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THE FISCAL YEAR 2010 BUDGET FOR THE DIRECTORATE FOR SCIENCE AND TECHNOLOGY, THE OFFICE OF HEALTH AFFAIRS, AND THE DOMESTIC NUCLEAR DETECTION OFFICE

HEARING

BEFORE THE

SUBCOMMITTEE ON EMERGING THREATS, CYBERSECURITY, AND SCIENCE AND TECHNOLOGY

OF THE

COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

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CONTENTS

Page

STATEMENTS

The Honorable Yvette D. Clark, a Representative in Congress From the State of New York, and Chairwoman, Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology 1
The Honorable Daniel E. Lungren, a Representative in Congress From the State of California, and Ranking Member, Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology 2

WITNESSES

Mr. Bradley I. Buswell, Acting Under Secretary, Science and Technology Directorate, Department of Homeland Security:
Oral Statement 4
Prepared Statement 6
Mr. Jon Krohmer, Acting Assistant Secretary and Chief Medical Officer, Office of Health Affairs, Department of Homeland Security:
Oral Statement 13
Prepared Statement 15
Mr. Charles R. Gallaway, Acting Director, Domestic Nuclear Detection Office:
Oral Statement 21
Prepared Statement 23

APPENDIX

Questions Submitted by Chairwoman Yvette D. Clarke for Bradley I. Buswell, Acting Under Secretary, Science and Technology Directorate, Department of Homeland Security 39
Questions Submitted by Ranking Member Daniel E. Lungren for Bradley I. Buswell, Acting Under Secretary, Science and Technology Directorate, Department of Homeland Security 45
Questions Submitted by Honorable Paul C. Broun for Bradley I. Buswell, Acting Under Secretary, Science and Technology Directorate, Department of Homeland Security 47
Questions Submitted by Chairwoman Yvette D. Clarke for Jon Krohmer, Acting Assistant Secretary and Chief Medical Officer, Office of Health Affairs, Department of Homeland Security 48
Questions Submitted by Ranking Member Daniel E. Lungren for Jon Krohmer, Acting Assistant Secretary and Chief Medical Officer, Office of Health Affairs, Department of Homeland Security 51
Questions Submitted by Chairwoman Yvette D. Clarke for Charles R. Gallaway, Acting Director, Domestic Nuclear Detection Office 53
Questions Submitted by Ranking Member Daniel E. Lungren for Charles R. Gallaway, Acting Director, Domestic Nuclear Detection Office 56

THE FISCAL YEAR 2010 BUDGET FOR THE DIRECTORATE FOR SCIENCE AND TECHNOLOGY, THE OFFICE OF HEALTH AFFAIRS, AND THE DOMESTIC NUCLEAR DETECTION OFFICE

Tuesday, June 9, 2009

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON EMERGING THREATS, CYBERSECURITY, AND SCIENCE AND TECHNOLOGY,
Washington, DC.

The subcommittee met, pursuant to call, at 2:11 p.m., in Room 311, Cannon House Office Building, Hon. Yvette D. Clarke [Chairwoman of the subcommittee] presiding.

Present: Representatives Clarke, Luján, Lungren, Broun, and Austria.

Ms. CLARKE [presiding]. The subcommittee will come to order.

The subcommittee is meeting today to receive testimony on the fiscal year 2010 budget for the Directorate for Science and Technology, the Office of Health Affairs, and the Domestic Nuclear Detection Office.

Good afternoon.

I welcome our witnesses today and thank them for their service to our country.

I will keep my comments brief this afternoon so we can get to the questioning period.

We are here today to discuss the President's fiscal year 2010 budget request for the Science and Technology Directorate, the Office of Health Affairs, and the Domestic Nuclear Detection Office, three critical components of the homeland security mission.

We have watched all three of these offices grow over the years. Some have come far in their maturation process. Others have some work left to do.

Along the way, this committee has offered praise and criticism of the performance of these offices, as well as recommendations for improvement.

It is our duty and obligation to do so. But never forget that in spite of our occasional disagreements, we are all on the same team, working toward the same goals.

We find ourselves at a critical time in the Department's history. This is particularly true for each of the offices you represent. This year, each of your offices faces one significant question that strikes at the heart of its mission area.

For S&T, will new leadership keep the IPT process and division of R&D funding established by the previous under secretary?

For DNDO, are the benefits gained from deploying ASP worth the money?

For health affairs, should the office expand beyond its critical role as a policy shop and become involved in operational activities?

Each is a difficult question to answer. Fortunately, you will not have to answer it alone. In the weeks ahead, new leadership teams will be in place. We hope that they will reach out to this committee to resolve these and other questions.

Today, I ask that your testimony and responses to the Members' questions provide the committee with some early answers about the direction that each of your offices will take.

For its own part, the committee will soon be considering authorization language that pertains to some of the issues that we will discuss today.

I also anticipate holding additional hearings on some of these matters.

These efforts are designed to fulfill the Department's mission of protecting the American people, and I look forward to working with each of you in achieving that goal.

Thanks to you and to the thousands of men and women serving at the Department for the work that you do.

The Chairwoman now recognizes the Ranking Member, Mr. Lungren of California, of the subcommittee for an opening statement.

Mr. LUNGREN. Thank you very much, Chairwoman Clarke.

I could not agree more about the important role of science and technology in achieving the Department's mission of securing our homeland.

A strong science and technology portfolio helps us understand the emerging threats and how to identify, counter, and mitigate them.

Better technology expands our screening capabilities and frees our agents to focus their efforts where they are most needed to improve our security. Technology also helps us in consequence management so we are better prepared to respond to a natural disaster or terrorist incident.

The S&T directorate is requesting $968.4 million in fiscal year 2010. I believe that is about a 3.8 percent increase over the 2009 funding levels. I hope that this funding level is sufficient to maintain our technical superiority in science and technology.

I would like to compliment the S&T directorate for adopting the new strategic approach to better identify, enable, and transition new capabilities to your science and technology customers and to thereby improve homeland security.

This new approach creates customer-led capstone integrated product teams in 13 functional areas. These integrated product teams allows the directorate to identify the highest priority needs and allocate resources to those programs that support the priorities established by the DHS customers.

I believe this is a welcomed management improvement for all companies attempting to develop technology solutions for our homeland security needs.

I would like to highlight for a moment a pending project in S&T's borders and maritime division, which includes building, demonstrating, and transitioning the first phase of improved capabilities for detecting the semisubmersible self-propelled vessels.

Last year, I was privileged to work with then Senator Joe Biden and others to enact the new criminal statute which allows the Coast Guard to seize the operators of these South American drug-running vessels and prosecute them, even if the vessel is scuttled and the drug evidence is lost.

As we know, they are very difficult vessels to spot and capture in open waters and any technology that improves detection will help us stop these drug vessels from delivering their deadly cargo into the United States.

I note that the Washington Post had a front page article on this this week in which they indicated that, not only is this capable of bringing drugs into this country, but could possibly be a delivery system for terrorists and weapons of mass destruction.

So it is a priority, because we realize, with our past experience, how difficult it has been for us to identify these semisubmersible self-propelled vessels.

I am disappointed to see that no new funding for the national biodefense architecture is being requested and that only $1 million was appropriated from the $2 million that was requested in 2009.

The Federal Government lacks, in my judgment, an overarching biodefense strategy, in spite of spending $50 billion over the last 8 years on biodefense.

I just happened to look down and see the national biodefense architecture, NBA. Maybe if we paid as much attention to this NBA as we do the other NBA, we would be further along and the costs would be appropriate to the challenges that we have.

I think we need a better understanding and coordination of these enormous Government biodefense expenditures.

In regard to the fiscal year 2010 DNDO budget request, I am concerned that two of the most critical programs to protect our citizens from the gravest threat, a nuclear attack, are facing technical difficulties and funding shortages.

The Chairwoman has already made reference to the ASP program. I would like to make reference to it, too, because as we know, it is designed to improve our U.S. radiation detection by identifying radiological materials and limiting false alarms at land, air, and sea ports.

These machines are undergoing final testing before the homeland security secretary must certify their performance and approve their purchase.

So while it has been much delayed, I am hopeful that the ASP certification process will ensure significant improvement in our future radiation portal monitoring efforts.

Now, let me make it clear, I am not suggesting that they be certified if they can't be certified. What I am hoping is that with all the investment we have made, with all the practice that we have done, that we have reached that point where certification can be made and we can utilize them in ways that we have envisioned in the past.

The securing of cities initiative is not being funded in fiscal year 2010. I know you have heard from some people about this, including the ranking Republican on the full committee.

The funding decrease is the result of the 3-year New York City pilot project, which concluded. The objective of this initiative, as I understand it, is to prevent an RAD or NUC attack on high risk metropolitan areas by enhancing the regional capabilities to detect and interdict radiological threats.

Although remaining 2009 funds, as I understand it, will continue the STC funding into 2010, the STC future will depend solely on new funding from the city.

I believe that it was important for my Ranking Member for us to mention this, and I would hope that we would take a serious look at it.

So, Madam Chairwoman, as important as this hearing is, I would hope the Majority will work to produce an authorization bill this year for the entire Homeland Security Department.

I want to thank the three gentlemen that are before us for their service to the country and their future service to the country.

I thank you, Madam Chairwoman, for having this hearing.

Ms. CLARKE. Other Members of the subcommittee are reminded that under the committee rules, opening statements may be submitted for the record.

I would like to thank my colleagues for participating in today's hearing on the fiscal year 2010 budget.

I want to welcome our panelists at this time.

Mr. Brad Buswell is the acting under secretary of the Science and Technology Directorate. Welcome.

Dr. John Krohmer is the acting secretary and chief medical officer for the Office of Health Affairs. We welcome you.

To Dr. Chuck Gallaway, the acting director of the Domestic Nuclear Detection Office. Welcome.

Without objection, the witnesses' full statements will be inserted in the record.

I know ask you to introduce yourself and summarize your testimony for 5 minutes, beginning with Mr. Buswell.

STATEMENT OF BRADLEY I. BUSWELL, ACTING UNDER SECRETARY, SCIENCE AND TECHNOLOGY DIRECTORATE, DEPARTMENT OF HOMELAND SECURITY

Mr. BUSWELL. Thank you very much and good afternoon, Chairwoman Clarke, Ranking Member Lungren, and other distinguished Members of the committee.

I am honored to appear before you here today in my acting role as under secretary for science and technology.

My real title is deputy under secretary, and, as you said, we will have some new leadership hopefully in place in a few weeks, and I will go back to being the deputy as opposed to the acting under secretary.

I am delighted to be here to update the committee on the progress of the Science and Technology Directorate and highlight the President's budget request for fiscal year 2010 and tell you how I think that that will further our effort.

First, let me say that I am grateful for the immediate and strong leadership of Secretary Napolitano. Over the past months, she has consistently emphasized the importance of science and technology in improving the effectiveness and efficiency of all of our missions across the Department.

I value the opportunity that her support represents and accept the accompanying responsibility.

I am also very appreciative of the leadership of this committee in support of the directorate's endeavors. The Informed Council of Committee Members and Staff has been critical to the Department's success and in positioning the S&T directorate for success in the near term and in the future.

The committee is familiar with the directorate's efforts over the past 2 years to reorganize and restructure the research portfolio and the business operations in order to expedite the delivery of technology to our customers.

I am proud to report that these efforts have been successful and the directorate is delivering products across the spectrum of homeland security missions.

As the Ranking Member mentioned, we are successfully using our maturing 12 capstone integrated product teams to identify the high priority technology needs of our operating components, and have added a 13th integrated product team focused on the needs of the State and local first responders.

The fiscal year 2010 budget request includes $12 million in support of this 13th IPT.

Within the innovation portfolio operated by Homeland Security Advanced Research Projects Agency, HSARPA, we are demonstrating exciting innovative solutions to homeland security challenges.

This budget request includes an $11 million increase in the innovation portfolio over last year's appropriation in order to maintain the momentum of this exciting portfolio and allow us to have a couple of new starts.

I think, having proven its value, I am specifically asking for this committee and the Congress' support in sustaining that request for this budget item.

The budget request also includes a substantial increase in the investment and air cargo screening, research in support of TSA's statutory screening mandate, and other research to protect against the use of improvised explosive devices in mass transit and other settings.

Additionally, this budget request includes a $37 million request for cybersecurity research and development, which is nearly triple the budget request from only 3 years ago.

So in conclusion, Madam Chairwoman, I want to say, again, that I am honored to be here. I am also honored to serve with the highly professional scientists and technologists and other professionals that support them in our shared mission of delivering technological capabilities to the homeland security enterprise, to defend our Nation and our freedom.

I am looking forward to working with the committee to ensure the continued success in both the near term and the long term.

I thank you for the opportunity to appear.

[The statement of Mr. Buswell follows:]

PREPARED STATEMENT OF BRADLEY I. BUSWELL

JUNE 9, 2009

INTRODUCTION

Good Morning, Chairwoman Clarke, Ranking Member Lungren, and distinguished Members of the committee. I am honored to appear before you today to update you on the progress of the Department of Homeland Security's (DHS) Science and Technology Directorate (S&T Directorate) and discuss the fiscal year 2010 President's budget request. This request keeps us on track to provide future technological capabilities to both the operating components of DHS and our Nation's first responders.

I am grateful for the immediate and strong leadership of Secretary Napolitano and Deputy Secretary Lute. They are committed to the mission of the Department: protecting the Nation from all threats and promoting a culture of preparedness. The Secretary has also testified to the importance of greater use of science and technology in improving our capabilities to accomplish that mission. I am pleased to report that the S&T Directorate has been successful in improving our Nation's capabilities across the extremely diverse homeland security mission set.

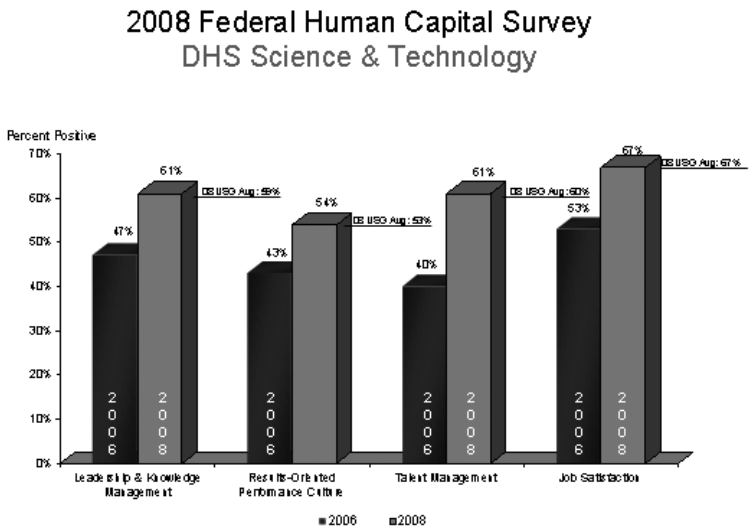
I am also very appreciative of the leadership of the Congress and its bipartisan support of the Directorate's endeavors. I am grateful for the engaged and positive relationship we enjoy. The informed counsel of committee Members and that of their staffs has been invaluable to the Department's efforts to position the S&T Directorate for accountability, tangible results, and success—both today and for the future.

The committee is familiar with the Directorate's efforts over the past 2 years to reorganize its structure, research portfolio, and business operations in order to expedite the delivery of cutting-edge technology. I am proud to report that these efforts have been successful and that the S&T Directorate is fully focused on fulfilling both near-term and long-term technological capability needs. I will update the committee on the status of the S&T Directorate's personnel and processes and then highlight the major initiatives of the President's fiscal year 2010 budget request.

SUCCESSFUL TURNAROUND—PEOPLE & PROCESS

People

I am honored to serve with the many talented scientists, engineers, and other professionals who work to develop technologies that secure our homeland and defend our freedoms. The S&T Directorate has seen significant improvement in work force morale over the past 2 years. This is best highlighted by the results of the 2008 Federal Human Capital Survey, which indicate the progress we have made to improve the Directorate's management and performance. The 2008 results demonstrate dramatic improvement for S&T since the 2006 survey, and indicate that the S&T Directorate is in line with the Federal Government as a whole.



I am pleased with the results of our efforts over the past 2 years, and I remain committed to further improvement.

Process

Basic Research. The S&T Directorate's basic research portfolio addresses long-term research and development needs in support of DHS mission areas. This research has the potential to lead to paradigm shifts in the Nation's homeland security capabilities through investment in our universities, Government laboratories, and the private sector. Basic Research is 23 percent of the S&T Directorate's budget request.

Innovation. Responsible for funding the research and development of homeland security technologies to "support basic and applied homeland security research to promote revolutionary changes in technologies that would promote homeland security; advance the development, testing and evaluation, and deployment of critical homeland security technologies; and accelerate the prototyping and deployment of technologies that would address homeland security vulnerabilities," the Directorate's Homeland Security Advanced Research Programs Agency (HSARPA) has implemented a transparent process for identifying, prioritizing, and selecting new projects, and has used this process in selecting the fiscal year 2010 "new start" projects. The $11 million increase in the fiscal year 2010 request over last year's enacted appropriation will allow us to fund these new starts, and I hope the committee will support this priority.

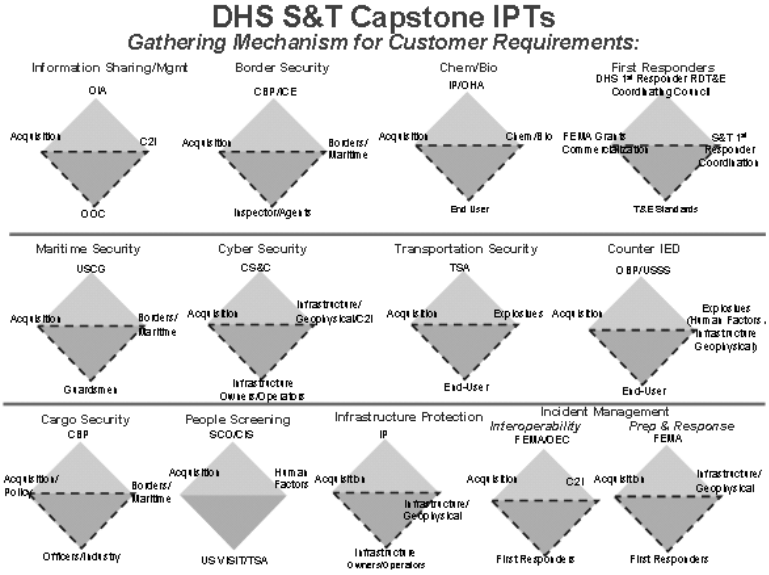
During the past year, HSARPA completed several demonstrations of prototypes that had been developed over the previous 2 years. Those demonstrations included:

- Future Attributes Screening Technology (FAST);
- Magnetic Visibility (MAGVIZ);
- Resilient Electric Grid (REG);
- Levee Strengthening and Damage Mitigation;
- Tunnel Detection;
- Biometric Detector;
- Resilient Tunnel.

