. from Mexico and Canada?

Answer. DNDO is collaborating with CBP on the International Rail (IRAIL) program to identify solutions to address the operational and technical challenges of scanning railcars. Actions completed include:

- Mission Needs Statement (MNS), signed by both CBP and DNDO.
- Preliminary CONOPS (P–CONOPS)—Fiscal year 2011.
- Capability Development Plan (CDP)—Fiscal year 2011. The CDP sets the framework for an Analysis of Alternatives (AoA) which leverages other work activities including the International Rail Threat and Gap Study. The AoA, which is anticipated to begin at the end of fiscal year 2011, and assess potential scanning solutions and their associated tradeoffs.
- Completed a study on International Rail threats and have consolidated findings that will guide further program implementation. DNDO is evaluating responses to a Request for Information issued in 2010 to inform the AoA.
- DNDO has also engaged in discussions with Second Line of Defense (SLD) to leverage lessons learned from SLD's deployment of radiation detectors in foreign countries.

Question 13b. Scanning international air cargo? (e.g., Why can't DHS deploy the current PVT technology in combination with RIIDs to scan baggage and passengers at airports as you already do at land border crossings?)

Answer. Fixed RPMs are currently installed at three airports to scan inbound air cargo. Since the fall of 2010, significant efforts have been made to characterize air port of entry (APOE) environments to support planning and evaluation activities, leading to an appropriate deployment of fixed, mobile, relocatable, and human portable systems to scan inbound international air cargo. DNDO is currently working closely with CBP to develop a mission needs statement, capability development plan, and preliminary-CONOPs based on findings from the APOE characterization efforts. The culmination of these efforts will inform the selection of radiological and nuclear detection systems at APOEs in the future.

Regarding passengers and baggage, in early 2011 radiological and nuclear scanning systems for commercial passenger/baggage were commissioned at two preclearance sites. DNDO and CBP also completed a pilot program to determine operational feasibility of scanning international passengers/baggage at APOEs. DNDO is currently conducting a cost/benefit analysis to assist in determining the relative prioritization of international passenger/bag scanning. Depending on results of this cost/benefit analysis; DNDO will engage CBP on options for future capability development within that pathway.

Question 13c. Scanning for radiation in the maritime environment? What has DHS learned from the pilot projects in San Diego and Puget Sound and how does the Department plan to act in response to this experience?

Answer. The following are the key lessons learned from the West Coast Maritime Pilot (WCMP) effort in the San Diego and Puget Sound regions:

- State, local, and Tribal maritime law enforcement and first responder assets are a proven force multiplier and can greatly increase the number of vessels

screened during routine operations. In Puget Sound, training and equipping State, local, and Tribal maritime forces will potentially increase nuclear detection screening substantially.

- USCG leadership is key to establishing an effective regional nuclear detection framework. During the exercise (highlighted again during the STC maritime exercise) USCG provided the command, control, and coordination when establishing security zones.
- The Area Maritime Security Committee (AMSC), led by the USCG Captain of the port, provides an ideal framework for establishing a regionally-based small vessel nuclear detection program. In accordance with the Maritime Transportation Security Act of 2002 and 33 CFR Part 103, the AMSC is required to coordinate Federal, State, and local actions to enhance the security of the Maritime Transportation System.
- Most regions will likely require support from existing State, local, and Tribal maritime agencies or from other agencies outside of the region to establish a maritime nuclear detection security zone.
- Nuclear detection is a perishable skill, requiring frequent refresher training and drill training to stay proficient.
- The pilot was beneficial in other mission areas outside of nuclear detection because it brought together agency representatives on a regular basis, and gave them the opportunity to interact one-on-one, and as small regional groups. The benefits of collaboration were echoed by the majority of agency representatives who participated in the pilot.