The most important process that the Directorate uses is the one that puts us in direct contact with our customers: The Capstone Integrated Product Team (IPT) process. It ensures that we are identifying our customers' highest priority needs and providing near-term capabilities to address them. These Capstone IPTs engage DHS customers, acquisition partners, S&T Division Heads, and end-users to align our research, development, and product transition activities to their requirements and acquisition activities. The science and technology solutions that are the outcome of this process, referred to as Enabling Homeland Capabilities, draw upon technologies

that can be developed and delivered to our customer acquisition programs within 3 years. As with the Innovation Portfolio, the under secretary presents recommended new start programs to the DHS Technology Oversight Group (TOG), chaired by the Deputy Secretary, for approval.

Our experience over the last year has led us to maintain 12 Capstone IPT areas—Information Sharing/Management; Border Security; Chemical Defense; Biological/Agricultural Defense; Maritime Security; Cyber Security; Transportation Security; Counter IED; Cargo Security; People Screening; Infrastructure Protection; and Incident Management—and add a thirteenth to directly support first responders.



The S&T Directorate officially announced the 13th Capstone IPT in February 2009 at the DHS S&T West Coast Stakeholder Conference in Bellevue, Washington, which focused on First Responder technology needs and existing technological gaps.

Within the various First Responder communities there are several mechanisms currently employed to research and identify First Responder technical requirements. The Capstone IPT will help formalize these requirements while leveraging the relationships that the S&T Directorate has developed with the International Community, within the Interagency, and at our Universities.

In order to accomplish this, the IPT will formally establish an Emergency Services Sector Research, Development, Test, and Evaluation (RDT&E) Working Group comprised of representatives from the National Protection Programs Directorate (NPPD), the Office of Infrastructure Protection (OIP), the Emergency Services Sector Coordinating Council (SCC) and the Emergency Service Sector Government Coordinating Council (GCC). This group will serve as the primary engine for identifying technology gaps in the Law Enforcement, Fire, Emergency Management, and Emergency Medical Services areas. Because Federal Advisory Committee Act (FACA) rules apply when communicating RDT&E requirements to the Capstone IPT, a Government-only unit comprised of members from the Assistant Secretary for State and Local Law Enforcement, the Office of Health Affairs, the Fire Administrator, and the GCC will officially represent the First Responder community to the IPT.

The Capstone IPT process for First Responders is similar to that of the other 12 IPTs. As technology gaps or technology needs are identified by the RDT&E Working Group, the S&T Directorate will first examine the DHS S&T and FEMA investment portfolio to determine if the requested technology already exists or if R&D is currently underway in the interest area. The S&T Directorate requested $12 million to develop technologies to address capability gaps identified by the First Responder IPT. This program will test technologies, assess them for usability, and commer-

cialize them to make the technology solutions available across all First Responder communities.

PRODUCT IS JOB ONE

Delivery of technological capabilities to our customers is the reason the S&T Directorate exists. In the past year, the S&T Directorate has had numerous products which we have transitioned to our customers in the Capstone IPT capability areas, and we are on track to continue this performance in the future.

Program, Project, and Activity (PPA)	Fiscal Year 2009 (E)		Fiscal Year 2010 (PB)		Delta	
	FTP	($000)	FTP	($000)	FTP	($000)
Management and Administration ...	257	$132,100	274	$142,200	17	$10,100
Borders and Maritime	.....	33,050	.....	40,181	.....	7,131
Chemical and Biological	.....	200,408	.....	206,800	.....	6,392
Command, Control and Interoperability	.....	74,890	.....	80,264	.....	5,374
Explosives	.....	96,149	.....	120,809	.....	24,660
Human Factors	.....	12,460	.....	15,087	.....	2,627
Infrastructure and Geophysical	.....	75,816	.....	44,742	.....	(31,074)
Innovation	.....	33,000	.....	44,000	.....	11,000
Laboratory Facilities	124	161,940	130	154,500	6	(7,440)
Test and Evaluations, Standards	.....	28,674	.....	28,674	.....	0
Transition	.....	28,830	.....	45,134	.....	16,304
University Programs	.....	50,270	.....	46,000	.....	(4,270)
Homeland Security Institute	.....	5,000	.....	.....	.....	(5,000)
Research, Development, Acquisition and Operations ...	124	800,487	130	826,191	6	25,704
S&T Total	381	932,587	404	968,391	23	35,804

The fiscal year 2010 President's budget request (PBR) ($968 million) represents a 3.8 percent increase over the fiscal year 2009 Enacted ($933 million) to support the following R&D initiatives:

Command Control and Interoperability.—DHS requested a $5.4 million increase to Cyber Security research and development applied towards cyber security priorities identified in the Comprehensive National Cybersecurity Initiative (CNCI). Specifically, this effort will develop enduring leap-ahead technologies to secure the Nation's critical information infrastructure (energy, transportation, telecommunications, banking and finance, and others) and networks.

Innovation.—The S&T Directorate requested an $11 million increase to fund homeland security R&D that could lead to significant technology breakthroughs that would greatly enhance DHS operations including technologies for protecting levees, mass transit tunnels, and the electric grid in Manhattan, NY; detecting and distinguishing between harmful and benign liquids at airport checkpoints; and detecting a person's intent to cause harm based on physiological and behavioral cues.

Transition.—DHS proposed an increase of $16.3 million to the Transition PPA. Within this increase $12 million is dedicated to develop and design technologies to address capability gaps identified by Federal, State, local, and Tribal First Responders in the First Responder Capstone Integrated Product Team (IPT). This program will test technologies, assess them for usability, and commercialize them to make the technology solutions available across all First Responder communities.

Explosives.—The S&T Directorate requested an increase of $24.7 million, to address critical capability gaps in detecting, interdicting, and lessening the impacts of non-nuclear explosives used in terrorist attacks against mass transit, civil aviation, and critical infrastructure. Of that increase, $10 million will develop high-throughput cargo screening technology through automated, more efficient equipment. An additional increase of $14.7 million will build on fiscal year 2009 efforts to counter the threat of hand-carried improvised explosive devices to mass transit systems by detecting all types of explosive threats such as homemade, commercial, and military explosives.

Border and Maritime.—DHS proposed an increase of $5 million to fund a new basic research effort to develop the foundations for technologies to provide advanced detection, identification, apprehension, and enforcement capabilities along borders, increasing the security of the border and lower the risk of a successful terrorist attack. An additional increase of $2.1 million is proposed to fund programs identified in Maritime Security IPT that will provide technologies to the United States Coast Guard (USCG), Customs and Border Protection (CBP), Immigration and Customs Enforcement (ICE), and other components operating in the Maritime environment.

UNIFYING DHS

The S&T Directorate, by virtue of our role supporting operating components across the Department, is in a unique position to help accelerate the maturation and unification of the Department. The S&T Directorate provides Department-wide services that help DHS operate better as one Department.

Test & Evaluation

The S&T Directorate established the Test and Evaluation and Standards Division (TSD) in fiscal year 2007 to develop Department-wide test and evaluation (T&E) policy and provide T&E oversight of the major acquisition programs. TSD has worked closely with DHS Under Secretary for Management and all DHS components to develop and implement a robust Department-wide T&E policy that will be fully integrated into the Department's Acquisition process framework. We have created an interim T&E Directive that complements the new DHS Acquisition Directive (Management Directive 102–01). Together these policies will provide the appropriate component review and DHS oversight for test planning, execution, and reporting. The T&E policy requires components to participate in development and approval of the Test and Evaluation Master Plan (TEMP) that will describe the necessary Developmental Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E) that must be conducted in order to determine system technical performance, operational effectiveness, and suitability throughout the development process. The S&T Directorate established the Director, Operational Test and Evaluation (DOT&E) in fiscal year 2008 as the principal advisor on operational test and evaluation to the Office of the Secretary and component heads. The Secretary formally delegated authority to DOT&E in fiscal year 2009.

TSD and DOT&E are currently providing oversight to major acquisition programs by participating in T&E working groups, approving TEMPs, approving Operational Test Plans, participating in Operational Test Readiness Reviews, observing testing, and participating in Acquisition Review Boards. Over the past year, we have:

- Established a T&E Council to advise the senior DHS management in matters relating to T&E. This Council includes participation by all components in promoting T&E best practices and lessons learned, ensuring adequate T&E infrastructure, and establishing consistent T&E policy and processes for use in acquisition programs throughout the Department.
- Provided T&E oversight on critical acquisition programs throughout the Department, including Advanced Spectroscopic Portal (Cargo) ASP(C), BioWatch Generation 3, Secure Border Initiative network (SBInet), Air/Sea Exit, National Cyber Security Program (NCSP), U.S. Visit, Western Hemisphere Traveler Initiative (WHTI), Secure Flight, Transformation and Systems Consolidation (TASC), USCIS Transformation, Transportation Worker Identification Card (TWIC), and Automated Commercial Environment (ACE).
- Partnered with the United States Navy (USN), NIST, and DOJ to develop an initial set of standard test methodologies applicable to small unmanned aerial systems (sUAS) in support of law enforcement and urban search and rescue missions.

Standards

The S&T Directorate is the Standards Executive for the Department, with responsibility for coordination of standards activities for DHS as prescribed in OMB Circular A119 and the National Technology Transfer and Advancement Act (Pub. L.

104–113). S&T works with DHS components to develop performance specifications, documentary standards, measurement standards and process standards as well as interoperability and safety standards. The Office of Standards within TSD has three main functions: (1) Coordination of standards within the Department; (2) outreach to the private sector standards development community; and, (3) management of a program to develop critical standards for homeland security applications.

The Office manages the processes for formal adoption of standards as DHS National Standards. The Office also coordinates with private sector Standards Development Organizations (SDOs) that address the homeland security community, ensuring that the standards produced meet the requirements of the DHS components as well as State, local, and tribal users of equipment and processes. The Office also manages an investment of funds in development of standards to meet mission needs. This includes evaluating standards needs; participation in standards development planning; coordinating standards development efforts with DHS components and other State and Federal agencies and appropriate SDOs; and supporting activities at NIST, NIOSH, DOD, and the DOE National Laboratories and other partners in standards related technology development. Over the last year, we have:

- Private Sector Preparedness—Established an intra-agency accreditation and certification program with FEMA, the DHS Private Sector Office, the DHS OIP, the DHS Office of Emergency Communications and the DHS Office of General Counsel (OGC) to help ensure emergency preparedness and business continuity in the private sector.
- Coordinated within DHS and with SDOs to complete the development of standards for homeland security and first responder equipment:
  - Biometrics equipment and credentialing standards;
  - Explosives detection standards for bulk and trace detection systems, explosives reference materials, and a pilot program for homemade explosives detection;
  - Personal protective equipment standards for law enforcement, respiratory protection standards for first responders;
  - Performance standards for robotics: Urban Search and Rescue & Bomb Squad applications.

Commercialization and Private Sector Engagement

The S&T Commercialization Office and the Office of SAFETY Act Implementation (OSAI) have both contributed to expand upon and improve the Directorate's relationship with business and industry. The Commercialization Office establishes and fosters working relationships with the private sector to facilitate cost-effective and efficient product/service development efforts.

In the past year, OSAI has been responsible for coordinating 179 applications from industry partners seeking Federal protection for their technology under the Support Anti-Terrorism by Fostering Effective Technologies Act of 2002 (SAFETY Act). This office links the private sector with not only the S&T Directorate but also other members of the Federal Government.

The S&T Directorate officially established the Commercialization Office in 2008 to develop and execute programs and processes that identify, evaluate, and commercialize widely-distributed products or services that meet the operational requirements of the Department of Homeland Security's operating components, first responder community, critical infrastructure/key resources owners and operators and other Department users. It is committed to conducting outreach with the private sector in order to engage and leverage the expertise, skills, and resources of the private sector. This outreach includes a concerted effort to engage small, minority, disadvantaged and HUB Zone groups. As a result of these efforts, the Commercialization Office has compiled a listing of well-over 300 companies, outlining over 2,000 technologies, products and/or services that may possess alignment to DHS needs. Information has also been compiled to show the number of small, medium, and large businesses with whom the Commercialization Office has interfaced. A majority of those companies are small businesses.

Since its inception, the Office has published a number of materials, including briefs, books, and articles that outline the major activities of the Commercialization Office and provide readers with easy-to-understand guides to execute effective detailed operational requirements documents (ORDs) and the newly created and implemented commercialization process. Furthermore, the Office has published three popular books to assist in the development of detailed operational requirements. These books serve as a useful resource to explain the critical role of detailed requirements to cost-effective and efficient product development as well as an easy-to-use guide to aid in the articulation of requirements.

The Office also works with the private sector through its System Efficacy through Commercialization, Utilization, Relevance and Evaluation (SECURE) Program, an innovative public-private partnership in which DHS leverages the skills, expertise, and resources of industry to develop products or services aligned to DHS ORDs. Additionally, the newly introduced FutureTECH program, which is similar to SECURE, focuses on delivering TRL–6 technologies through cooperation with the university, national lab, and private sector R&D communities. For example, in the SECURE Program, DHS posts detailed ORDs on its web portal *(http://www.dhs.gov/xres/programs/gc__1211996620526.shtm),* along with a conservative estimate of the potential available market (PAM) of a given product/service and invites the private sector to use this information to formulate a business case to pursue potential sales opportunities found within DHS operating components and its many ancillary markets including first responders and CI/KR owners and operators. This program has been well received by the private sector, which had requested that DHS provide more information on the detailed needs and requirements of its stakeholders.

LABORATORY FACILITIES

The S&T Directorate has focused on the alignment between the DOE National Laboratories and the S&T divisions to establish a coordinated network to help deliver critical homeland security capabilities. The laboratory alignment provides strategic partnerships between the S&T divisions and S&T and DOE National Laboratories to leverage capabilities for basic research programs and portfolios. The aligned laboratories continue to be engaged by S&T on matters associated with the planning and execution of basic research as well as with other Federal partners. For example, the Pacific Northwest National Laboratory (PNNL) Capability Replacement Laboratory construction project is scheduled to be operational in fiscal year 2011. The project is a joint investment between DHS and DOE to assure the enduring capabilities (radiation detection and analysis; information analysis; and test, evaluation, and certification) continue in these mission-critical areas.

NBAF

After a rigorous 3-year competitive site selection process, DHS selected a parcel of real property in Manhattan, Kansas as the site upon which DHS plans to build and operate the National Bio and Agro-defense Facility (NBAF). The NBAF will be a world class state-of-the-art bio-containment level 3 and 4 laboratory that will research and develop diagnostic capabilities for high-consequence foreign animal and zoonotic diseases in livestock to protect the country's agricultural and public health against agricultural threats for the coming decades. Until the NBAF comes on-line (anticipated during 2015), upgrades and enhancements will be completed for the Plum Island Animal Disease Center to enable that facility to continue to safely operate as the front line of the Nation's defense against foreign animal diseases and continue to fulfill DHS and USDA research and operational requirements.

Pursuant to Public Law 110–329 (DHS fiscal year 2009 Appropriations Act), Congress directed DHS to conduct "a risk assessment of whether foot-and-mouth disease work can be done safely on the United States mainland." It also directed GAO to review DHS's risk assessment. I understand that the GAO plans to release a draft written report to Congress on June 15. I am confident that the risk assessment, environmental assessment, and security assessment DHS conducted for the proposed NBAF operations, which included confirmation from FMD experts and risk modeling experts, was thorough and appropriate. I appreciate the independent review being conducted by GAO and look forward to reviewing the report and its recommendations as we move forward with the design and construction of this important national facility.

Sale of Plum Island Animal Disease Center (PIADC)

Pursuant to the release of the National Bio Agro-Defense Facility (NBAF) Record of Decision (ROD) in mid-January 2009, and in accordance with the fiscal year 2009 appropriations language, Section 540, S&T is working with the under secretary for management to engage the services of the General Services Administration (GSA) for the liquidation of all Plum Island Animal Disease Center (PIADC) real and personal property. As our agent for the liquidation, the GSA, following the release of the ROD, created a team of property, environmental, and legal professionals who toured Plum Island and spoke with laboratory personnel. GSA, along with DHS experts, has begun outlining strategies for the sale of the property to allow the greatest return while minimizing risk to the Department and impact to PIADC operations and personnel. GSA expects to put Plum Island on the market in fiscal year 2010 with a final sale and closing date expected in fiscal year 2011. The sale proceeds will offset the future appropriation for NBAF construction and all other asso-

ciated costs including Plum Island environmental remediation. The S&T Directorate will request this appropriation in the fiscal year 2011 President's budget. Depending upon the terms of the sale and when the sale is actually completed, S&T anticipates that it will continue to occupy PIADC and pay the new owner rent until the NBAF is ready for full operations in 2017. This would allow the new owner time to finalize its plans for the island's use and to begin the early design and preparatory activities for occupation. The sale of Plum Island purchase agreement would allow current operations to continue during NBAF construction and eventually transfer upon completion of the new NBAF facility.

In addition to planning and constructing new laboratories, the S&T Directorate continues to operate its laboratories to provide homeland security research, test and evaluation, and technology transition capabilities to its customers. The Transportation Security Laboratory (TSL) protects America's skies through its research, development, test, and validation of solutions to detect and mitigate the threat of improvised explosive devices. Based on increased requirements to perform explosives testing, a Capital Investment Plan is being developed for TSL to provide additional laboratory facility space. The Chemical Security Analysis Center (CSAC) provides a scientific basis for the awareness of chemical threats and the attribution of their use against the Nation. It is a part of the interagency Sample Receipt Facility (SRF) and expected to be fully operational by the end of fiscal year 2009. The Environmental Measurements Laboratory (EML) seeks to improve the science and technology required for preventing and responding to homeland security threats, especially in the areas of radiological and nuclear threats.

UNIVERSITY PROGRAMS

Likewise, the S&T Directorate continues to solidify its relationship with academia through the university-based Centers of Excellence (COE) Program. This program identifies partner institutions to conduct research and develop technologies to improve homeland security-related capabilities. In doing so, we not only gain access to the best cutting-edge research and development but we also help develop the next generation of American scientists. Moreover, by supporting Minority Serving Institutions (MSIs), this program implements our commitment ensuring that a representative science and technology work force is fully developed, and that the MSIs that are leading the development of this work force are rewarded for their efforts. In the past 2 years, the Directorate made 10 new MSI Scientific Leadership Awards and named four MSIs as COE co-lead institutions.

CONCLUSION

I am glad to report that the Department of Homeland Security Science and Technology Directorate has made significant progress over the past year, enabling DHS to better protect our Nation. I look forward to working with the committee to ensure continued success in both the near and long-term future.

Members of the committee, I thank you for the opportunity to meet with you today and look forward to answering your questions.

Ms. CLARKE. Thank you, Mr. Buswell.

Dr. Krohmer, you are recognized for 5 minutes.

STATEMENT OF JON KROHMER, ACTING ASSISTANT SECRETARY AND CHIEF MEDICAL OFFICER, OFFICE OF HEALTH AFFAIRS, DEPARTMENT OF HOMELAND SECURITY

Dr. KROHMER. Thank you, Madam Chairwoman, Ranking Member Lungren and Members of the subcommittee. Thank you for the opportunity to appear before you today to discuss the President's fiscal year 2010 budget request for the Office of Health Affairs.

OHA is beginning its third year in operation. We have accomplished much in a relatively short period of time, but as you indicated, have a lot that we still need to work on.

Let me say, first, how much we really appreciate the support of this committee and its staff. As a result of your support, the Department is better able to protect the health of the American people and our DHS work force.

I am happy to report on the progress that OHA has made as the Department's lead in safeguarding the Nation against threats of bioterrorist attacks and pandemics, as well as the lead in the integration of our Nation's medical preparedness capabilities and the protection of the health and safety of the Department's work force.

Today, in OHA, we have a work force of nearly 250 dedicated individuals devoted to our mission and to our role as the Department's principal authority for medical and health security issues.

Acts of biological terrorism and pandemic have the potential to cause significant harm to the Nation in terms of loss of life, economic costs, and damage to critical infrastructure.

We in OHA are focused on preventing acts of terrorism and outbreaks of disease from becoming national catastrophes. As such, one of our areas of focus is the early detection and rapid identification of biological incidents.

To that end, OHA's BioWatch program provides a capability for early detection and warning of a biological attack in our Nation's high-risk urban areas.

Early detection is critical to the deployment of effective medical countermeasures. A 1-day delay in treatment of an anthrax exposure has the potential to result in thousands of deaths.

OHA is working to shorten the critical time lapse between agent release and detection through the procurement and deployment of automated detection equipment.

The goal is to complete all testing and evaluation in early fiscal year 2011.

Until Generation 3 is fully operational, though, it is imperative that the Nation maintain the operation of Generation 1 and 2 detection units. Without these detectors, the Nation has no ability to detect biological attacks until individuals start to show clinical symptoms, and, by then, we will have lost valuable time and the ability to effectively employ medical countermeasures to prevent needless deaths.

I also want to recognize the contributions of the National Biosurveillance Integration Center, or NBIC, which the secretary placed under the authority of OHA at the beginning of fiscal year 2007.

NBIC was reestablished as the entity where Federal departments and agencies come together to monitor and analyze information for potential biological threats by integrating and analyzing data from human, animal, plant, food, and environmental monitoring systems.

NBIC will continue to provide the visual, analytic, and decision support capabilities of the biological common operating picture and plans to upgrade data sharing services, access additional data resources, and offer proper data protection for all NBIC partners.

OHA has made significant strides in protecting the Department's work force. Our Office of Component Services is developing strategies, policies, and requirements for a Department-wide occupational medicine and health program for work force protection and for medical oversight of DHS EMS activities.

OHA also has a cadre of medical readiness professionals and food, agricultural, and veterinary experts who are participating in

end-to-end contingency planning for bioterrorism and other catastrophic scenarios.

OHA played a critical role in the recent 2009 H1N1 outbreak. On initial report of the H1N1 cases, we stood up a decision support cell to serve the national operations center.

The Office of Component Services collaborated with DHS components to inventory their countermeasure stockpiles, determine needs, and deploy additional countermeasures, especially to border areas.

NBIC supported the Federal lead agencies with specific cross-domain analysis related to H1N1 and generated comprehensive daily status reports. BioWatch contract support at 27 public health laboratories provided surge support for laboratory sample analysis.

The OHA structure is fully integrated with the pillars of biodefense, providing important contributions to threat awareness, surveillance and detection, prevention and protection, and response and recovery.

Although OHA is relatively small in size, it is critical in its mission. The program dollars we receive are essential to give our dedicated personnel the resources necessary to vigorously protect the health of the Department and of the Nation.

It has been my pleasure to serve in this office for nearly 3 years.

Again, I thank you for your support of the critical role that OHA plays in the Department's mission to secure our Nation, and I look forward to continuing our work with you.

Thank you.

[The statement of Dr. Krohmer follows:]

PREPARED STATEMENT OF JON KROHMER

JUNE 9, 2009

Chairwoman Clarke, Ranking Member Lungren, Members of the subcommittee: Thank you for the opportunity to appear before you today to discuss the President's fiscal year 2010 budget request for the Office of Health Affairs (OHA) within the Department of Homeland Security (DHS). I am happy to share with you the progress our office has made towards promoting the medical and health security of the Nation.

OHA is beginning its third year in operation. We have accomplished much in a relatively short amount of time and in the face of significant challenges such as the recent H1N1 influenza outbreak and national food contamination events. Let me start off by saying how much we appreciate the support of this committee and its staff. As a result of this support, the Department is better able to protect the American people and our DHS work force than it was just 2 years ago.

I would like to report on the progress that OHA has made in leading the Department's efforts in protecting our Nation from the threats of a bioterrorist attack and a pandemic, as well as OHA's progress in leading the Department's efforts to ensure full integration of our Nation's medical readiness capabilities and protecting the health and safety of the Department's work force.

THE OHA MISSION AND HISTORY

Today I represent an OHA work force of nearly 250 dedicated individuals, devoted to our mission and our role as the Department's principal authority for medical and health security issues. As the committee is aware, OHA has its beginnings in Secretary Chertoff's creation of the position of Chief Medical Officer (CMO) within the Preparedness Directorate in 2005 as part of his Second Stage Review. This position was created to provide the Secretary with a medical adviser for health-related security issues that may arise during a catastrophic incident.

Congress recognized the Presidentially appointed, Senate-confirmed position of CMO in the "Post-Katrina Emergency Management Reform Act of 2006" (PKEMRA), Title VI of Pub. L. 109–295 ("The Department of Homeland Security

Appropriations Act of 2007"), and as part of the consequent reorganization, the Secretary established OHA on March 31, 2007. This new Office was established to fill gaps the Department identified in the areas of weapons of mass destruction (WMD) and biodefense operations; planning and readiness; and the health and safety of the DHS work force.

The following are examples of key gaps now being addressed by OHA:

- *Biodefense*.—Principal agent for all the Department's biodefense activities, including its obligations under Homeland Security Presidential Directive 9 (Food and Agro-Defense) and Homeland Security Presidential Directive 10 (Biodefense);
- *Contingency Planning*.—Responsible for subject matter expert-driven contingency planning for bioterrorism and other catastrophic scenarios involving threats to the health of the population, from threat awareness through surveillance and detection, prevention and protection, response, and physical, psychological, and environmental recovery;
- *Occupational Health and Safety*.—Consistent policies, metrics, or standards for occupational health issues and operational medical support for its diverse work force; and
- *Alignment with the Interagency*.—Structured the Chief Medical Officer in the DHS organization consistent with other Federal partners.

It is important to note that OHA:

- Fulfills its incident management duties under Homeland Security Presidential Directive (HSPD)–5, *Management of Domestic Incidents;*
- Supports Critical Infrastructure protection under HSPD–7, *Critical Infrastructure Identification, Prioritization, and Protection;*
- Promotes medical readiness planning under HSPD–8, *National Preparedness;*
- Discharges the Department's responsibilities for biodefense under HSPD–9;
- Protects the safety of the public by supporting the Medical Countermeasures process under HSPD–18, *Medical Countermeasures and Weapons of Mass Destruction,* and providing an integrated biosurveillance capability, and working with the interagency on medical response issues under HSPD–21, *Public Health and Medical Preparedness,* and;
- Provides medical expertise to the Secretary and the FEMA Administrator, serving as the DHS point of contact to State, local, Tribal and territorial governments and the private sector on medical and health matters and leads the Department's biodefense mission, all under the PKEMRA.

FISCAL YEAR 2010 BUDGET REQUESTS AND ACHIEVEMENTS

The President is requesting $138 million for fiscal year 2010 to further the objectives of the OHA mission. OHA's strategic objectives for fiscal year 2010 include:

- leading the Department's responsibilities for biodefense;
- developing, testing, and evaluating automated detection equipment called "Gen–3" for deployment. Gen–3 offers the near real-time warning of a release of an aerosolized biological agent;
- enhancing the security of the Nation's food and agriculture supply;
- initiating activities to increase coordination of medical readiness across Federal, State, local, Tribal and territorial governments and the private sector;
- working across DHS to protect the health and safety of the Department's mission critical work force from a pandemic influenza or biological attack so that they would continue to protect the Nation during times of crisis; and
- providing medical oversight for the Department's medical activities.

The following programs highlight how OHA will utilize the proposed fiscal year 2010 budget request to meet these strategic challenges.

BIOWATCH

BioWatch provides a capability for early detection and warning against biological attacks in over 30 of our Nation's highest-risk urban areas through placement of a series of biological pathogen detectors. Deployment of such technology is critical to our Nation's security as the detection of a biological pathogen, such as aerosolized anthrax, at the earliest stages of release is critical to successful treatment of the affected population. Early detection and warning of a biological attack is essential for the rapid identification of the bioagent, which allows for prophylactic treatment and prevention of casualties, provides forensic evidence to law enforcement on the source and nature of the attack, and demonstrates a spatial distribution of contamination and population exposure. Relying solely on symptomatic monitoring (syndromic surveillance) or post-exposure information provided from the health care and public health communities adds significant delays, resulting in increased cau-

salities and loss of life, potentially in the tens of thousands. To date, this vital program has conducted over 5 million air samples without a false alarm, and has formed vital partnerships with State and local public health, laboratory, law enforcement, and environmental health entities to further its detection mission.

Early detection is critical to protecting the health of the Nation. With anthrax, for example, a 1-day delay in the post-exposure prophylaxis or treatment of exposed individuals could result in many thousands of unnecessary deaths. Early detection and rapid medical treatment is therefore essential to protecting the health of the American people during such an incident of bioterrorism.

If a post-exposure prophylaxis program is initiated early (as would be the case in a well-prepared BioWatch city), it will also reduce the economic impact of an anthrax attack. The cost savings estimates associated with early detection are $15–25 billion if exposed persons are treated on Day 0, $10–20 billion if treated on Day 1, $10–16 billion on Day 2, and $5–7 billion if treated on Day 3.[1]

In fiscal year 2009, the OHA is utilizing its BioWatch program dollars to maintain Gen 1 and Gen 2 baseline detection capabilities (which requires manual collection of filters and laboratory analysis) and has deployed biodetection support to numerous National Security Special Events (NSSE) and Special Events. It is also providing subject matter expertise and reach-back to jurisdictions for BioWatch Actionable Results and continues to cultivate vital partnerships with State and local public health agencies and laboratories. In addition, fiscal year 2009 funding has enabled DHS to initiate a field test program for prototype units for Gen–3 autonomous detectors.

The President requests $94.5 million for BioWatch in fiscal year 2010. This funding will enable DHS to continue to maintain and deploy capability to support BioWatch jurisdictions and for NSSEs and special events, and maintain subject matter expertise and reach-back support necessary to assist local jurisdictions in the event of a BioWatch actionable result (BAR). Fiscal year 2010 proposed funding would also be used to complete the Gen–3.0 prototype unit field testing (to include characterization and jurisdictional tests), perform data analysis, and verify the performance of one or more autonomous detection technology platforms in preparation for large-scale procurement and system-wide deployment.

OHA's goal is to complete all testing and evaluation for a larger deployment of automated detectors beginning in fiscal year 2011 to decrease detection times from attack to as little as 4 to 6 hours.[2] It is imperative, however, that the Nation maintain the operation of Generation (Gen) 1 and Gen 2 detection units until such time that the Gen 3 system is fully operational. Without the detectors currently in operation, the Nation has no ability to detect biological attacks until affected individuals start to present symptoms in our Nation's emergency departments and physicians' offices—by that point, we will have lost valuable time and ability to effectively employ medical countermeasures, resulting in needless loss of life.

NATIONAL BIOSURVEILLANCE INTEGRATION CENTER (NBIC)

The Secretary placed NBIC under the authority of OHA at the beginning of fiscal year 2007, and reestablished NBIC as the entity where other departments and agencies come together to monitor and analyze potential biological threats to the homeland. Later that year, Congress authorized NBIC in Section 1101 of the "Implementing Recommendations of the 9/11 Commission Act of 2007," (9/11 Act) Pub. L. 110–53, to enhance the capability of the Federal Government to identify and monitor biological events of national concern by integrating and analyzing data from human, animal, plant, food, and environmental monitoring systems. The 9/11 Act also called on NBIC to disseminate alerts to Federal partners, States, and localities to better enable them to prepare for and respond to such biological threats.

While Federal partners continue to operate their respective surveillance programs, NBIC is charged with synthesizing and analyzing information collected from these member agencies and other information sources in order to identify and monitor biological threats. No other place in Government serves to integrate this information from across the spectrum of public and private, domestic and international, open and protected sources.

In fiscal year 2009, NBIC continued to encourage all Federal partner agencies to be actively engaged in NBIC, and reached out to State, local, Tribal, and territorial partners via existing DHS relationships, State and local Fusion Coordination Center

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[1] Kaufmann AF, Meltzer MI, Schmid GP. The Economic Impact of a Bioterrorist Attack: Are Prevention and Postattack Intervention Programs Justifiable? Emerging Infectious Diseases. 1997;3:83–94.

[2] Such a large-scale deployment of new technology would take place only after rigorous third-party evaluation and testing and Departmental review.

representatives, and Protective Security Advisors (PSAs). OHA also finalized two additional NBIC Memorandums of Understanding (Department of Commerce and the Veterans Administration respectively) and encouraged NBIC Member Agencies (NMAs) to enter into Interagency Agreements to support placement of detailees to serve at NBIC to provide in-depth subject matter expertise and analytic perspectives to support the analysis and reporting on biological events.

For fiscal year 2010, the President requests $8 million, an amount equal to the fiscal year 2009 enacted level.

With those funds NBIC will continue to provide the visual analytic and decision support capabilities of the Biological Common Operating Picture (BCOP) by providing access to in-depth scientific data, situational awareness, digital and analog depictions, and modeling and simulation results in a User Defined Operational Picture (UDOP). UDOP will provide a full, comprehensive electronic picture with assessments of current biological events and trends and their potential impacts on homeland security. In addition, funding will be used to link the BCOP and the Biosurveillance Common Operating Network into an integrated IT architecture, supported by life-cycle management, and make it exportable to NMAs. This funding will also upgrade systems infrastructure to implement data-sharing services, provide access to additional data resources across the biological and surveillance communities, and offer proper protection of data for all NBIC partners.

RAPIDLY DEPLOYABLE CHEMICAL DETECTION SYSTEM

OHA's Rapidly Deployable Chemical Detection System (RDCDS) provides for the detection of a potential chemical release. It is part of a larger effort to provide leadership and direction to a comprehensive chemical defense program.

In fiscal year 2009, RDCDS funding is being used to continue to validate intelligence information on chemical compounds believed to be of interest to terrorists and conduct primary field experiments based on findings, conduct a market survey and evaluate chlorine gas detection equipment, and collaborate with the EPA to provide aerial surveillance and support during natural or man-made disasters.

The President requests $2.6 million in fiscal year 2010 for RDCDS to further validate intelligence information on chemical compounds believed to be of interest to terrorists and conduct primary field experiments based on findings. In addition, RDCDS will procure, install, and validate equipment for aerial surveillance and detection of chlorine gas.

FOOD, AGRICULTURE, AND VETERINARY DEFENSE

OHA's Division of Food, Agriculture, and Veterinary Defense (FAVD) serves as the Department's lead for HSPD–9, *Defense of United States Agriculture and Food.* It provides expertise to the Secretary on zoonotic, food, and agriculture threats to homeland security. This includes evaluating and coordinating DHS' research, grants, and veterinary preparedness and response activities. FAVD utilizes some of the Nation's premier leaders in veterinary medicine and agro-defense to support its activities.

In fiscal year 2009, FAVD is completing the development of the Strategic Plan (for Federal Bio Planning Against Biological Attacks) for catastrophic Foreign Animal Disease (Foot and Mouth Disease) and Food Contamination Scenarios. It is also participating in the development of CONOPS, OPS Plan and Tactical Plan (for Federal Bio Planning Against Biological Attacks) for Foreign Animal Disease (Foot and Mouth Disease) and Food Contamination Scenarios. In addition, FAVD is developing a Preparedness and Response Toolkit which will enable State, local, Tribal, and territorial organizations to measure their preparedness and response capabilities against established food and agricultural catastrophic scenarios, develop exercises to test their response, and facilitate the implementation of lessons learned from exercises and/or events as a means to improve capability. Additionally, the self evaluations will be used to develop national standards that are based on real-world experiences of the State, local, and Tribal and territorial organizations.

The President requests $727,000 for FAV Defense for fiscal year 2010, an amount equal to the fiscal year 2009 enacted level. This funding provides for: (1) The completion of the development of the Defense of Food and Agriculture "Dashboard" and Collaboration Tool on the Office of Management and Budget (OMB) MAX Web site, which has been recognized as a model for interagency collaboration; (2) the completion of the Preparedness and Response Benchmarking Tool Kit to enhance preparedness at the State, local, Tribal, and territorial level; and (3) the performance of gap analysis specific to FAV Defense arenas across internal, external and Federal, State, local, Tribal, territorial, and private organizations to support the integration of a comprehensive program of food defense.

THE OFFICE OF MEDICAL READINESS

The Office of Medical Readiness (OMR) is the area of our office that interfaces most closely with our Federal, State, local, Tribal, and territorial partners. It develops policies and programs to enhance all hazards planning, exercises, and training, promote integration of State and local medical response capabilities, align DHS emergency preparedness grants and support the medical first responder community. This Office is critical to the coordination of health and medical issues both within DHS and within the interagency as it relates to multidisciplinary, multi-jurisdictional planning, and coordination activities.