These lessons learned, CONOPs and SOPs, equipment selection guide, training guidance, and other supporting documentation produced for the WCMP are being consolidated and will form the basis for nuclear detection capabilities in other regions, significantly reducing the amount of time and resources needed to establish additional capabilities. DNDO's Maritime Program Assistance will work through the regional AMSCs to provide guidance in developing a regional approach to maritime nuclear detection and take advantage of existing coordination mechanisms already established in the maritime region.

Question 14. During a site visit to New York several years ago, the committee was informed of the risks and security issues associated with radiological sources used in many of our major hospitals. Is DNDO still involved in addressing this security gap? If so, what progress has been made in this area? Can you explain the decision that was made to exclude source security activities from the GNDA?

Answer. Source security is vitally important to radiological terrorism defense overall, and the notification of the loss of security for radioactive sources should serve as a trigger for the GNDA. However, DNDO has determined to focus on its core responsibility—which is to find nuclear and radiological material out of regulatory control rather than focus on efforts that are being covered by other USG partners' efforts. DNDO remains engaged on source security issued through interagency trilateral meetings with DOE, NRC, and DHS. The STC program in NYC includes a subcommittee focused on source security issues in the NYC region, as well.

Question 15. Can you address the degree to which alarm resolution protocols are established and shared across Federal, State, and local levels to ensure that alarms lead to timely and effective response to include notification of appropriate authorities?

Answer. DNDO established standardized alarm adjudication protocols for Federal alarms in the classified annex to NSPD 43/HSPD 14. Protocols for the National level reachback are communicated with Federal, State, and local mission partners, including triggers for escalation to higher levels. The annex also covers notifications when alarms reach certain levels. State and local protocols vary from State to State and among organizations within a State, but the Joint Analysis Center collects these various protocols to maintain awareness of how alarms progress through the S&L level into the Federal system.

Question 16. According to the Homeland Security Act, DHS has operational control of the Nuclear Incident Response Team (NIRT) in connection with an actual or threatened WMD attack. The Act also makes DHS responsible for setting standards for the NIRT and certifying when those standards are met. How is this implemented?

Answer. This question should be directed to the Federal Emergency Management Agency (FEMA), which is responsible for implementing the NIRT.

Question 17. The FBI has emerged from the strategic planning process with more responsibility within the GNDA than it previously had. As the coordinator of the strategic planning process, can you describe how the FBI rose to this prominent role?

Answer. DNDO is a National-level that includes personnel detailed from the FBI. Both NSPD–43/HSPD–14 and the SAFE Port Act of 2006 articulate responsibilities for the Attorney General relative to the GNDA, and the FBI has played an active role in DNDO from the early days of its existence. Execution of the GNDA requires substantial law enforcement efforts—at Federal, State, local, and Tribal levels—so it is quite appropriate for the FBI to have such a prominent role. In addition, in the event of a nuclear or radiological incident, the FBI, as the lead Federal agency for criminal investigation, will need to work closely with others with preventive, GNDA responsibilities, providing intelligence and other information in order to prevent further attacks.

Question 18a. According to DHS policy, the S&T Directorate is responsible for reviewing mission need statements, concept of operations documents, and operational requirements documents.

Can you describe DNDO's interaction with S&T in this regard?

Question 18b. Have these interactions changed over the last couple of years and how important are they for the effectiveness of the GNDA?

Answer. The GNDA outlines the requirements needed to secure the borders of the United States whether the detection function is performed domestically or abroad. The S&T Directorate responsibility within the Department to review the mission need statement, concept of operations documents, and the operational requirements documents in order to ensure that appropriate testing and acquisition procedures are being applied to large acquisition progams (DHS Level 1 and Level 2 programs). By having an independent organization like S&T review these documents and weigh in on the technical merit ensures good technical judgment and sound principals will be used in the field.

Question 19. What lessons have been learned from STC implementation in the New York City region, specifically from the recent full-scale exercise in NY?

Answer. DNDO has recorded lessons learned from the STC Program since its inception. These lessons have been incorporated into program guiding documents such as the funding opportunity announcements and in the draft program plan that will be provided to Congress later this year. These lessons are further documented in assessment reports produced by DNDO's Red Team and Net Assessment's Directorate and an external assessment of the program that have been previously provided to Congress.