In collaboration with the Department of Health and Human Services, OMR developed and disseminated the Pandemic Influenza Vaccination Allocation and Targeting Guidance, which assists State, local, Tribal, and territorial communities in preparing for the allocation of vaccines to reduce a pandemic's impact. Also, in collaboration with the Federal Interagency, OMR developed the National Strategy for border management during an Influenza Pandemic.

For fiscal year 2010, the President requests $1.75 million for OMR. This funding will be used to initiate the implementation of the Medical Intelligence/Information Sharing Program in support of better integrating public health and health care communities with the homeland security intelligence community. In addition, funds will promote the representation of health security communities within the national network of State and Local Fusion Centers. It will also be used to support the interagency process for development of policies and guidance related to medical readiness for Weapons of Mass Destruction and natural disasters. In addition, this funding will be used to initiate a plan to provide guidance and technical assistance to States and local communities on medical and health issues related to medical readiness and response and to provide reachback technical assistance for Occupational Health for intra-DHS first responder forces, through our Office of Component Services.

OFFICE OF COMPONENT SERVICES

The Office of Component Services provides work force protection guidance to the Secretary and under secretary for management. The Office leads the development of strategy, policy, requirements, and metrics for the medical elements of the Department-wide occupational health and safety program. This Office also provides oversight for medical services rendered by or on behalf of DHS, including all Emergency Medical Services (EMS) personnel. The Office provides a forum for leaders of component medical officers to collaborate and share best practices and to participate in reviewing Departmental medical policy and procedure.

The Office of Component Services has led efforts to establish baseline reviews of the Department's occupational medicine services and health and safety programs for the Department's work force. It has developed the requirements and an implementation plan for a comprehensive workers injury and disability management system, in conjunction with the DHS Chief Human Capital Officer; worked with the Department's Office of Safety and Environmental Programs on occupational safety and health policies; provided a travel medicine program to support internationally-deployed work force; and identified key management level occupational health and safety metrics which can drive Departmental implementation of occupational health principles.

In fiscal year 2009, the Office of Component Services is using its funding to: (1) Develop consultative services for Component leads on health issues; (2) develop cross-DHS Emergency Medical Services protocols, credentialing and quality assurance standards; (3) support international deployment health and wellness decisions; (4) support the Division of Immigration and Health Services (DIHS) with quality assurance and medical input; (5) promote wellness through newsletter and a internet-based health information site; and (6) advise FEMA on safety and environmental health housing issues.

For fiscal year 2010 activities, the President requests $750,000 for the Office of Component Services. These funds will be used to: (1) Augment Occupational Medical Services staff members to assist the Medical Director in the development of strategy, policy, requirements and metrics for the medical aspects of a Department-wide occupational health and safety program; (2) provide health and medical consultation resources and assistance at a leadership level on a 24/7 basis; (3) assist Office of the Chief Human Capital Officer personnel with assessing position descriptions, physical evaluation programs (pre-placement, fitness-for-duty, return-to-work, etc.), performing post-incident analyses, and working with programs to improve return-to-work programs and to facilitate evaluation and treatment activities within Department of Labor guidelines and limitations; (4) work to define the requirements for job appropriate personal protective equipment, vaccinations, and post-exposure

prophylaxis; and (5) create a Departmental credentialing and medical oversight framework.

OHA'S ACTIVITIES RELATED TO H1N1

In addition to the OHA activities described above, OHA has played a critical role in the Department's response to the recent H1N1 influenza outbreak. The funding approved by Congress has enabled OHA to carry out these functions. OHA provided information, analysis and medical advice to the Secretary and the Department 24 hours a day/7 days a week on medical and health aspects of the incident. OHA is working with the Secretary and other DHS components to take steps to help protect the DHS work force, specifically those at the border and working overseas.

Upon initial reports of H1N1 cases in Southern California, OHA stood up a Decision Support Cell (DSC) through its Office of Medical Readiness to support the National Operations Center (NOC). This decision support cell served as a focal point for monitoring and coordinating OHA-related operations. It was the central collection, analysis, and processing element for medical and health information and guidance for the Department, feeding into the NOC. The cell was staffed by physicians, toxicologists, epidemiologists, and public health and emergency management experts, as well as representatives from the National Biosurveillance Integration Center and the Intelligence and Analysis Directorate, who worked collaboratively to collect and analyze information and distribute analysis and guidance to the Secretary in support of her role as the Principal Federal Official, the NOC and other DHS components.

Each Office within OHA contributed to the H1N1 response.

- *The Office of Component Services* collaborated with DHS Components to inventory their respective countermeasure stockpiles, determine needs, and deploy additional countermeasures (antivirals and personal protective equipment), especially to border areas. Component Services working closely with the Management Directorate in developing guidance to DHS personnel on the use of personal protective equipment and on prophylactic antiviral dispensation.
- *The Office of Medical Readiness* set up and operated the DSC, fielding questions from Departmental leadership, the interagency, and States and locals, and managing the information flow into and out of OHA, through the NOC. OMR also supported other DHS components and Interagency partners in conference calls and meetings to provide updates, situational awareness and medical and health advice, and participated in White House activities to address the outbreak. In addition, OMR collaborated with CDC on the development and distribution of Travelers Health Alert Network (THAN) notices, which provide travelers entering and exiting U.S. ports and border crossings with information about the symptoms of H1N1 and direct travelers to the CDC Web site for updates.
- Three divisions within the *Office of Weapons of Mass Destruction* have contributed to the H1N1 response. NBIC is supporting the Federal lead agencies with specific cross-domain analysis related to H1N1 and has generated comprehensive daily status reports based on integrating Federal, State, open source, and classified information sources on the status of the H1N1 influenza outbreak. BioWatch contract support at 27 public health laboratories has provided surge support for laboratory sample analysis. The Food, Agriculture, and Veterinary Division is in frequent communication with USDA's Office of Homeland Security and the Animal and Plant Health Inspection Service (APHIS), and has provided to the DSC, NBIC, Department senior leadership information on: APHIS and CDC's recent development of a pilot surveillance project to better understand the epidemiology of swine influenza virus infections in swine and in humans; the current status of biosurveillance of swine diseases in the United States; and, the current status of agricultural imports and exports between the United States and Mexico.

OHA AND OUR FEDERAL PARTNERS

OHA is designed to contribute to the health and security of the American people, in instances like the H1N1 outbreak, and in full coordination and collaboration with other DHS components and our Federal, State, local, Tribal, territorial, and private sector partners. OHA's responsibilities and activities enhance National planning for and response to the health consequences of catastrophic incidents. This approach is consistent with the incident management coordination mandated by HSPD–5 and will ensure that the full, coordinated force of the Federal Government is appropriately applied to management of incidents of any scale.

OHA works closely with all of the Department's components by supporting their occupational health and safety requirements, and coordinating with others to meet

operational requirements. We have spent much of our time over the last 2 years collaborating with our Federal partners at the Departments of Health and Human Services, Defense, Agriculture, Commerce, Transportation, Justice and Veterans Affairs, the Environmental Protection Agency, the U.S. Postal Service and members of the intelligence community on a wide range of activities and initiatives. OHA has reached out to numerous State and local governments and non-governmental organizations, associations, and private sector entities to advance the mission of a Nation prepared for health consequences of catastrophic events.

Though it has been over 7 years since the attacks of September 11, and the anthrax mailings that followed soon thereafter, the risk of biological and chemical attacks still exists. To manage this risk, the OHA structure is fully aligned with the pillars of biodefense providing important contributions to threat awareness, surveillance and detection, prevention and protection, and response and recovery.

OHA is relatively small in size, but critical in its mission. The program dollars we receive are essential to give our dedicated personnel the resources they need to take action to protect the health of the Department and the Nation.

We appreciate the committee's support for our budget so that we can fulfill the mandates of the President and Congress.

It has been my pleasure to serve in this office for the past almost 3 years. I thank you for your support of the critical role of OHA in the Department's homeland security mission. I look forward to answering any questions you may have.

Ms. CLARKE. Thank you, Dr. Krohmer.

Dr. Gallaway, you are recognized for 5 minutes.

STATEMENT OF CHARLES R. GALLAWAY, ACTING DIRECTOR, DOMESTIC NUCLEAR DETECTION OFFICE

Mr. GALLAWAY. Good afternoon, Chairwoman Clarke, Ranking Member Lungren and distinguished Members of the committee.

As acting director of DHS's Domestic Nuclear Detection Office, I would like to thank the committee for the opportunity to discuss radiological and nuclear detection and to highlight the work we are pursuing.

I would like to express my gratitude to the committee for its support of our mission to reduce the risk of radiological and nuclear terrorism to the Nation.

Since DNDO was formed just over 4 years ago, we have made significant strides in improving the Nation's capability to detect RAD/NUC sources in containerized cargo.

Working with U.S. Customs and Border Protection, we have employed radiation portal monitors to a majority of sea ports and land border crossings, resulting in scanning of 98 percent of all incoming containers.

We are working to achieve 100 percent by finishing the remainder of the deployments along the northern border by the end of this year, matching what we have already accomplished on the southern border.

Additionally, we are moving to other previously unaddressed cargo challenges, including on-dock rail, international rail, and air cargo.

We have made substantial investments in the development of the next generation portal monitor, known as the advanced spectroscopic system, or ASP. ASP technology will significantly improve our ability to correctly identify and interdict smuggled nuclear material and offer the ability to automatically sort threat materials from naturally occurring radioactive material.

This should reduce the number of alarms due to innocent radioactive sources, alarms that currently consume large amounts of CBP officers' time.

The ASP units are currently undergoing an extensive test and evaluation campaign. The successful completion of this testing, along with other analysis and consultation with the National Academy of Sciences, will then inform the secretary's certification of ASP performance this fall.

You have probably noted that in the Department's fiscal year 2010 budget request, there is no funding request for systems acquisition. In fiscal year 2010, we will continue to carry out the joint CBP/DNDO deployment strategy using the unobligated funds from previous years to procure current generation RPMs.

Following a successful outcome to secretarial certification, prior year funds would be used to procure a mix of current generation and ASP systems. If certification does not occur, these remaining unobligated funds will continue to be used to pursue current generation systems.

Another key objective is to address the threat of shielded nuclear material that passive systems are not capable of detecting. We are working with CBP on a range of technologies to address this concern.

We are focusing much of our activity on radiography systems that provide the ability to automatically detect special nuclear material or dense materials that may be used to shield nuclear threats.

Moving beyond containerized cargo security, we have shifted our focus and are now dedicating increased time and effort to a wide range of issues and challenges. Much of our insight has come from our work on the global nuclear detection architecture, which seeks to integrate efforts across the Government into a single strategy to improve the Nation's nuclear detection capability.

We have been working with our partners to pursue a range of programs to strengthen the architecture.

To be effective, countermeasures in each layer, international, at the border, and in the interior, along with each threat pathway, land, sea, and air, will require a flexible approach utilizing a variety of operational and technical solutions.

Most importantly, no single solution is sufficient to completely address this threat. It is often said that we have to be right 100 percent of the time and terrorists have to be right only once.

For a terrorist with an extremely valuable asset, like a nuclear weapon, our multilayered approach reverses that logic. Now, the terrorist must get it right his one chance and we need only succeed interdicting him at one of our many layers.

As we work with our operational components, we remain committed to providing cutting-edge technology that can be used in a variety of environments to address remaining vulnerabilities.

These technologies and strategies are coupled with our operational support services to ensure that alarms are properly resolved and that real threats are quickly transitioned to effective response.

In addition, we train State and local officers to support our detection mission using a curriculum that provides instruction on how to operate detection equipment and investigate the potential malicious use of RAD/NUC materials.

Finally, I look forward to continuing our work with our partners within DHS, our Federal departments, State, and local agencies, and the Members of this subcommittee, and the Congress to keep the Nation safe from radiological and nuclear terrorism.

This concludes my prepared statement.

Chairwoman Clarke, Ranking Member Lungren and Members of the subcommittee, I thank you for your attention and will be happy to answer any questions that you have.

[The statement of Dr. Gallaway follows:]

PREPARED STATEMENT OF CHARLES R. GALLAWAY

JUNE 9, 2009

Good afternoon Chairwoman Clarke, Ranking Member Lungren, and distinguished Members of the subcommittee. As Acting Director of the Domestic Nuclear Detection Office (DNDO) at the Department of Homeland Security (DHS), I would like to thank the committee for the opportunity to discuss our fiscal year 2010 budget request and to highlight the work DNDO is pursuing. I would also like to thank the committee for its support of DNDO's mission to reduce the risk of radiological and nuclear (RN) terrorism for the Nation.

DNDO was established to improve the Nation's capability to detect and report unauthorized attempts to import, possess, store, develop, or transport nuclear or radiological material for use against the Nation, and to further enhance this capability over time. To that end, our work is guided by our development of an enhanced global nuclear detection architecture (GNDA). DNDO has developed a time-phased, multi-layered, defense-in-depth GNDA that is predicated on the understanding that no single layer of defense can detect all RN threats. For this reason, the GNDA provides multiple detection and interdiction opportunities overseas, at our borders, and within the United States to effectively increase the overall probability of system success. DNDO has worked with intra- and inter-agency partners to develop time-phased strategies and plans for improving the probability of detecting and interdicting RN threats. DNDO will continue to enhance the GNDA over time by developing better RN detection technologies, improving concepts of operations (CONOPS), enabling real-time reporting of detection events, and providing effective response to real threats.

My testimony today will share with the committee some of our plans for fiscal year 2010 and also our progress in addressing emerging mission requirements that will protect the United States from RN threats.

The United States border is the first layer within the GNDA where the United States has full control over detection and interdiction. As such, considerable effort and resources have been placed on this layer to provide comprehensive RN detection capabilities, particularly at ports of entry (POEs).

A key consideration in RN detection is the ability to effectively detect threats without impeding the flow of legitimate trade and travel across the border. United States Customs and Border Protection (CBP) currently scans cargo entering at our Nation's POEs using polyvinyl toluene (PVT)-based radiation portal monitors (RPMs) that can detect radiation, but cannot distinguish between threat materials and naturally-occurring radioactive material (NORM), such as kitty litter and ceramic tiles. To address this limitation, DNDO is developing next generation technology to automatically detect and distinguish threat from non-threat materials, while also reducing false alarm and referral rates. Narrowing down alarms for just dangerous materials is especially important for POEs that have a high volume of containers, or those that see a high rate of NORM.

As you may know, DNDO initiated the Advanced Spectroscopic Portal (ASP) program in 2006. ASPs are the next generation of radiation portal monitors. ASP units are now being developed with two separate performers. These units have been subjected to one of the most rigorous testing campaigns of RPMs ever conducted prior to deployment. Both systems will complete several rounds of performance testing and field validation at POEs. Following these performance tests, both systems will complete operational testing and evaluation conducted by the DHS Science and Technology Directorate's Operational Testing Authority. Test data will be provided in support of the Secretary's Certification decision. DNDO is also engaged with the National Academy of Sciences, to allow NAS to review ASP testing and inform the certification process, as required in the fiscal year 2008 Consolidated Appropriations Act. Indeed, in its most recent report on ASP testing, the Government Account-

ability Office (GAO) has acknowledged the many enhancements and lessons that DNDO has incorporated into its testing programs.

Following a successful outcome of Secretarial certification, prior year funds will be accessed to procure ASP systems. If certification does not occur, prior year funds will be used to procure only current generation systems.

In addition to improving the basic functionality of the RPMs, DHS faces a number of unique challenges to secure cargo at our POEs that may require development of new CONOPS or technologies in order to mitigate identified risks. For example, the intermodal transportation of containerized cargo at terminals which transfer containers from a ship to a rail facility that is within the terminal, referred to as "on-dock rail", accounts for approximately 2% of all import containers to the United States.

Operational testing at the Rail Test Center (RTC) at the Port of Tacoma has demonstrated that mobile RPM (mRPM) systems can be used to scan cargo where special carts or container chassis move the containers to the rail facility, but this approach is not applicable where ports use straddle carriers in this role. For these terminals DNDO, CBP, and the Department of Energy (DOE) are investigating alternative technologies including "spreader bar" detectors and straddle carrier portals. Recent tests by both CBP and DOE have indicated technical weaknesses in the spreader bar approach, so DNDO is moving forward with the construction of a straddle carrier portal test article at RTC this year. We will reach a key decision point next year, where the results of spreader bar detection systems tested by CBP and DOE can be compared to the results of prototype straddle carrier portal testing by DNDO at RTC. At that point, we will identify the most effective mix of spreader bar detectors, straddle portal detectors, or a combination of the two approaches.

Another key DNDO program seeks to address the threat of shielded nuclear materials placed in cargo conveyances that passive spectroscopic systems, such as ASP, are not capable of detecting. DNDO is also working with CBP to address next-generation radiography needs that can utilize radiography scanning to detect RN threats. The Cargo Advanced Automated Radiography System (CAARS) program is specifically designed to automatically detect shielded nuclear material. Since beginning the program in 2006, however, the commercial marketplace has made many advances. This, coupled with lessons learned from the ASP program—namely that high-risk development should not necessarily be procured concurrently with production—has led DNDO to de-scope the CAARS program from an acquisition program to a research and development-focused program. Under the new course, fiscal year 2009 CAARS activities will subject both CAARS systems and commercially-available systems to a test and evaluation program and a final demonstration of the products.

Our on-going work with CBP to facilitate container security has resulted in the scanning of 98% of all incoming containerized cargo for RN at our land and sea ports of entry. Due to this significant progress, DNDO is now able to place a greater emphasis on our land borders between POEs, maritime, air, and the interior.

To address gaps in the GNDA that remain unfulfilled by current technologies for RN detection, DNDO established a transformational research and development program that identifies, explores, and develops scientific and technological approaches that will dramatically improve the performance of nuclear detection components and systems. We have three efforts underway that support long-term research—Exploratory Research, Advanced Technology Demonstrations (ATDs), and a dedicated Academic Research Initiative (ARI). There is tremendous involvement with the National Labs, private industry, and academia for these efforts. I am proud to say that these programs have already yielded some very promising results that we hope will make a tangible impact on this Nation's nuclear detection capabilities in the future.

Just as one example, there have been major advances made in the area of new materials for passive radiation detection. Since all detectors rely on some material to detect the radiation emitted by a threat, discoveries of new, more effective detection materials have a high payoff because they can be incorporated into many different types of detectors for many different applications or threat scenarios. For gamma-ray detection, the new materials will result in detectors that are more efficient, cheaper, or have improved ability to reduce false alarms. For neutron detection, DNDO is accelerating the final development and initial production of new materials to replace the scarce, but presently-used, helium-3 by the end of fiscal year 2009 or early fiscal year 2010. To put this in perspective, to advance from the discovery of a new detector material to construction of prototype instruments in the space of 2–3 years is really remarkable. It is our intent to continue and accelerate these material research successes in fiscal year 2010.

DNDO also has multiple programs that will provide a wide variety of law enforcement and first responders with effective human portable systems for RN detection: the Handheld program, the Human Portable Wide Area Search (HPWAS) program,

and the Human Portable Tripwire (HPT) program. Each of these programs will result in the delivery of human portable systems that will be used in all DNDO mission areas: Aviation, land, maritime, and interior. Overall, each of the three human portable system program development efforts seeks to expand the spectrum of detectors available to end users by: (1) Investigating existing commercially available human portable systems and tailoring them to better meet the needs of operators; (2) developing cutting-edge technology when current systems are inadequate to meet customer requirements; and (3) conducting systems development efforts for maturing technologies that transition from ATDs. The first ATD expected to transition a system to development in fiscal year 2010 is the Intelligent Personal Radiation Locator (IPRL).

One thing that DNDO has learned in its short existence is that industry, even without Government funding, often continues to develop commercial-off-the-shelf (COTS) detectors that may satisfy a greater range of requirements with limited additional development. DNDO has accordingly adjusted its strategy to investigate opportunities to address certain needs by developing customer-driven design modifications to currently available human portable equipment. In addition to these efforts, DNDO will develop human portable systems that transition successfully from our transformational research and development work. As we work at DNDO to improve our business models, we are looking at additional ways to leverage COTS technology wherever appropriate.

DNDO also has a Congressional mandate to set Technical Capability Standards and implement a test and evaluation program to provide performance, suitability, and survivability information and related testing for preventive RN detection (PRND) equipment in the United States. In fulfillment of this requirement, we have established the Graduated Rad/Nuc Detector Evaluation and Reporting (GRaDER) program to assure independent and consistent testing of radiation detectors. This program will be leveraged to ensure technologies advanced by industry will be considered for acquisition programs, as appropriate. We are in the first phase of this program that will provide for commercially-driven and privately-funded testing of COTS rad/nuc detection systems. GRaDER will work with the DOE and the National Institute of Standards and Technology (NIST) to use the National Voluntary Laboratory Accreditation Program (NVLAP) to support testing of COTS radiation detectors. Pacific Northwest National Laboratory (PNNL) has already received NVLAP accreditation, and it is anticipated that the first units to be tested through GRaDER will be COTS handheld detectors. Results of the GRaDER program will also be made available to DHS components and State, local, and Tribal law enforcement and first responder agencies to inform their procurement and grant process.

One successful strategy that DNDO has used to enhance security is by "piggybacking" on existing programs. In the land border between POEs, DNDO initiated the Phased Deployment Implementation Plan (PDIP) with CBP to evaluate and field test potential RN detection options where no off-the-shelf solutions are currently available and environmental conditions are particularly challenging. DNDO expedited the procurement of radioactive isotope identification devices (RIIDs) to provide CBP with an initial operating RN detection capability, and will improve that capability over time. Similarly, DNDO has coupled RN capabilities with the Transportation Security Administration's (TSA) Visible Intermodal Prevention and Response Teams (VIPR) to provide a greater Federal detection capability and add an additional layer of RN detector-equipped law enforcement personnel in support of the GNDA. Through the delivery of tailored training and a suite of RN detection equipment, the TSA VIPR teams will become another Federal asset that can perform regular PRND operations and may be called upon during periods of heightened alert levels. Prior to DNDO's involvement, the VIPR teams had no preventive RN detection capability.

In the maritime environment, DNDO has established the West Coast Maritime Pilot to work with authorities in Washington's Puget Sound and the San Diego area to design, field, and evaluate a RN detection architecture (specific to each selected region) that reduces the risk of RN threats that could be illicitly transported on recreational craft or small commercial vessels in a "direct-to-target" scenario. The project aims to develop RN detection capabilities for public safety forces for use during routine public safety and maritime enforcement operations. In addition to this pilot, we have tested boat-mounted detection systems under our Crawdad test campaign.

DNDO has similarly expanded work to secure the air pathway—both commercial operations and general aviation. Within the aviation pathway, RN threats may be transported via air as a prelude to an attack elsewhere, or the actual attack involving an RN threat device may be executed and delivered by air. As a result, DNDO is working closely with CBP to enhance capabilities to detect and interdict illicit RN

weapons or materials entering the United States via the international general aviation pathway. These efforts included a test campaign, with CBP officers, at Andrews Air Force Base in 2008 that characterized CBP's current radiological scanning capability and identified methods to improve effectiveness by enhancing equipment and operational techniques.

To further build upon the layered structure of the GNDA, DNDO works within the Nation's borders to develop PRND capabilities for urban areas, transportation vectors, special events, and State and local entities. DNDO works regularly with Federal, State, local, and Tribal entities to integrate nuclear detection capabilities in support of the GNDA. Our "Securing the Cities" initiative in the New York City (NYC) region, brought together law enforcement and first responders to design and implement a layered architecture for coordinated and integrated detection and interdiction of illicit radiological materials that may be used as a weapon within a metropolitan area. After 3 years of engaging with NYC and regional stakeholders, no additional funds are being requested for the STC initiative in fiscal year 2010. The 3-year pilot ends in fiscal year 2009. Additionally, NYC regional STC stakeholders can continue to fund additional capabilities through the DHS grants (e.g., Homeland Security Grant Program). DNDO will continue to support the STC initiative through the obligation and expenditure of appropriated STC funds with experienced program management and subject matter experts in preventive radiological and nuclear detection. For example, we are planning to actively support a regional full-scale exercise in 2010. DNDO has a vested interest in the continued success of the initiative as it seeks to reduce the risk of radiological and nuclear terrorism to New York City and extract lessons-learned for application to other major urban centers.

DNDO's outreach also includes a State and Local Stakeholder Working Group with 25 States and territories meeting approximately once a quarter to bring the Nation's PRND community together, inform participants on activities within DNDO and the community, and obtain feedback on DNDO's programs and initiatives. State and local authorities also can use the PRND Program Management Handbook created by DNDO which provides consistent guidance for building or enhancing State and local PRND programs. In fiscal year 2008, DNDO used a five-course training curriculum to train over 7,400 law enforcement, first responder personnel, and public officials, and has provided Federal, State, and local exercise support as a validation instrument to evaluate their RN detection, deterrence, prevention, reporting, vulnerability reduction and alarm adjudication capabilities in a risk-free environment.

Another facet of DNDO's interior work involves performing gap analysis and promoting mitigating strategies for securing radiological material at its source within the United States. Last year, our budget request included $1 million in funding for irradiator hardening, however in fiscal year 2010 the national implementation programs will be funded primarily by DOE/National Nuclear Security Administration (NNSA). Interagency collaboration for source security between DOE, DHS, and the Nuclear Regulatory Commission (NRC) is still in place, and DHS, through the Nuclear Government Coordinating Council and Nuclear Critical Infrastructure Partnership Advisory Council (CIPAC), will still have a seat at the table to coordinate a variety of "source security" projects as catalogued and tracked through the "Initiatives to Improve Source Security" matrix.

Our fiscal year 2010 budget request also reflects increased emphasis on the critical area of nuclear forensics. In 2006, DNDO stood up the National Technical Nuclear Forensics Center (NTNFC) as a national-level interagency office. NTNFC serves as the national "system integrator" weaving together the various specialized nuclear forensics activities across a number of different agencies. This role includes exercising, assessing, planning, and providing overarching stewardship. NTNFC also leads the development of the national capability for pre-detonation rad/nuc materials forensics, which provides the technical capabilities to rapidly, accurately, and credibly conduct nuclear forensics to support attribution conclusions about the origin, nature, and pathways of interdicted threats. In addition to supporting attribution conclusions, the forensics program can also contribute to national deterrence, by dissuading nations from providing nuclear materials or devices to terrorists.

A related area of concern identified by the American Association for the Advancement of Science, the American Physical Society, the White House Office of Science and Technology Policy, and the National Academy of Sciences is the loss of trained individuals versed in nuclear science and engineering. DNDO has begun efforts to address these "pipeline" issues on multiple fronts, including awards of academic fellowships, internships, and research grants to academic institutions and national laboratories. The goal is to reinvigorate the Nation's pool of trained nuclear scientists and engineers. These individuals represent an investment in the future of DNDO, the overall GNDA, and the Nation's long-term security.

By working with our DHS and interagency partners, DNDO is continuing to assess the best technological solutions for use in all pathways. We remain committed to providing cutting-edge detection technology that can be used in a variety of environments by Federal, State, local, and Tribal operators to address identified vulnerabilities in the GNDA. RN detection technologies and strategies are coupled with DNDO's operational support services to ensure that personnel on the front lines are properly trained in the PRND mission, alarms are promptly resolved, and detection of threats is seamlessly transitioned to operational response. Continuous coordination with interagency partners and State and local officials allows DNDO to integrate user requirements with technological solutions to address vulnerabilities. I look forward to continuing to work with components within DHS, other departments, State and local agencies, and the Members of this subcommittee and Congress to pursue this goal.

This concludes my prepared statement. Chairwoman Clarke, Ranking Member Lungren, and Members of the subcommittee, I thank you for your attention and will be happy to answer any questions that you may have.

Ms. CLARKE. I thank you for your testimony.

I will remind each Member that he or she will have 5 minutes to question the panel.

I now recognize myself for 5 minutes.

Dr. Gallaway, what is your current estimated date for ASP secretarial certification?

Mr. GALLAWAY. We are looking at certifying this fall. I hesitate to give a specific date.

Ms. CLARKE. Is the current intention to certify for primary inspection, secondary inspection, or both?

Mr. GALLAWAY. We would like to keep the option open to potentially certify for both. We are very focused on trying to get certification through on secondary.

Ms. CLARKE. So we are looking at somewhere between September, late November.

Mr. GALLAWAY. October is kind of our notional date right now. We need to get our field validation restarted. We are looking to get it started early next month and assuming that it goes well, that we would then be on track for an October certification.

Ms. CLARKE. Very well.

Let us suppose that the significant increase in operational effectiveness criteria are met for the ASP and that the secretary certifies the ASP.

The next consideration is that an ASP costs 2.67 times as much as a current PVT.

Does the increase in performance then justify the increased cost?

Mr. GALLAWAY. Ma'am, you have hit the $64,000 question and that is one that will be deliberated by the secretary, because what we are doing is offering a system with significantly improved performance, but we will have to weigh that against the cost, and the secretary will then be forced to make an acquisition decision.

Ms. CLARKE. Well, I am sure she will be able to use your expertise, Dr. Gallaway. Thank you for answering those questions.

Dr. Krohmer, do you believe that the Office of Health Affairs should continue to exist as a stand-alone office within the Department?

Dr. KROHMER. Ma'am, based on the experience that we have had over the last 3½ years, a little bit more, that the office started as a chief medical officer and then transitioned to the Office of Health Affairs, I think it functions most effectively as an independent office.

Ms. CLARKE. Do you think that it should be split up with pieces sent to various other organizational entities within DHS? How would efficiency and effectiveness increase in either scenario?

Dr. KROHMER. I think I have a biased perspective because of the experience that I have had working with the various programs that we have in the office.

It is my personal perspective that there is a very close tie-in and could make a very good argument for keeping all of the programs together.

I do acknowledge that there is some very close interaction with a number of our programs and other offices within DHS. So I think it is possible to make things work, but I think most efficiently and most effectively, it would be my preference to keep the programs together as they are.

Ms. CLARKE. Thank you, Dr. Krohmer.

Mr. Buswell, what are your plans for Environmental Measurements Lab in New York City?

Mr. BUSWELL. EML is a crown jewel, I think, of the Nation and it has worked in a very good way with the Department of Energy and the Department of Homeland Security since it was transferred over.

As you know, it was a radiation monitoring laboratory under DOE.

We are morphing that now to be a test and evaluation and technical assistance entity in support of first responders. I mentioned the 13th IPT. We really have a heightened emphasis on our service to the first responders who are the Nation's heroes and on the front lines of homeland security every day.

So to the extent that we can provide the first responders with technical assistance and test and evaluation of equipment that they would need in their homeland security role, that is what we plan to do at EML.

We are developing a strategic plan for EML that I think will be completed. We will brief that to the new under secretary and to the deputy secretary and the secretary when that is ready, and I expect that to be in the next couple of months, and they will start executing that plan.

I think using New York as a test bed, with the various, obviously, high-profile activities that go on there, the port authority and all of those homeland security-centric things, it is a prime location and it is a prime capability, and I really look forward.

I think the leadership up there is ready to go and do that.

Ms. CLARKE. I am glad to hear you say that, Mr. Buswell.

I now recognize the Ranking Member of the subcommittee, the gentleman from California, Mr. Lungren, for questions.

Mr. LUNGREN. Thank you very much.

Dr. Krohmer, the budget request for planning and coordination, as I understand it, has been cut by about $3.3 million.

Can you tell me where there was the cut for this?

Then, second, according to the budget, there is no specific funding request for pandemic activities.

Is that because it is included somewhere else or is there some reason we don't have it this year?

Dr. KROHMER. The overall cut in Office of Medical Readiness was part of the administration's overall budget reduction strategy, and we are working very closely through the office to modify activities so that we are able to continue many of the activities that have been on-going.

You had mentioned the national biodefense architecture and that is a program that is very important to the office and that working with some of our partners, we are hoping that we will be able to continue.

We have made some staff adjustments to try and address that.

The issue of pandemic influenza activities, we are talking about very close or very thoroughly in the Department, working with the CFO and the under secretary of management, and it is unclear at this point exactly where additional pandemic influenza requests may come from, whether it be the Office of Health Affairs or management.

We are working within the Department right now to address those issues.

Mr. LUNGREN. So I guess what I am trying to get at is at least throughout the country, there was concern about pandemic. We are concerned about what may happen in September with the second wave of swine flu, to whatever extent it is.

It just struck me as perhaps timely that that be a specific project area and that is why I was—while you suggested you are looking for areas where we might be able to respond to it, why there would not be a funding request for pandemic activities specifically.

Dr. KROHMER. I suspect that there will be a request. We are working within the Department just to identify, because of the overall departmental nature and the supplies and logistics storage, whether that should be handled most appropriately within the Office of Health Affairs or within the management directorate.

We were able, with the H1N1 incident that we have had so far, to use some of our carryover pandemic funds to acquire additional antivirals and personal protective equipment earlier this spring that had not been acquisitions that had been anticipated.

So we are continuing to move forward with that.

Mr. LUNGREN. As I read the mission statement for the Office of Health Affairs, it says OHA, "leads the department's role in developing and supporting a scientifically rigorous, intelligence-based biodefense and health preparedness architecture to ensure the security of our nation in the face of all hazards."

Yet, I don't see any specific funding request for the national biodefense architecture.

Is there a reason for that?

Dr. KROHMER. As a result of some of the budget constraints that we were placed under, we have been looking at all of the programs within the office.

We felt that we were able to continue the activities of the biodefense architecture by making some modifications in personnel and support activities.

Mr. LUNGREN. So you couldn't use additional money effectively.

Dr. KROHMER. We would be able to use any money that is available very effectively, yes, sir.

Mr. LUNGREN. So if we stimulated your budget, you would be able to use it in an effective fashion.

Dr. KROHMER. We would.

Mr. LUNGREN. Just one of the concerns I have got. When the Federal Government tries to do everything for everybody else, maybe we don't do all the things we are supposed to be doing at the present time.

Mr. Buswell, you mentioned the area of cybersecurity, and I am very supportive of the administration's announced emphasis in that area going forward.

What specifically is the S&T directorate doing in terms of prioritizing cybersecurity?

You mentioned that you tripled the amount of money directed toward that. But in what way is that going to be used?

Mr. BUSWELL. In a couple of very important ways. No. 1, let me make it clear that the National Programs and Protection Directorate within the Department, NPPD, and the under secretary for NPPD have the lead for the Department in cybersecurity.

So they are our customer, if you will, in the cybersecurity world and identify the requirements for us.

The work that we are doing is work that, one, the private sector is not doing, first of all, for a number of reasons and that has to do with investing in things like test beds, data sets that can be used to understand the cyber threats, and allow all comers to use those facilities in order to develop cybersecurity.

I am very mindful of the fact that we don't deploy the technology. We develop the technology and especially in the cybersecurity and infrastructure, other infrastructure protection kinds of roles, much of this is deployed by the private sector.

So we have to keep them closely involved with all the development that we are doing and make sure that what we are doing and what they are doing, we are not duplicating, first of all, because $37 million, quite frankly, is not a lot of money in the grand scheme of cybersecurity.

But I will be happy to provide a complete answer for the record.

Mr. LUNGREN. Thank you.

Ms. CLARKE. I fully support Doug Mullen's work on cybersecurity and S&T, and I think his budget should be raised even more.

Having said that, I would like to acknowledge the gentleman from New Mexico, Congressman Luján.

Mr. LUJÁN. Thank you very much, Madam Chairwoman.

If I may, the first question I will be addressing our experts with will be a follow-up, I think, on what our Ranking Member was asking about cybersecurity.

But first and foremost, I want to thank everyone for their testimony today.

As you know, in New Mexico, we have a few laboratories, Sandia National Laboratory and Los Alamos National Laboratory, of which Los Alamos National Laboratory is my district.

They are working on developing a range of technologies which could be utilized to provide some of the resources, some of the technology, I think, that could enhance what we are talking about today from a homeland security perspective, many of which may al-

ready be in use and some of the modeling capabilities already in practice within the Department of Homeland Security.

I am pleased that Mr. Buswell, in his prepared remarks, touched upon the dynamic partnership between the laboratories and the Department of Homeland Security.

In recent years, specific projects that have worked in conjunction with the Department at Los Alamos are the magnet airport scanner and the national infrastructure simulation and analysis center, which I believe was utilized to assist our Nation in being able to adequately prepare for H1N1, as well.

In the area of cybersecurity, with the specific partnerships that do exist and as we are looking for compiling the necessary datasets to be able to truly understand the threats, some of these are already in use and in place in many of our national laboratories.