DNDO is currently finalizing an assessment report detailing lessons learned from the April 2011 STC full-scale exercise. Some initial observations include:

- Full-scale exercise demonstrated nuclear detection readiness by the vast majority of law enforcement personnel involved.
- Most participants had equipment ready, were familiar with its use (from training), and showed an acceptable level of experience.
- Although not an element of the STC CONOPs, the Emergency Operations Center (EOC) facilitated the flow of information and event visibility throughout the STC region. NYPD and the STC CONOPs committee will incorporate an EOC into the CONOPs, based upon the exercise.
- The DNDO JAC was utilized for reachback support extensively during the 5-day event.

Question 20. Are you helping NY develop metrics by which progress of the STC initiative can be measured and to help determine when NY has achieved a level of capability that is sufficient and would require sustainment?

Answer. DNDO is establishing measures to evaluate the degree to which STC meets program goals and objectives and is working with its STC partners to collect quarterly information to gauge progress toward meeting these program goals and objectives.

DNDO has provided tools to assist State, local, and Tribal partners (including STC NYC partners) to help determine sufficient capability. The PRND Capabilities Development Framework (CDF) assists State, local, and Tribal jurisdictions to identify and develop targeted levels of radiological and nuclear detection capability based on risk factors and increased likelihood of encountering illicit radiological and nuclear material.

DNDO will require the STC NYC partners to deliver a regional sustainment plan detailing each partner's plans to maintain equipment and personnel proficiency. The STC partners must be prepared to sustain/support radiological and nuclear detection capabilities beyond DNDO direct financial assistance.

Question 21. This committee often hears about issues associated with sustaining and upgrading existing capabilities at the State and local level. How will DNDO support States and locals in this effort?

Answer. STC provides funding to establish an initial nuclear detection capability in the STC region. This initial capability also includes funding to maintain equip-

ment and maintain proficiency of operators during Phases I and II of implementation. The STC partners must be prepared to sustain/support radiological and nuclear detection capabilities beyond DNDO direct financial assistance.

QUESTIONS FOR CARL PAVETTO FROM CHAIRMAN DANIEL E. LUNGREN

GLOBAL NUCLEAR DETECTION ARCHITECTURE

Question 1. What are the DOE's three priorities with respect to implementation of the domestic GNDA?

Answer. NNSA works closely with the Domestic Nuclear Detection Office (DNDO) in planning and implementation of the Global Nuclear Detection Architecture (GNDA). The Office of Emergency Operations operates primarily within the U.S. Target Vicinity and the U.S. Target Layers of the GNDA. The top priority for the Office of Emergency Operations is the development and implementation of the Interagency Domestic Radiological/Nuclear Search Plan (IADRNSP). This plan is a joint effort of the Federal Bureau of Investigation (FBI), the DNDO, and the Department of Defense (DoD). The plan was formally approved by the four partnering agencies and the White House National Security Staff on May 27, 2011. Implementation of the GNDA is the DOE's priority. Accordingly, the Office of Emergency Operations has the lead in developing the DOE-specific tactical guidelines for IADRNSP. This work is on-going.

Question 2. Are you working on a domestic implementation plan with DNDO or separately?

Answer. NNSA's Offices of Defense Nuclear Nonproliferation and Emergency Operations work together with DNDO (and other Federal agencies including FBI and DoD) to develop a Global Nuclear Detection Architecture (GNDA) implementation plan. This joint work is being conducted through the same Interagency Working Group that led to the development of the Joint Annual Interagency Review 2011, GNDA Strategic Plan 2010, and the Joint Annual Interagency Review 2011 GNDA Annual Report. DNDO has indicated that it will initially develop a DHS domestic implementation plan before proceeding to an interagency implementation plan. Although NNSA's Global Threat Reduction Initiative (GTRI) is not a component of the GNDA, GTRI has made a concerted effort to coordinate its implementation plans and progress with DNDO and others in the interagency.