I am more familiar with those at Sandia National Laboratory and Los Alamos, and I would encourage that the Department look to our national laboratories to be able to build upon the expertise that is in there, especially as the President is moving to bring some attention to what we as a Nation need to be doing to adequately protect ourselves from cybersecurity attacks, as well the dollars that can be saved to both business and the Federal Government and governments, State and local and tribal, within the United States.

So I appreciate that very much and would ask you to touch upon that in a minute, as well.

A few things, Madam Chairwoman, that I would like to specifically ask, if there is no objection, to be able to ask that the Office of Inspector General's report, which is included in our remarks today, from the Department of Homeland Security, dated August 2008, document OIG–085B, entered into the record.

Ms. CLARKE. Without objection.*

Mr. LUJÁN. Madam Chairwoman, the reason I ask that is on pages 26 and 25 of this report, it talks about some of the work that needs to be done for basic research projects that can be improved upon, whether it is selection process or how we can truly work with tribal governments, with our first responders.

The report details, by the inspector general, that there is very little funding to address the first responders' needs, and that is listed on page 24 here.

So, again, I know that we have made this request before. I know our colleague, Mr. Bill Pascrell, typically speaks out on behalf of our first responders, especially our firefighters.

I would encourage that we continue to work closer there, as well as S&T'S inability to secure technology transfer agreements.

One of the areas that we can take advantage of not only our laboratories, but our bright minds in our Nation is to support tech transfer opportunities that exist from the research investment that we as a Nation are making within our laboratories.

I would encourage that we look to see what we can do to get those to market to protect our Nation and to provide the level of security that we need.

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*The information referred to has been retained in committee files.

But the doors that can be opened up for small business opportunities, to be able to encourage economic growth and job creation are second to none, and would like to hear a little bit about that, Madam Chairwoman.

Maybe if I would be indulged with a second round of questions, that I would get a chance to hear about everything that I am trying to bring up now.

The last, Madam Chairwoman, is on pages 27 and 29 of the report, one of the things that I hope that we can see changes—the report outlines that in 2007, the under secretary selection process that was identified through the inspector general's report was such that items were undocumented. There was a question of pre-selection for some of these projects.

One thing that we can't afford to do is not to allow the latest and greatest technology, ideas that can be proven, that can work, to be able to have an opportunity to provide a level of support to those that need the help as opposed to saying, "Well, we think these are the best one and I know these people, so let's go help them."

I would hope that what we learn from that process is that when we go forward, that we are able to document adequately the selection criteria, how the projects move forward. So that if there is ever a question in the future, we are all able to come back and talk about what we learned from it.

Whether they were good selections or not, we are able to document it. It is not a matter of trying to hide the selection process. It is a matter of being open about it so we can learn what we can do better.

So thank you, Madam Chairwoman. When I get an opportunity, I will follow up on those questions and I will do more listening for the second round as opposed to more speaking.

Ms. CLARKE. Mr. Luján, you sure had a lot on your chest there.

We will be doing a second round of questions now, gentlemen.

I recognize myself for 5 minutes.

Mr. Buswell, in the 2008 inspector general review of the S&T directorate, the IG stated that the S&T should develop a more rigorous process for identifying, prioritizing, and selecting HIPS and HITS projects, and ensure the process documents the reasons behind the selection.

Additionally, the IG suggested that the under secretary delegate the responsibility for managing the HITS/HIPS process to the director of innovation at HSARPA.

Have you notified the IG about completing these outstanding requirements and did former under secretary Cohen establish procedures for documenting selection of future HIPS and HITS? Did he assign the director of innovation responsibility to identify and select these projects?

Mr. BUSWELL. In short, yes, ma'am he did and, yes, we have—I think we have closed this out with the IG.

The process that we put in place—and we also have to put in context that the innovation portfolio was brand new starting in December 2006 and was jump-started with a handful of projects that then-under secretary Cohen identified as being, well, innovative.

So that, in itself, was a necessary thing to do to jump-start that portfolio, but the IG had it exactly right in that we needed to formalize the process going forward.

We have done that. The process, as it now stands, the directorate of innovation, HSARPA, collects recommended projects from really all comers. It can come from within the Department. It can come from within Science and Technology Directorate. It can come from the private sector. It can come from universities, come from laboratories.

Those are categorized and analyzed for operational impact, first of all, and then do they fit the innovation model. In other words, is this a high-risk, high-gain kind of thing?

He makes a proposal to the S&T corporate board, which is an entity that is made up of the six division heads for each of the technical divisions and the three portfolio managers, the basic research portfolio, the transition portfolio and himself as the innovation portfolio manager.

That recommendation comes to me in priority and then, with my concurrence, it gets presented to the under secretary.

That, I think, is an adequate process. But what we have done is we have taken it one step further in that we then present those projects to the technology oversight group, which is chaired by the deputy secretary and, also, consists of the under secretary for management and the under secretary for NPPD and all of the—they are the voting members—and all of the members of the operating components are free to participate in that meeting, in that group, for their concurrence that these do represent capabilities that would be of priority to the Department and the homeland security enterprise in general.

So we did that with the fiscal year 2010 process, budget development process and the two new starts that we have proposed in the budget submission were approved—were developed and approved in that way.

Ms. CLARKE. That sounds great.

Mr. Buswell, would you just present us with some follow-up documentation on the process, as you have described it?

Mr. BUSWELL. Yes, ma'am, I would be pleased to.

Ms. CLARKE. Thank you very much.

I have a follow-up question to you. In looking at the increase and decrease in the funding of individual research areas, such as border and maritime, chemical and biological, explosives, human factors, et cetera, the committee presumes that the budget request numbers reflect the interests and needs at this particular time of other DHS component agencies in the current state of agreement and projects pursuant to integrated project teams.

Is this the case? If so, can you please tell us what, with specifics, led you to increase or decrease specific research projects? If not, can you tell us what else drove the decision?

Mr. BUSWELL. Well, in the next 25 seconds, I will be happy to. The short answer is, yes, they do reflect the priorities of the capstones that have been developed in the capstone IPT process, for the most part.

Now, remember, that is only 50 percent of the directorate's budget. The other percentages are in the basic research and in the inno-

vation portfolios and those are also guided or informed by the IPT process.

So if you need additional information beyond what is in the justification for the budget request, we will be happy to provide that as to the incremental changes within those PPAs.

But the general answer is, yes, those reflect our customers' priorities.

Ms. CLARKE. Very well. Thank you very much, Mr. Buswell.

I now recognize the gentleman from California, Ranking Member Lungren, for 5 minutes.

Mr. LUNGREN. Thank you very much, Madam Chairwoman.

Mr. Buswell, I mentioned in my opening statement the fact that I was very pleased that your borders and maritime section is building, demonstrating, and transitioning the first phase of an improved capability so that we could detect the semisubmersible self-propelled vessels to customers.

We have been looking at that as a problem of drug running, which it has been to this point in time, but as the Washington Post article suggested, it has been a pretty good delivery system for drugs into this country where they can't be detected.

Wouldn't it be a possible delivery system by terrorists for a nuclear device? Of course, we have the DNDO operation, which is specifically directed toward making sure that we don't have those devices delivered here.

With that in mind and with the work that we have been doing under DNDO and hopefully get through the certification and we have enhanced detection at our ports of entry, are we giving sufficient attention to the problem of the semisubmersibles and the possible delivery system?

Is this just a drop in the bucket in terms of what you are doing, or is it truly a serious effort in this regard?

Mr. BUSWELL. Yes, sir, it is a serious effort, and we will need to do more, clearly.

This first effort is really working at identifying the capabilities that may exist already nationally, whether those are national overhead assets or Navy assets.

As you may be aware, I spent the first 25 years of my adult life driving submarines. So I am very familiar with the difficulty that exists in finding those kinds of platforms.

These aren't even really true submarines. I mean, they really are surface ships with a very low profile.

Mr. LUNGREN. They cost $1 million to build. They bring a payload of $100 million in. They have been very successful. The law we passed is because they scuttle them. They can lose $100 million because they just do the next one.

But the law helped us prosecute those ones we can detect. The question is: How many are we not detecting? If that proved to be a successful delivery system, I am very concerned about it being—we can spend all the time we want in terms of protecting against these ports of entry, and we are spending a tremendous amount, because we see all these cargo containers coming in and we realize what an opportunity there.

I don't want us to stop our dedication to that, but I am concerned about this other thing.

So your background helps us consider the seriousness of this problem and I appreciate that. I just hope others in the Department and throughout Government share that.

Let me ask you this, and maybe it is for you, maybe it is for Mr. Gallaway. That is: Does your Department at all get involved in the impact of an EMP attack on this country?

Mr. BUSWELL. I can take a stab at that. I know that the EMP and the potential threat to the infrastructure of this country is something that the Office of Infrastructure Protection has looked at.

The commission issued the report last year on EMP attacks, was widely distributed and read and considered. I have discussed this with Jim Snyder, the acting assistant secretary for infrastructure protection, to see if there were research and development needs that he identified and what he told me was they factored that threat, along with all the other threats, into their annual risk assessment and, currently, he doesn't see any research and development needs that are of a priority that he would ask us to sacrifice other programs in support of——

Mr. LUNGREN. Okay, let me ask the question this way. So, evidently, there is nothing that is going directly to you. But because of your experience, you know the report was out there of the commission. You have read the report. It has been out.

Do you get any sense of urgency throughout the Department, throughout the Government, either on the Hill or out there, that we are seriously enough considering that?

Mr. BUSWELL. I think it is being very seriously considered. I am just not sure that there is a consensus or that we have finalized where that falls among all the other potential threats and vulnerabilities that we have and where we can best expend resources in order to harden our infrastructure against those kinds of attacks.

Mr. LUNGREN. It just strikes me that at least one way of launching an EMP is, obviously, a missile that hits a certain altitude, so to speak, and explodes the nuclear device.

You don't have to have an accurate missile and those rogue nations and transnational organizations might be able to get their hands on that and we would breathe a sigh of relief because they are not very accurate. That doesn't go into the question.

I am just concerned about whether any of us have internalized the seriousness of that such that we understand not only the possibility of that occurring, but we understand the consequence of that occurring.

Thank you very much, Madam Chairwoman.

Ms. CLARKE. Thank you, Member Lungren.

You may be aware that there is going to be a group meeting at the Capitol Hill Club tomorrow. I will be addressing them on that very topic.

You are absolutely correct. I couldn't agree with you more. This is an area that we need to really focus on much more than we do.

At this moment, I would like to acknowledge Mr. Luján, of New Mexico, for 5 minutes.

Mr. LUJÁN. Thank you, Madam Chairwoman.

Madam Chairwoman and Mr. Lungren, one other piece of information I would like to get for you on that point is there was an article that I read where recently—I don't know if it was a satellite or something that had to be brought down, but we had one shot to do this and it had to be precise, because it had to be broken up in such a way that it wouldn't—when it entered into the atmosphere, that it wouldn't hit anything or that it would fully disintegrate, and they did it.

So I will make sure that I get the information on that and we will put it together, and that might be something for us to talk about as we collaborate on those ideas together.

Madam Chairwoman, as I stated earlier, I asked a lot of questions about education, cybersecurity, detection, national laboratories, process improvements, in each of those areas.

So, Mr. Buswell, if we could begin with you and just share a little bit from the panel.

Then I would follow up with one question pertaining to the budget request to an 8.5 percent cutting university programs and to see what we could truly do, again, to be able to take advantage of some of the brightest minds, from an educational perspective, to make sure that we have an avenue for them to assist us in solving some of these problems.

Mr. BUSWELL. Yes, sir. I took some notes as you were talking in your first 5 minutes. Let me sort of tick down this. We have taken very seriously the IG report that you referenced and had entered into the record.

We are working—I think we have closed out everything except for the basic research aspect that you are discussing, that you mentioned.

The national laboratories, universities are the primary providers of the basic research that we fund. Centers of excellence that comprise most of the university programs' funding that you mentioned took a slight reduction are very important for two reasons.

No. 1, we develop centers that will be of enduring value to homeland security. So these are capabilities that will last long after their funding from us has ended and they will be out on their own gathering funding from all sources in order to do this kind of work, and we think that is very important.

The second has to do with the scholars and fellows program. We fund a number of—near 100 scholars and fellows and over 450 over the course of the program over the last 4 or 5 years.

These are people who are doing their undergraduate and graduate work in disciplines, technical disciplines that are relevant to homeland security. We are looking to place those at national laboratories, like Los Alamos or Sandia, that are truly the long-term and the foundation of the research within the country.

There is a reason they are called national laboratories. They really are a national asset.

As far as the private sector engagement, which you also mentioned, let me just talk a little bit about that. The public/private partnerships are a win-win-win for the Government, for the private sector, and for the taxpayers.

I have found that you get a faster speed of execution when the private sector is involved, because they are interested in a return on the investment that they are making in the effort.

It creates jobs, it creates revenue through the development of a marketable product, not through slipping and trading, but development of a product and, under certain circumstances, I think we can actually do that with minimal taxpayer investment.

A couple ways that we approach this. This is the output of the capstone integrated product team process, and we publish this every year. This is the one that we just put out in May. These are our high priority technology needs, and this is for everyone to see and everyone to participate in.

We have a long-range broad agency announcement in place where people have the ability to come in with very simple, 1- to 2-page white papers that address the needs that we have identified with the technology that they have developed.

It doesn't cost them a lot of bid and proposal funding to build these things. We received about 350 such white papers in fiscal year 2008, in the last fiscal year.

Out of that, we requested about 50 full proposals and we funded about 30 of those. So we are getting participation from the private sector and we are using those resources in a way that the country can appreciate.

There are a number of other things that we are doing from stakeholder outreach to commercialization that I would be happy to get you additional details on.

But I think our engagement with the private sector is one of the things that we have really worked on over the last 2 years, and I think that is working pretty well.

Ms. CLARKE. I want to thank the witnesses for their valuable testimony here today, and the Members for their questions.

The Members of the subcommittee may have additional questions for the witnesses. We will ask you to respond expeditiously in writing to those questions.

Hearing no further business, this subcommittee stands adjourned.

[Whereupon, at 3:12 p.m., the subcommittee was adjourned.]

APPENDIX

QUESTIONS FROM CHAIRWOMAN YVETTE D. CLARKE OF NEW YORK FOR BRADLEY I. BUSWELL, ACTING UNDER SECRETARY, SCIENCE AND TECHNOLOGY DIRECTORATE, DEPARTMENT OF HOMELAND SECURITY

Question 1. What are the most significant challenges for the S&T Directorate that you have discovered over the last 3 years, and how will you recommend the next under secretary resolve some of these problems?

Answer. When Under Secretary Cohen joined the Science and Technology (S&T) Directorate, he identified four areas for improvement: Organization, people, books, and program content. The S&T made substantial improvements in all four areas over the past 3 years. The organizational structure is stable and has proved effective. Morale and employee satisfaction has improved and many vacancies have been filled. The S&T now has one set of financial books. Customers now drive the program content and the Directorate's investments through the Integrated Product Team process.

The S&T's employee satisfaction is now on par with the rest of the Federal Government after being rated among the lowest in the Government 4 years ago. Work force improvement continues as we are already working to assess which job positions are most appropriately and cost-effectively held by a contractor or a Federal employee. Combined with this initiative, S&T will continue to fill vacancies to achieve a full, steady-state staff.

The S&T's financial management and budget controls have been praised by Congress as an area of significant improvement, but we must remain vigilant to ensure that these new processes and practices continue. DHS is in the process of selecting and moving to a new financial system for better fiscal management and S&T's 5-Year Research and Development (R&D) Plan has become a bridge between the budget and the programs. It needs to continue to capture and define the Directorate's program for years to come to support a stable research budget and agenda.

The 5-Year R&D Plan is also crucial to documenting and maintaining the appropriate R&D program content at S&T. Our customers must continue to inform the content of the S&T's research investments. New methods for broadening customer involvement, such as standing up a Capstone Integrated Product Team (IPT) for first responders, are already being executed. These practices need to continue to receive support from within S&T and across the Department.

Going forward, S&T must continue to improve its work force, financial processes, and research investments while keeping the organization stable. The S&T will continue to refine its process for determining investments. Further strengthening program content will enable the Directorate to direct its investments to R&D that achieves the most significant benefit for homeland security. Implementing these improvements will require the next under secretary to continue to exercise leadership and promote cooperation across all DHS components and with the first responder community to identify operational requirements that can be implemented by the public and private sectors.

Question 2. What role do you see for the National Labs in supporting DHS?

Answer. The Department of Energy (DOE) National Laboratories play a critical role in meeting the broad range of research and development (R&D) requirements associated with the mission of securing the homeland. The DOE National Labs provide the Department of Homeland Security (DHS) with world-class facilities and more than 30,000 scientists and engineers performing cutting-edge homeland security research. On-going homeland security-related research at the National Labs examples include: Enhancing transportation security through development of advanced screening and detection technologies; designing multi-scale modeling and simulation capabilities in the event of a biological attack or a disease outbreak; and designing resilient electric grid technologies to ensure better protection of our Nation's critical infrastructures.

In fiscal year 2009, 10 DHS components, including the Science and Technology (S&T) Directorate, used the National Laboratories for homeland security-related R&D. The DHS's partnership with the National Laboratories will continue to make significant contributions to the homeland security mission in coordination with S&T laboratories, DHS Centers of Excellence, and other DHS R&D-related entities.

Question 3. What are your plans for the Environmental Measurements Lab in New York City?

Answer. The Science and Technology (S&T) Directorate plans to continue operations at the Environmental Measurements Laboratory (EML), which historically has focused on research and development (R&D) in the areas of radiological and nuclear threats. As S&T moves forward with its efforts in the area of first responder technologies, EML's mission is being re-focused toward being a dedicated laboratory for test and evaluation of first responder technologies. The laboratory's New York City location, experienced staff, and established trusted relationships with key New York City regional entities, are significant assets for conducting field and laboratory-based tests with our local partners in the first responder community.

Question 4. Your testimony mentions the sale of Plum Island. Approximately how much do you expect to realize from that sale? How much will the Plum Island site clean-up cost, and is your expected sale price net of clean-up costs? Will the proceeds of the Plum Island sale be sufficient to cover the cost of NBAF?

Answer. The Department of Homeland Security (DHS) is working with the General Services Administration on determining an estimated real estate value of Plum Island. The estimated funding needed to clean up Plum Island is approximately $200 million. It is expected that the sale of Plum Island will provide sufficient funding to cover clean-up, construction, and related costs.

Question 5. Can you describe the role of the Chief Commercialization Officer, and what impact this role has had on S&T's success?

Answer. The Chief Commercialization Officer (CCO) leads the Science and Technology (S&T) Directorate's Commercialization Office, which was established in 2008 to leverage the private sector to rapidly develop products and services for the Department of Homeland Security's (DHS) operating components and the first responder community. Through this office, the CCO provides the private sector with an understanding of the market potential for needed homeland security tools and technologies, thereby encouraging private sector investment. This has directly benefited S&T and other DHS components by strengthening private sector interest in developing homeland security tools and technologies.

Specifically, the Commercialization Office identifies DHS and first responder technology needs with large market potential and develops operational requirements documents that correspond with those needs and pushes that information out to private sector vendors. In the past year, the Commercialization Office has:

- Developed and published for DHS components a variety of books, tutorials, and teaching materials on developing requirements;
- Compiled a repository of well over 300 companies, outlining more than 2,000 technologies, products and/or services that may possess alignment to DHS needs;
- Published 8 detailed requirement documents with the participation of more than 40 partners. We are developing 25 additional documents.

In addition, the CCO oversees the System Efficacy through Commercialization, Utilization, Relevance and Evaluation (SECURE™) and FutureTECH™ programs. SECURE™ is a public-private partnership in which DHS leverages the skills, expertise, and resources of industry to develop products or services aligned to DHS operational requirements documents. FutureTECH™ focuses on delivering Technology Readiness Level 6 technologies through cooperation with universities, national laboratories, and the private sector.

The Department has quickly recognized the benefits of commercialization outreach to the private sector and is in the process of integrating commercialization best practices into its Management Directive on Acquisition.

Question 6. The Quadrennial Homeland Security Review began in 2008. Do you expect the outcome of this review to change the direction of R&D in the S&T Directorate, based on a new assessment of the challenges faced by the other directorates? In conducting the Quadrennial Homeland Security Review within your own directorate, what input have you sought from other agencies, considering your statutory coordinating role for all Federal homeland security R&D?

Answer. The Quadrennial Homeland Security Review (QHSR) will include recommendations regarding the long-term strategy and priorities for homeland security and guidance on the Department's programs, assets, capabilities, budget, policies, and authorities. While this will undoubtedly have impacts across the Department in terms of mission and priority, it should not result in sweeping changes to the

Science and Technology (S&T) Directorate's research agenda. The S&T's projects currently address the highest priority needs of DHS components; and these highest priority core missions are the least likely to change in this review.

Question 7. The DHS S&T budget is small in comparison with the R&D budgets of other defense agencies. This makes it imperative that S&T spends its money wisely, on projects that have a good chance to transition into the field. Of course there is also an obligation on the DHS components, who work with S&T on identifying projects that they want funded. Can you describe the importance of the Technology Transfer Agreements that S&T enters into with the components? How many have been signed by the components? Does the fact that components do not sign these agreements impact the work that S&T will perform for components?

Answer. Technology Transition Agreements (TTAs) are non-binding agreements developed at the technology product level between the Science and Technology (S&T) Directorate and DHS component customers and are integral to technology transition. They define the capability gap, the technology under development, delivery schedule, performance metrics, rough order of magnitude of life-cycle cost, exit criteria, and transition responsibilities for technology products. The TTAs also ensure that all parties understand the technology being delivered and the path to transition the technology. By defining the transition path and the responsibilities of the participating parties, TTAs remove the ambiguity in technology development and the transition process.

Of the 251 products currently in the Transition portfolio, 194 require TTA's. Currently, 75 TTA's have been signed, 53 are in negotiation, and 66 are currently in development.

Absence of a TTA does impact research and development done by the S&T Directorate. After appropriate time to develop a TTA, projects without TTAs come under increased scrutiny for termination. Lack of a TTA is an indicator that the identified customer does not have a plan to deploy the technology. During semi-annual reviews of S&T projects, program managers identify which projects do not have TTAs. The under secretary for science and technology then makes a decision to allow further time for TTA development or recommends project termination to the relevant Capstone Integrated Product Team and to the Department of Homeland Security (DHS) Technology Oversight Group. In cases where a project is terminated, resources are applied to other customer-identified, high-priority requirements.

Question 8. How will the two new homeland security Federally Funded Research and Development Centers (FFRDC) utilize the expertise of historically underrepresented colleges and universities?

Answer. The Federally Funded Research and Development Centers (FFRDCs) will use consultants and sub-contractors in carrying out their work. Historically underrepresented colleges and universities would be considered for sub-contracting opportunities, as well as for consulting assignments.

In addition, the Science and Technology (S&T) Directorate's Office of University Programs (OUP) will work to extend its career development programs to the new FFRDCs. The OUP presently has established relationships across the Department of Homeland Security and the Department of Energy national laboratories to place students from its education and science and technology career development programs, including the Minority Serving Institutions program, in internships and post-graduate positions. The OUP will target its career development programs more specifically to fill the jobs needed at Federal laboratories and research facilities with homeland security responsibilities.

Question 9. In the 2008 Inspector General review of the S&T Directorate, the IG stated that S&T should develop a more rigorous process for identifying, prioritizing, and selecting HIPS and HITS projects, and ensure the process documents the reasons behind the selections. Additionally, the IG suggested that the Under Secretary delegate the responsibility for managing the HITS/HIPS process to the Director of Innovation/HSARPA. Have you notified the IG about completing these outstanding requirements? Did former Under Secretary Cohen establish procedures for documenting the selection of future HIPS/HITS? Did he assign the Director of Innovation responsibility to identify and select these projects?

Answer. Yes, the Science and Technology (S&T) Directorate provided a formal response in December 2008 to recommendations in the inspector general's report, "The Science and Technology Directorate's Processes for Selecting and Managing Research and Development Programs, 2008". The response outlined S&T's process for identifying, prioritizing, and selecting new HIPS and HITS projects. The S&T Directorate officially documented this process in the latest revision of its Science & Technology Organization Regulation Manual (STORM) and used the process to select new HITS and HIPS projects proposed in the fiscal year 2010 President's budget.

As recommended by the IG, the Director of Innovation/HSARPA plays a key role in identifying and selecting projects, as follows:

- The process begins with gathering ideas for potential new HIPS and HITS. These ideas come from documented needs of DHS customers; solicitations and proposals; discussions with S&T stakeholders; technology conferences and symposia; university; laboratory and industry interaction; and international collaboration. Then the ideas are gathered by the HSARPA staff as well as other S&T members including the six division heads.
- The director of Innovation/HSARPA screens the list of potential projects to ensure that they meet the fundamental philosophy of the innovation portfolio, namely that though they still contain high risk, they offer substantially higher payoff than programs currently handled in the transition portfolio or an actual acquisition program of record. The director then presents this list of recommended new start HIPS and HITS to the S&T Corporate Board to ensure the recommended efforts are not redundant with efforts already under way, and to obtain corporate board agreement that the recommended projects are neither more appropriate for the basic research or transition portfolios.
- Following concurrence by the corporate board, the Director of Innovation/HSARPA presents the list of recommended new starts to the deputy under secretary for science and technology and the under secretary for science and technology for concurrence.
- The final phase of the approval process takes place annually when the under secretary for science and technology presents the recommended new starts to the DHS Technology Oversight Group (TOG) for approval.
- Following approval by the TOG, the Director of Innovation/HSARPA works with the S&T's chief financial officer to ensure the appropriate level of funding is requested in the President's budget.

Question 10. The S&T budget zeros out the $5 million core funding for the Homeland Security Institute (HSI), presumably to indicate that the Department's Federally Funded Research and Development Center (FFRDC) has been re-bid. The plan was to have HSI replaced by two new FFRDC's: the Studies and Analysis Institute, and Systems Engineering and Development Institute. The budget provides $5 million for the first, and no mention of the second. Please explain.

Answer. The Homeland Security Institute (HSI) contract expired in April 2009, and a new Federally Funded Research and Development Center (FFRDC) was established to conduct strategic studies and analysis for the Department of Homeland Security (DHS). Funding for the core research activities of the new FFRDC, the Homeland Security Studies and Analysis Institute (HSSAI), is included in the fiscal year 2010 budget request.

The other new FFRDC, the Homeland Security Systems Engineering and Development Institute (HSSEDI), was established to provide DHS and the homeland security enterprise with program-level concept evolution, system-of-systems development integration, and homeland security best practices in lifecycle systems engineering and program (acquisition) management. The HSSEDI has a different business model, one in which its funding will be solely task-based, and that has no core research budget requested. Rather, each task will be funded directly by the requesting DHS component.

Question 11. The budget requests an 8.5% cut in the University Programs portfolio. The committee is concerned with this because of our strong support of university programs in general, and more specifically the great value that should be placed in basic scientific research, which University Programs usually conduct. What is the decision for the decrease?

Answer. The President's fiscal year 2010 budget request for the Office of University Programs (OUP) is $4.3 million less than the fiscal year 2009 enacted budget. Of the $4.3 million reduction, $2 million supports a homeland security project at the Naval Post Graduate School (NPS). The fiscal year 2010 request moves this $2 million from OUP to Transition Division, which will continue the field testing objectives that are the central focus of the NPS project. The remaining $2.3 million represents the actual program change to OUP. With this relatively small reduction and additional funding anticipated to be forthcoming from Science and Technology (S&T) Directorate divisions and DHS components in fiscal year 2010 to support the Centers of Excellence (COE) research, S&T should be able to continue supporting mission-critical activities in the DHS COE, the Minority Serving Institutions Program, and Education Programs.

Question 12. Due to some serious problems with Testing and Evaluation on important Domestic Nuclear Detection Projects, the committee supports the idea of a separate office within the Department whose sole responsibility is conducting operational and performance testing. Will the Department's Testing and Evaluation/

Standards Office have this responsibility? Your budget documents state that [t]he Test & Evaluation and Standards programs provides policy and oversight of the Department's test and evaluation program. There does not appear, however, to be a budget for actual test and evaluation activities. Please explain.

Answer. The Science and Technology (S&T) Directorate's Test and Evaluation and Standards Division (TSD) and Director of Operational Test and Evaluation (DOT&E) are responsible for approving and overseeing the developmental and operational Test and Evaluation activities for major DHS acquisition programs, including the approval of test and evaluation master plans (TEMPs) and Operational Test Plans. The DOT&E is also a member of the Department of Homeland Security (DHS) Acquisition Review Board responsible for providing an independent view of the status of major programs to decisionmakers. The Department requires each major program to identify an independent Operational Test Agent to conduct Operational Test and Evaluation that must be approved by DOT&E.

The DHS components fund for each program's Test and Evaluation activities (e.g. U.S. Customs and Border Protection budgets for SBINet testing and the Domestic Nuclear Detection Office budgets for Advances Spectroscopic Portal Testing). The TSD and DOT&E personnel provide guidance and oversight only. The personnel expense of conducting the oversight is included in S&T's Management and Administration budget which pays for all S&T Federal employees' salaries and expenses. There is also funding in the Test and Evaluation and Standards budget that covers the cost of subject matter experts needed to support some of the reviews.

Question 13. The Chairman is very concerned about the risk posed to the Nation's electric grid and other critical infrastructure by an Electromagnetic Pulse. As such, it is our intention, as part of our authorization, to include language that will reauthorize the EMP Commission. He also believes that the Commission should be a great asset to the Department, and as such, could function in the near term as a DHS task force. However, we seem to be getting a lot of pushback from the Department in our initial discussions with the Infrastructure Protection division. Do you agree on the value of the Commission? Do you believe that such a task force would interface better with S&T than IP?

Answer. When the Electricmagnetic Pulse (EMP) Commission's report was finalized, the Department of Homeland Security (DHS) engaged the Department of Defense to brief the Cross-Sector Cybersecurity Working Group in September 2008. All 18 critical infrastructure sectors were represented by both Government and industry personnel. Additionally, the President's National Security Telecommunications Advisory Committee examined the potential threat and impact of an EMP attack to the physical assurance of the core communications network and released a report on November 6, 2008. The DHS continues to look at the control systems implications of an EMP attack.

The EMP Commission exhaustively studied the effects of EMP on infrastructure; and DHS included the EMP Commissions' findings in its internal risk assessment process. The work of the EMP Commission is completed for the foreseeable future.

I believe the Infrastructure Protection division is the proper organization within DHS to work with the EMP commission.

Question 14. In looking at the increase or decrease in funding of individual research areas such as Border and Maritime, Chemical and Biological, Explosives, Human Factors, etc, the committee presumes that the budget request numbers reflect the interest and needs at this particular time of other DHS component agencies and the current state of agreements and projects pursuant to Integrated Project Teams. Is this the case? If so can you please tell us what specifics led you to increase or decrease specific research budgets? If not, can you tell us what else drove your decisions?

Answer. Yes, the Science and Technology (S&T) Directorate used the Capstone Integrated Product Team (IPT) process to develop the fiscal year 2010 budget request. The major programmatic changes by research area are as follows:

- *Borders and Maritime Security*.—The fiscal year 2010 increase funds maritime security requirements identified by the Maritime Security IPT and Urban Tunnel Detection basic research.
- *Chemical and Biological*.—The fiscal year 2010 increase supports the initiation of the Multiplex Detection Technology project. This project will develop a technology to address food-borne pathogens in food and clinical sample matrices; detect biological threat agents in food, clinical, water, and environmental sample matrices; detect foreign animal disease from animal samples; and cover a wide variety of other pathogens of interest in a variety of sample matrices. This will provide multiple Federal partners with a tool to meet their ever-demanding needs for preparedness and support of the National Bio-Defense Strategy through rapid detection for rapid mitigation.

- *Command, Control and Interoperability (CCI).*—The fiscal year 2010 increase will enable CCI to fund cyber security research and development applied towards cyber security priorities identified in the Comprehensive National Cybersecurity Initiative (CNCI). Specifically, this effort will develop enduring leap-ahead technologies to secure the Nation's critical information infrastructure (energy, transportation, telecommunications, banking and finance, and others) and networks.
- *Explosives.*—The fiscal year 2010 increase supports the High Throughput Air Cargo Screening projects. The High Throughput Air Cargo Screening project is developing technologies for the Transportation Security Administration. The requested funding will support the objective to screen 100 percent of air cargo by developing high throughput screening technology suitable for cargo screening applications and filling the current technology capability gap. The increase in fiscal year 2010 also supports Counter-Improvised Explosive Device (IED) Research in the Transportation Security IPT, specifically the Person-Borne IED project. This funding will enable S&T to build upon existing research programs and improve large threat mass detection for large areas, such as mass transit and special events.
- *Human Factors.*—The increase in fiscal year 2010 reflects additional support for efforts in the Biometrics, Suspicious Behavior Detection, and Human Systems Research, and Engineering Programs.
- *Infrastructure and Geophysical.*—The fiscal year 2010 budget request increases research and development of first responder technologies such as 3–D locators, physiological monitors, and extremely strong, lightweight, resilient materials (compared to the fiscal year 2009 budget request). The fiscal year 2010 budget request does not include the National Institute for Hometown Security and the Southeast Regional Research Initiative.
- *Innovation.*—The fiscal year 2010 increase will fund existing programs whose scopes increase as they mature and will allow for new starts projects in the area of multi-modal tunnel detect, where capabilities are currently non-existent to inadequate; and low-cost biological detection, which could result in huge gains in capability for DHS.
- *Transition.*—The fiscal year 2010 increase million provides funding for the First Responder Capstone IPT. This increase will allow DHS to test technologies, assess them for usability, and commercialize them to make the technology solutions available to Federal, State, local and tribal first responders.
- *University Programs.*—The fiscal year 2010 request for University Programs is $4.3 million less than the fiscal year 2009 enacted budget. Of the $4.3 million reduction, $2 million supports a homeland security project at the Naval Post Graduate School (NPS). The fiscal year 2010 request moves this $2 million from University Programs to Transition, which will continue the field testing objectives that are the central focus of the NPS project. The remaining $2.3 million represents the actual program change to University Programs. With this relatively small reduction and additional funding anticipated to be forthcoming from S&T Divisions and DHS components in fiscal year 2010 to support the Centers of Excellence research, S&T should be able to make up the remaining difference and continue supporting mission-critical activities in the DHS Centers of Excellence, the Minority Serving Institutions Program, and Education Programs.

Question 15. The committee supports the transition of operational aspects of the Integrated Consortium of Laboratory Networks (ICLN) from S&T to the Office of Health Affairs (OHA) as soon as possible. The committee understands that S&T has wanted to transfer operational aspects of the ICLN to OHA for some time now, but that the inability of OHA to provide the necessary support has prevented this from occurring. How does the money requested in the fiscal year 2010 budget address this problem?

Answer. The Technology Transfer Agreement (TTA) between the Science and Technology (S&T) Directorate and the Office of Health Affairs (OHA) on the Integrated Consortium of Laboratory Networks (ICLN) identifies three conditions for transfer of operational aspects to ICLN: (1) Adjudgment that the Integrated Response Architecture (IRA) being currently built by the ICLN under S&T leadership is functional as an operational system; (2) OHA has identified funds to support the assumption of operational aspects; and (3) OHA has identified an individual to begin to serve as Chair of the ICLN Network Coordinating Group. The target date for the transition as of last fall was December 2009. On further examination of information technology issues related to data flow among laboratory systems to support functionality of the Integrated Response Architecture, OHA and S&T agreed to delay the transition by 6 months to June 2010. It is anticipated that this additional

delay caused by technology issues will provide sufficient time for OHA to address the commitments it made to support transition of operational aspects of ICLN. Regardless of when the transition occurs, S&T is committed to ensuring the requisite capability is built and functional. Fiscal year 2010 funding allocated to ICLN in S&T funding will be applied as necessary to maintain functionality under S&T leadership until all conditions necessary to enable transition are met.

QUESTIONS FROM RANKING MEMBER DANIEL E. LUNGREN OF CALIFORNIA FOR BRADLEY I. BUSWELL, ACTING UNDER SECRETARY, SCIENCE AND TECHNOLOGY DIRECTORATE, DEPARTMENT OF HOMELAND SECURITY

Question 1. How is the budget for the S&T Directorate prioritized? Does the Department undertake a comprehensive risk assessment, and allocate funding requests based on the ranking of the perceived threats?