Question 3. What mechanisms do you have to coordinate or interact with DNDO with respect to the GNDA?

Answer. NNSA's Offices of Defense Nuclear Nonproliferation and Emergency Operations participate in several working groups with DNDO on the Global Nuclear Detection Architecture (GNDA) and participated in the Policy Working Group that developed the GNDA Strategic Plan and produced the GNDA Joint Interagency Annual Report.

The Office of Emergency Operations is a party to several interagency agreements that allow DNDO to leverage DOE's technical and operational resources. For example, the Office develops and carries out training and exercise programs in a collaborative effort with DNDO that ultimately leads to synergies in the Nation's response capabilities and capacity. Specifically, the Office of Emergency Operations supports DNDO's Securing the Cities Initiative (STC), provides training pursuant to the Preventative Radiological Nuclear Detection (PRND) training program, provides training under the TSA Visible Intermodal Protection and Response (VIPR) training program, and provides equipment and technical support to DNDO for its Mobile Detection Deployment Program (MDDP).

The Office of Emergency Operations provides National Reachback for spectral analysis of radiological and nuclear material through two pathways—through radiological Triage whereby international, Federal, State, Tribal, and local officials can obtain spectral analysis at no cost, and, through providing technical assistance to DNDO's Secondary Reachback (SRB) program.

DOE/NNSA and DNDO have been and will continue to cooperate on procedures for data submission, analysis, and reporting to provide consistent, high quality, responses and information to the National leadership in the event of a nuclear or radiological incident.

NNSA's Second Line of Defense (SLD) program works with DNDO as part of the Border Monitoring Working Group to coordinate international cooperation on detection monitoring activities at borders related to nuclear security.

SLD also participates in the equipment test and evaluation campaign, ITRAP+10, an effort managed by DNDO and the European Commission Joint Research Centre. Additionally, SLD participates in the development of guidance documents related to

the prevention of global illicit trafficking organized by DNDO under the auspices of the Global Initiative to Combat Nuclear Terrorism (GICNT).

NNSA's Global Threat Reduction Initiative (GTRI) participated in the Policy Working Group contributing to the GNDA Strategic Plan and Annual Report. Additional on-going coordination occurs through frequent meetings with the Department of Homeland Security (DHS), including DNDO, the Nuclear Regulatory Commission (NRC) and the Federal Bureau of Investigation (FBI). GTRI and DNDO also both participate in the 13-agency Interagency Task Force on Radiation Source Protection and Security, which includes representation from the Organization of Agreement States and the Conference of Radiation Control Program Directors. Similarly, DNDO and GTRI participate as members of the Nuclear Government Coordinating Council (NGCC) that consists of Federal and State government entities with a role and responsibility in nuclear security as well as radiological emergency preparedness and response activities. Also, GTRI has shared its threat reduction studies with DNDO and has provided internationally recognized National laboratory subject matter experts to participate in DNDO's studies.

NNSA, through its nuclear counterterrorism program, is working closely with DNDO, the National Institute of Standards and Technology (NIST), and the interagency to develop standards for the various types of detectors. These standards will include minimum detection levels and capabilities as well as testing and verification procedures for portal, backpack, mobile detector, and radioisotopic identification systems. The Office of Science and Technology Policy/National Science and Technology Council's Committee on Homeland and National Security sponsors a subcommittee on standards, the goal of which is to develop National consensus on the standards and a National test and infrastructure for Chemical Biological Radiation Nuclear Explosive (CBRNE) technologies.

NNSA also supports DNDO's mandate regarding the GNDA by providing an employee as a detailee to DNDO.

All of these efforts are in addition to the interagency work on the GNDA Strategic Plan 2010 which included representatives from a number of DOE/NNSA organizations and the Joint Annual Interagency Review 2011 to which NNSA fully contributes.

Question 4a. The GNDA strategic goals may differ from the goals of specific NNSA programs. As a result, GNDA priorities, viewed separately from other NNSA priorities may suggest increased or decreased investment in existing programs.

How does NNSA consider the GNDA strategic goals when prioritizing NNSA programs and developing budgets?

Answer. The GNDA strategic goals are accounted for in NNSA's planning, programming, budgeting, and evaluation (PPBE) process. Integral to this process is the creation of an integrated priority list (IPL), which is a successful mechanism for program managers to conduct internal trade-off analyses within a defined budget target. NNSA has an exemplary track record of supporting interagency needs that can be met through its programs and the array of capabilities available throughout its nuclear security enterprise.

Question 4b. How does NNSA evaluate programmatic progress or success in context of the GNDA?

Answer. Most work undertaken in partnership with, or on behalf of, an interagency partner is accompanied by a memorandum of understanding and a program plan. Program plans often include performance metrics and key milestones against which performance is measured.

Question 5a. The Implementing Recommendations of the 9/11 Commission Act of 2007 (Pub. L. 110–53) requires that each agency in the GNDA annually assess its participation in and implementation of the GNDA and jointly report to Congress.

What have been the results of NNSA's assessments?

Question 5b. What steps has NNSA taken to build upon these assessments in order to help inform NNSA's future investments?

Answer. NNSA's role is limited to submitting input to DNDO for the use in preparing the GNDA joint interagency annual report. NNSA and DNDO collaboratively perform planning reviews, program assessments, and prepare plans. As a result of this cooperation between the two agencies, NNSA and DNDO are able to jointly identify priorities.

Question 6. NNSA programs deploy a variety of radiation detection technologies such as backpacks, mobile detectors, and radio-isotope identifiers. These programs are all included in the GNDA. When considering technologies for use in the GNDA, do you coordinate with DNDO and other agencies acquiring similar technologies or requirements? Do you use the same design basis threat standards?

Answer. NNSA's Office of Emergency Operations and DNDO have worked and continue to work in a cooperative effort. Together, these two organizations have es-

tablished a Technology Integration Committee that, among other things, evaluates proposals for radiation detection technological enhancements and conducts joint testing of equipment.

The detection technologies used by the interagency are dictated by the physics of radiation interactions with matter. Further improvements to radiation detection require scientific and engineering developments that are on the forefront of our understanding of the underlying physics of radiation detection and materials science. Improvements to currently available technology are necessitated by the details of the physical implementation and the concept of operations of the teams involved. These details can differ significantly for these teams and can define the optimal technologies used. Government research programs for radiation detection are coordinated through the Office of Science and Technology Policy (OSTP), which sponsors the Nuclear Defense Research and Development subcommittee of the National Science and Technology Council.

NNSA routinely exchanges technical threat information with DNDO and the interagency. It does so in order to maximize the potential for radiation detection systems to detect existing and potential nuclear devices while maintaining the high levels of security that this extremely sensitive threat information requires. These potential threats include the full range of both improvised nuclear devices and State-built nuclear weapons. Both DNDO and the NNSA use this information to inform the standards for designing nuclear threat detection systems.

NNSA's Second Line of Defense (SLD) program coordinates and exchanges technical and operational information concerning nuclear security detection monitoring equipment with DNDO through a variety of formal and informal mechanisms. As part of this coordination, SLD experts have served as key participants in the Technical Capability Standards Working Group, created as a result of the requirements of the Safe Port Act of 2006, to publish technical capability standards for radiation detection equipment in the United States. The initial result, Technical Capability Standard for Hand-held Instruments Used for the Detection and Identification of Radionuclides is near completion and will provide an agreed-upon standard for U.S. deployed equipment. SLD utilizes research and deployment experience from multiple agencies, including other components of the Department of Energy, as well as the Departments of Homeland Security and Defense, determine what types of equipment to deploy. For example, the research and testing of handheld radiation detection equipment conducted by DoD and DHS have been reviewed by SLD in order to determine what type of handheld is most suited to carrying out its international mission.

QUESTIONS FOR RICHARD DADDARIO FROM CHAIRMAN DANIEL E. LUNGREN

Question 1. What are a few key lessons that have been learned from STC implementation in the New York City region, specifically from the recent full-scale exercise?

Answer. The STC exercise showed that the STC Concept of Operations (CONOPS) is an effective tool in the detection and interdiction of Radiological or Nuclear materials that may be a threat to the NYC region; it provides an effective framework for deployments and is reviewed periodically to ensure that it continues to effectively address evolving strategies and current terrorist tactics and threats. During the recent full-scale exercise (FSE), it enabled the STC partners to deploy in a coordinated manner utilizing equipment purchased through the STC program to address a notional threat. However, a few key lessons have been learned from the overall implementation of the STC program and as a result of the recent FSE.

- During the planning stages of the FSE it was determined that an Emergency Operations Center (EOC) would be needed to manage exercise activities. This EOC concept was not part of the original CONOPS; therefore, an EOC was setup for the exercise and will now formally be incorporated into a revised CONOPS.
  - The STC partners had representatives present in the EOC for the duration of the exercise. Having tactical and strategic planners, intelligence analysts, and counterterrorism and radiological subject-matter experts present in the EOC was effective and resulted in an efficient, coordinated decision-making process.
    - This in turn, led to the successful interdiction of all radiological materials, including many which were not part of the exercise, such as real-life interdictions of medical and industrial sources of radiological materials.
  - It was also determined that having a Health Department representative in attendance provided the incident commander with information needed to make important decisions regarding deployment strategies.

- During the exercise STC partners were able to staff checkpoints and chokepoints with properly trained operators and supervisory personnel.
- The STC NYC Region does not have a standard set of information management systems to facilitate and improve information sharing across the region and with the Joint Analysis Center down in Washington, DC. Solutions to this are being investigated by the STC information sharing working group in conjunction with the Domestic Nuclear Detection Office (DNDO). However, the NYPD has made great strides in networking the mobile radiation detection equipment purchased with STC program funds so that the data will be viewable in real-time at the Lower Manhattan Security Coordination Center. At the Center, officers monitor real-time events from equipment in the field that has been installed on vans, boats, and other mobile detection platforms. Continuing this effort for the region is of utmost importance to the overall effectiveness of this initiative.
- During the exercise there were isolated incidents of equipment failure or operators not sufficiently proficient in their use.
  - This demonstrates the importance of maintenance and calibration of equipment as well as the need for scheduled refresher training.
  - Drills and smaller-scale exercises will allow the STC region to continually evaluate the usefulness of equipment and allow operators to continue to hone their skills.

Question 2. This committee often hears about issues associated with sustaining and upgrading existing capabilities at the State and local level. Can you please describe some of the issues you face with sustaining the radiological and nuclear detection capabilities being developed in NYC?

Answer. Sustaining radiological and nuclear detection capabilities at the local and regional level faces many challenges, both unique to NYC as well as with a more broad application across the region.

Equipment capabilities:

- The NYPD and the STC partners must continue to increase the numbers of officers who carry personal radiation detectors. This will greatly enhance the ability to interdict materials during either routine patrol activity or targeted deployments.
- Having to take detectors off-line for calibration or maintenance is time-consuming and diminishes the overall detection capability of the region. Having a substantial reserve cache would minimize the impact of properly maintaining the detection equipment.
- It has been difficult to calibrate and repair older equipment that was purchased without extended warranties. Identifying funding sources has been difficult and time-consuming. DNDO determined that older "legacy" equipment could not be maintained with STC funding; therefore, the Department and the regional partners had to seek out alternate sources of funding in the effort of putting a contract in place to repair and maintain this older equipment.
- Additionally, some of the radiological detection equipment is several years old and may be near the end of its effective life cycle. Plans need to be put in place not only to increase the overall number of detectors but to replace older equipment that becomes obsolete, just to maintain current detection levels.
  - Some of the older devices may require relatively inexpensive repairs. The current guidance seems to encourage the purchase of new units; however, the repair of devices currently in inventory may be a more cost-effective way of maintaining detection capability throughout the region.
  - Manufacturers of radiological detection equipment often charge a substantial fee for diagnosing the problem when a device is not properly functioning. This high cost makes it difficult for agencies to determine if the malfunction is a minor fix or an expensive repair.
- Finally, radiological detection technology is constantly evolving and improving. Emerging technologies in this area should be explored, and, when appropriate, older devices should be replaced with new, improved devices. These technologies will enhance our land, air, and sea detection capabilities.

Personnel capabilities:

- Proficiency in the use of radiological detection equipment is a perishable skill; operators need to maintain their skills in an effort to detect and interdict these materials. Refresher training, drills, and exercises are effective ways to hone these skills. (Training)
- In order to allow members to participate in these training efforts it is often required to backfill members to maintain minimum staffing levels throughout the region so that normal operating levels do not suffer as a result. (Overtime/backfill)

- Having the capability to detect and interdict illicit materials is not enough. Operational deployments are essential to protect New York City and the region from an attack. Funding to support these deployments is required as an efficient way to maintain proficiency and to increase the possibility of detecting illicit materials. Funding of operational deployments is currently not authorized. (Deployments)

As the STC program expands to other areas of the country, funding must be continued for the New York City region to ensure that the detection capabilities already established remain in place. Continued funding for the STC program has a broad appeal across the NYC region due to the recent economic stresses now facing most local and State governments. Without continued Federal funding, it will be extremely difficult to sustain the current level of operational capabilities and impossible to continue expanding the program to reach the full security potential of the initiative.

QUESTIONS FOR MARK PEREZ FROM CHAIRMAN DANIEL E. LUNGREN

Question 1a. While a nuclear or radiological attack is a high-consequence event, it is also on the lower end of probability if you consider the more conventional threats we face day-to-day. Maintaining preparedness for such an event can be a challenge given the large number of more likely threats.

At the State and local level, has it been difficult to build capabilities within the interior layer given competing priorities?

Answer.

Question 1b. How have budget constraints affected your approach to countering nuclear and radiological threats and your contribution to the GNDA?

Answer.

Question 1c. If Federal support for such efforts was reduced, would this capability be maintained?

Answer.

Question 1d. What priority do you place on maintaining a radiological or nuclear detection capability?

Answer.

QUESTIONS FOR DAVID C. MAURER FROM CHAIRMAN DANIEL E. LUNGREN

Question 1. GAO has previously testified that efforts to develop the ASP distracted DNDO from developing a GNDA strategic plan. What do you think of DNDO's current plan to end the ASP program but deploy 13 of the existing ASP systems to gain more experience with them? Do you think this will continue to distract DNDO from activities that should be higher priorities or will this be helpful to future efforts to procure advanced technology?

Answer. In our view, deploying the existing 13 ASPs to various CBP field locations is likely a good thing because it is small enough of an effort to not distract DNDO from higher priorities of its mission, and it gives a few CBP ports an additional resource that may be useful in adjudicating radiation alarms. In addition, this limited deployment will give CBP more "hands-on" experience in operating and maintaining the ASP which could prove valuable should the ASP technology improve enough to be considered for future deployments.

Question 2a. A GAO Report issued last month discussed DHS policies and procedures regarding technology development and acquisition.

To your knowledge, how are technology needs and requirements across the GNDA harmonized?

Answer. In July 2008, we testified that DNDO had developed an initial GNDA after coordinating with, among others, the Department of Defense, Department of Energy, and the Department of State, to identify 74 Federal programs that combat smuggling of nuclear or radiological material. Many of these programs predate the establishment of DNDO. These programs cover all of the layers of detection, including securing special nuclear and radiological materials at their source in foreign countries and in the United States as well as detecting these materials. DNDO has also collaborated with these and other Federal agencies to: (1) Identify gaps in the initial architecture, such as land borders between ports of entry, small maritime vessels, and international general aviation, and (2) develop programs to address these gaps. To address the gaps identified in the domestic portions of the architecture, DNDO worked closely with:

- CBP in studying the feasibility of equipping border patrol agents with portable radiological and nuclear detection equipment along the U.S. border.
- Coast Guard to develop and expand the coverage of radiological and nuclear detection capabilities that can be specifically applied in a maritime environment.

- CBP, the Transportation Security Administration, and other agencies to develop nuclear detection capabilities that can be applied in aviation.[1]

Question 2b. What mechanisms are in place to reduce duplication and waste in procuring and deploying technologies throughout the GNDA?

Answer. Our work over the past several years has consistently pointed to the challenges DNDO has faced in developing a GNDA while also acknowledging the progress made by DNDO and DHS related to GNDA. For example:

- In January 2009, we recommended that DHS develop a plan for the domestic part of the global strategy and engage with other stakeholders to develop broader strategic efforts to combat nuclear smuggling. In December 2010, DNDO issued a strategic plan for the GNDA. The strategic plan establishes a broad vision for the GNDA, identifies cross-cutting issues, defines several objectives, and assigns mission roles and responsibilities to the various Federal entities that contribute to the GNDA. For example, the DOE has the lead for several aspects of enhancing international capabilities for detecting nuclear materials abroad, DHS has the lead for detecting nuclear materials as they cross the border into the United States, and the Nuclear Regulatory Commission has the lead on reporting and sharing information on lost or stolen domestic radiological material.
- In addition, earlier this year, DNDO released the *Global Nuclear Detection Architecture Joint Annual Interagency Review 2011.* This review describes the current status of GNDA and includes information about the multiple Federal programs that collectively seek to prevent nuclear terrorism in the United States. However, neither the strategic plan nor the 2011 interagency review identifies funding needed to achieve the strategic plan's objectives nor establishes monitoring mechanisms to determine programmatic progress and identify needed improvements—key elements of a strategic plan that we previously identified in our recommendations. Furthermore, while the plan and the 2011 interagency review discuss previously identified gaps in the domestic portion of the architecture, neither discusses strategies, priorities, time frames, nor costs for addressing these gaps.[2]
- DHS continues to develop its acquisition oversight function and has implemented a revised acquisition management directive that includes more detailed guidance for programs to use when informing component and Departmental decisionmaking. The senior-level Acquisition Review Board (ARB) has met more frequently and has provided programs acquisition decision memorandums to document the ARB discussion and outline action items to improve program performance.[3] For example, in April 2011, the ARB met to discuss the Advanced Spectroscopic Portal (ASP) program, a part of the GNDA, progress in meeting its programmatic objectives. The ARB determined that the ASP program faced difficulties with meeting its requirements and performance objectives. As a result, the ARB instructed DNDO and CBP to refine its requirements, develop an operational test strategy, prepare an acquisition strategy, and develop a briefing memo to the DHS Secretary on ways to move forward with the program.[4] In July 2011, the director of DNDO testified before Congress that DHS would not continue the ASP program.

[1] GAO, *Nuclear Detection: Preliminary Observations on the Domestic Nuclear Detection Office's Efforts to Develop a Global Nuclear Detection Architecture,* GAO–08–999T (Washington, DC: Jul. 16, 2008).

[2] GAO, *Combating Nuclear Smuggling: DHS has Developed a Strategic Plan for its Global Nuclear Detection Architecture, but Gaps Remain,* GAO–11–869T (Washington, DC: Jul. 26, 2011).

[3] GAO, *Department of Homeland Security: Assessments of Selected Complex Acquisitions,* GAO–10–588SP (Washington, DC: June 30, 2010).

[4] DHS Acquisition Decision Memorandum, June 2011.