Answer. The Department of Homeland Security's (DHS) components and agencies receive numerous inputs to their prioritization processes including intelligence briefings and threat assessments from various sources. The knowledge gained from these inputs form the prioritization of missions within the components and in turn the components prioritization of the research and development (R&D) activities requested of the Science and Technology (S&T) Directorate. Approximately 50 percent of S&T budget is dedicated to the Transition Portfolio which uses Integrated Product Teams to define the highest priority capability gaps within the Department. In addition to the Transition Portfolio, S&T manages a Basic Research Portfolio. The Basic Research Portfolio is approximately 20 percent of the R&D budget and is driven by the need for fundamental technology advancements to address gaps that cannot be filled with mature technologies. The S&T's Innovation portfolio is between 5 percent and 10 percent of the R&D budget and it addresses high-priority needs of the Department with high-risk, high pay-off research projects. The Technology Oversight Group (TOG) plays a key role in the selection of and funding levels for the Transition and Innovation projects. The TOG is headed by the DHS Deputy Secretary and ensures that the Department's priorities are reflected in S&T's R&D portfolio and its investments.

Question 2. I noticed that your budget for the Chemical and Biological Division outlines a nearly $7 million response and restoration program to develop plans to respond and recover to a biological attack. We need to see more of this for radiological and nuclear events.

Does S&T undertake any such research for radiation and nuclear events, or does that fall entirely to the Domestic Nuclear Detection Office?

Do you foresee interest in radiological preparedness and response increasing when the new under secretary comes on board?

Answer. When the Domestic Nuclear Detection Office was established it assumed all responsibility for radiological and nuclear research and development R&D in fiscal year 2006 and all related funding in fiscal year 2007 and later. In fact, the SAFE Ports Act of 2007 (Pub. L. 109–347) modified Title 3 of the Homeland Security Act of 2002 removing from the under secretary for science and technology authorities or responsibilities for radiological or nuclear research and development.

Question 3a. The Department is the subject of a lawsuit and an inspector general investigation over its handling of the site selection process for the National Bio and Agrodefense Facility, or NBAF. The NBAF is meant to replace the research facility on Plum Island. The allegations are serious, contending that the selection process for this more than half-a-billion dollar enterprise was biased and based on neither good science nor good Government.

What actions have been taken to sell Plum Island?

Answer. Pursuant to Section 540 of the Consolidated Security, Disaster Assistance and Continuing Appropriations Act of 2009, Pub. L. 110–329, the Secretary of Homeland Security has directed the General Services Administration (GSA) to move forward with actions that will allow the liquidation of the Plum Island asset. The GSA is currently reviewing the Department of Homeland Security (DHS) documents related to Plum Island in order to create the appropriate marketing plan, conduct due diligence and meet environmental planning requirements. The GSA and DHS representatives meet regularly to lay the ground work for a memorandum of agreement that will govern agency actions going forward.

Question 3b. Do you believe it is prudent to undertake such actions when a lawsuit and an IG investigation into serious allegations are only just getting underway?

Answer. The Department cannot comment on pending litigation and has no knowledge of any IG investigation into the National Bio and Agro-Defense Facility NBAF site selection. However, as for the merits of DHS's site selection process, the selection of the Manhattan, Kansas site concluded a rigorous, 3-year, multi-agency

planning process to identify the preferred site upon which to construct and operate NBAF. The process involved a qualitative analysis of the strengths and weaknesses of each site alternative and included information from the risk assessment, environmental assessment, and security assessment on proposed NBAF operations. A steering committee, comprised of Federal employees from DHS and the U.S. Department of Agriculture, was convened to lead the evaluation process and unanimously recommended the site in Manhattan, Kansas as its preferred site alternative. The DHS leadership concurred with the Federal employee steering committee's recommendation.

Question 3c. Will S&T break ground on the NBAF and sell the island before these allegations have been resolved?

Answer. DHS cannot predict when the lawsuit or any IG investigation (or any potential IG investigation) will be resolved. However, due to the aging infrastructure at the Plum Island Animal Disease Center (PIADC) and the need to find an efficacious cure for foot-and-mouth disease and other foreign animal diseases, DHS will continue with site specific design for this high containment laboratory, which will provide the country with biosafety level 3 and 4 facilities for large animal research.

Question 4a. The Directorate funds national laboratories and DHS Centers of Excellence to basic and applied research.

How does S&T prioritize the split between these entities?

Answer. The Science and Technology (S&T) Directorate's divisions work with the Director of Research when developing research topics in their areas. This coordination helps the S&T divisions select the University or National Lab performer with the most appropriate expertise for each research project. The Director of Research, through the Office of University Programs, has aligned the DHS Centers of Excellence with S&T's divisions to ensure that the centers research efforts are meeting the strategic needs of the Department and that the centers are building a capability to best match those needs. The Director of Research, through the Office of National Laboratories, has also aligned the Department of Energy's National Laboratories to each S&T division to identify the laboratories with the most relevant capabilities and enable the divisions to select the appropriate performers for high-priority research and development.

Question 4b. Is enough basic research being funded to establish a long-term research basis for future applied and transitional technologies?

Answer. Yes, S&T has grown its basic research portfolio from approximately 10 percent in 2006 to about 20 percent in 2010. Basic research needs to be balanced with the Transition and Innovation projects to ensure that technologies are being delivered to the field to support our customers, and that there is a pipeline of next-generation technologies to address the future requirements.

Question 5a. The Directorate has established two new research centers, the Homeland Security Systems Engineering and Development Institute (HSSEDI). This center will transition work away from non-DHS research centers.

From which centers will work be shifted?

Answer. Work will transition from the Internal Revenue Service, Center for Enterprise Modernization (CEM), Federally Funded Research and Development Center (FFRDC), and the Department of Defense, Command, Control, Communications and Intelligence (C3I) FFRDC to the Homeland Security Systems Engineering and Development Institute. The CEM and C3I FFRDCs are operated by the MITRE Corporation.

Question 4b. Will the work be funded solely from the S&T Directorate, or from other DHS components as well?

Answer. Each task will be funded directly by the requesting Department of Homeland Security (DHS) component, which may include the Science and Technology (S&T) Directorate.

Question 4c. Is the funding request for HSSEDI?

Answer. The Homeland Security Institute (HSI) contract expired in April 2009, and a new FFRDC was established to conduct strategic studies and analysis for the Department. Funding for the core research activities of the new FFRDC, the Homeland Security Studies and Analysis Institute (HSSAI), is included in the fiscal year 2010 budget request.

The other new FFRDC, the Homeland Security Systems Engineering and Development Institute (HSSEDI), was established to provide DHS and the homeland security enterprise with program-level concept evolution, system-of-systems development integration, and homeland security best practices in lifecycle systems engineering and program (acquisition) management. HSSEDI has a different business model. Its funding will be solely task-based, and there is no core research budget requested. Each task will be funded directly by the requesting DHS component, which may include the Science and Technology Directorate.

Question 6. Across the Federal Government not just in Homeland Security, there is a proliferation of detection technologies being developed, tested, purchased, and deployed. From chemical sensors to nuclear material sensors, there are numerous stove-piped programs aiming to address one specific threat.

In your view, is there an opportunity to take a more strategic view of technology development so instead of buying three sensors—one to detect a chemical threat, a second to detect an explosive threat, and a third to detect nuclear material—we can look more strategically to develop and deploy multi-mission technology to detect more than one threat? Are we doing this now? Do you believe such an approach might be reasonable and worth investigating?

Answer. The Science and Technology (S&T) Directorate does pursue opportunities to strategically develop and deploy integrated systems that will detect more than one threat. For example, the Integrated Chemical, Biological, Radiological, Nuclear and Explosive (CBRNe) Detection System Project is developing an architecture that integrates reporting from disparate CBRNe detection/collection systems. This system will provide timely CBRNe detection, identification, and assessment of the threat and enables appropriate response by local, State, and Federal officials. It will greatly improve the integration of alarm and response assets across multiple potential attack modes, resulting in more rapid and informed decisions at the appropriate response level. The S&T is also in the process of developing sensors for bench-top and handheld applications with the joint capability of detecting explosives and narcotics. Customers for these technologies include DHS U.S. Customs and Border Protection and the U.S. Coast Guard.

However, while leveraging opportunities to develop multi-mission technology systems is worthwhile, there are limits. The underlying technologies that enable detection of chemical, biological, radiological, nuclear, and explosive threats are fundamentally very different from each other. In addition, the operational environments for these distinct detection technologies vary, making testing of the detectors a challenge. For example, programs working across the chemical and the explosives threat domains have much different concepts of operation and hence testing environments; such as first-responder needs versus transportation security requirements. These differences can make development of multi-threat detection technology beyond the scope of what is possible today. While it is necessary for many programs to focus on developing single-threat specific detection technologies, the ultimate goal is to integrate them into deployable multi-threat detection systems to the greatest extent possible and to exploit testing programs for different threat domains, where feasible, to make best use of program funds. Collocation and integration of single-threat specific detection technologies can, in the near-term, achieve more efficient and effective operations.

QUESTIONS FROM HONORABLE PAUL C. BROUN OF GEORGIA FOR BRADLEY I. BUSWELL, ACTING UNDER SECRETARY, SCIENCE AND TECHNOLOGY DIRECTORATE, DEPARTMENT OF HOMELAND SECURITY

Question 1a. As you know, the Department of Homeland Security (DHS) has recommended a site in Manhattan, Kansas for its proposed National Bio and Agro-Defense Facility, known as NBAF. The Department of Homeland Security is now the subject of a lawsuit and an inspector general investigation over its handling of the new NBAF's site selection process. The NBAF is intended to replace the smaller, out-of-date Plum Island facility. However, the allegations against the Department are serious, contending that the selection process for this more than half-a-billion dollar facility was biased and based on neither good science nor good Government. We believe the best way to safeguard the process for future competitions, and to ensure that the needs of the American people for an agricultural and bio-defense facility are being served in an optimal manner.

Will S&T break ground on the NBAF and sell the island before these allegations have been resolved?

Answer. The Department of Homeland Security (DHS) cannot predict when the lawsuit or any IG investigation (or any potential IG investigation) will be resolved. However, due to the aging infrastructure at the Plum Island Animal Disease Center (PIADC) and the need to find an efficacious cure for foot-and-mouth disease and other foreign animal diseases, DHS will continue with site-specific design for this high-containment laboratory, which will provide the country with biosafety level 3 and 4 facilities for large animal research.

Question 1b. What actions have been taken to sell Plum Island?

Answer. Pursuant to Section 540 of the Consolidated Security, Disaster Assistance and Continuing Appropriations Act of 2009, Pub. L. 110–329, the Secretary of Homeland Security has directed the General Services Administration (GSA) to move

forward with actions that will allow the liquidation of the Plum Island asset. The GSA is currently reviewing DHS documents related to Plum Island in order to create the appropriate marketing plan, conduct due diligence and meet environmental planning requirements. The GSA and DHS representatives meet regularly to lay the groundwork for a memorandum of agreement that will govern agency actions going forward.

Question 1c. Do you believe it is prudent to move forward on this project so quickly when a lawsuit and an IG investigation into serious allegations are only just getting underway?

Answer. The Department cannot comment on pending litigation and has no knowledge of any IG investigation into the National Bio and Agro-Defense Facility (NBAF) site selection. However, as for the merits of DHS's site selection process, the selection of the Manhattan, Kansas site concluded a rigorous, 3-year, multi-agency planning process to identify the preferred site upon which to construct and NBAF. The process involved a qualitative analysis of the strengths and weaknesses of each site alternative and included information from the risk assessment, environmental assessment, and security assessment on proposed NBAF operations. A steering committee, comprised of Federal employees from DHS and the U.S. Department of Agriculture, was convened to lead the evaluation process and unanimously recommended the site in Manhattan, Kansas as its preferred site alternative. The DHS leadership concurred with the Federal employee steering committee's recommendation.

QUESTIONS FROM CHAIRWOMAN YVETTE D. CLARKE OF NEW YORK FOR JON KROHMER, ACTING ASSISTANT SECRETARY AND CHIEF MEDICAL OFFICER, OFFICE OF HEALTH AFFAIRS, DEPARTMENT OF HOMELAND SECURITY

Question 1. Do you believe that the Office of Health Affairs should continue to exist as a stand-alone office within the Department? Or do you believe that it should be split up with pieces sent to various other organizational entities within DHS? In your opinion, how would efficiency and effectiveness increase in either scenario?

Answer. Currently, the Office of Health Affairs is a stand-alone entity within the Department of Homeland Security (DHS). This organizational structure promotes the health component of homeland security in protecting the Nation from the effects of natural catastrophic events and acts of terrorism and ensuring consistent standards are in place across DHS to protect its critical work force. However, DHS is always looking at ways to improve the management and performance of all its components. For example, as part of the DHS' Quadrennial Homeland Security Review (QHSR) process, the Department is reviewing Departmental organization, including OHA.

Question 2. The recent outbreaks of H1N1 provided the Office of Health Affairs with the opportunity to demonstrate its utility to the DHS and the rest of the Executive Branch. Please talk to us about how OHA performed, and what would have helped the Office to carry out its responsibilities better. For example, how did the National Biosurveillance Integration Center and System contribute to the overall effort, and would more funding have helped to provide a more comprehensive picture of developments with the outbreaks and spread of the disease?

Answer. The Office of Health Affairs was very involved in the Department's response to the recent H1N1 flu outbreak. We also worked extremely closely with our interagency partners during this event. OHA actions in response to the H1N1 influenza outbreak include the following, among other activities:

- Collaborating with DHS Components to inventory their respective countermeasure stockpiles, and determining current needs, especially for border personnel;
- Deploying additional protective countermeasures—antivirals and personal protective equipment (PPE)—to border areas for DHS personnel;
- Answering questions from the components and the interagency regarding workforce protection issues;
- Setting up and managing the OHA Decision Support Cell, which served in support of the DHS National Operations Center as the central collection, analysis, and processing element for medical and health information and guidance for the Department;
- Answering requests for information from the Secretary, the Deputy Secretary, DHS Components, State and local community officials, and other DHS stakeholders;
- Collaborating with CDC on development and distribution of Travelers Health Alert Network (THAN) to State and local Health Officers, Public Information

Officers, Epidemiologists and HAN Coordinators as well as clinician organizations;
- Supporting the Federal lead agencies with specific cross-domain analysis related to H1N1 through the National Biosurveillence Integration Center (NBIC);
- Generating comprehensive daily status reports based on integrating Federal, State, open source, and classified information sources on the status of the H1N1 influenza outbreak spread;
- Maintaining the real-time dynamic biosurveillance operating picture of the current status of the H1N1 influenza outbreak event 24/7 for the Federal interagency participants (via the NBIC);
- Connecting with the Nation's modeling capability, including the National Infrastructure Simulation Analysis Center (NISAC) to evaluate more fully the potential work force and critical sector infrastructure impacts that could result for different H1N1 influenza outbreak scenarios to better inform future planning and policy decisions; and,
- Providing surge support through the BioWatch program at 27 Public Health laboratories, as well as providing surge support for sample analysis (this is not impacting on-going BioWatch operations).

Question 3. Various outbreaks have tested the ability of the National Biosurveillance Integration Center (NBIC) to obtain and integrate biosurveillance data from the Federal Departments and agencies. To date, NBIC has struggled to operate at even a low level, and is not providing value-added to any of the individual members of the Executive Branch or the collective. The committee believes that either NBIC needs to receive a much larger infusion of funding—on the order of five times as much as currently requested—or that the NBIC should be discontinued because it is not performing the way Congress intended. What is your opinion of the NBIC, and do you think it is possible for the Center to operate and provide integrated surveillance information on only $8 million/year?

Answer. NBIC is a critical component of the Nation's ability to integrate biosurveillance data. The *Implementing Recommendations of the 9/11 Commission Act of 2007* (Pub. L. 110–53) established the National Biosurveillance Integration Center (NBIC) to provide a biosurveillance common operating picture to senior leaders and partner agencies regarding natural disease outbreaks, accidental, or intentional uses of biological agents, and emergent biohazards through the acquisition, integration, analysis and dissemination of information from existing human health, animal, plant, food, and water surveillance systems and relevant threat and intelligence information. NBIC has provided valuable situational information to senior leaders (both within DHS and the interagency) on ongoing biological incidents.

Current funding levels support current operations and NBIC will continue to analyze information and data and will provide integrated surveillance information to senior leaders during biological incidents.

Question 4. The National Biodefense Architecture Project has received very little funding in this and previous Presidential budget requests. As with NBIC, the committee does not believe it is possible for this project to accomplish what it aims to with only hundreds of thousands of dollars budgeted for its activities. (In fact, this seems mostly to be funding the development of concept papers by contractors.) The committee believes that millions of dollars are necessary to fully characterize the architecture, perhaps with the inclusion of funding for a Commission to undertake this activity (as opposed to a Government contractor) and to provide relevant information and recommendations to both the legislative and executive branches. Dr. Kramer, given what you know about the biological threat and the need for vastly enhanced a domestic biodefense architecture, do you think that it is possible for such an activity be undertaken for only a few hundred thousand dollars per year?

Answer. The National Biodefense Architecture (NBA) program is currently focused on developing a concept for a national biodefense capabilities assessment, a task charged to the Department by Homeland Security Presidential Directive 10, Biodefense for the 21st Century. In fiscal year 2010, OHA plans to begin performance of this capabilities assessment. This assessment will lay the foundation for a future biodefense architecture. It is our plan to catalog capabilities, seek gaps in surveillance, preparedness, and response and develop a structure to fill these gaps by linking together the existing capabilities or developing new ones based on best practices into a national framework or architecture. OHA will also continue to work closely with existing interagency relationships and reach out to additional agencies in order to preserve its interests in a national plan to set out this architecture. We agree that this effort cannot be limited to one Department or agency and must be a coordinated interagency effort.

Question 5. The Integrated Consortium of Laboratory Networks seeks to integrate Federally sponsored and funded laboratory networks that have arisen for a variety

of purposes (for example, the Laboratory Response Network for Bioterrorism is a member network, Federally sponsored by the Centers for Disease Control and Prevention). This activity originated in the DHS S&T Directorate, but has matured to the point that DHS S&T feels that its operational aspects should be transferred to OHA, where other personnel and programs interact with the various communities (such as the public health laboratory community) that compose these various networks. Dr. Kramer, do you support this transfer? Why or why not? Where within the current organizational structure for OHA would you put this activity, and how much funding do you think should be allocated in order for it to function effectively?

Answer. The transfer of the management of the Integrated Consortium of Laboratory Networks (ICLN) from the Science and Technology (S&T) Directorate to the Office of Health Affairs (OHA) is appropriate upon achieving operational status of an integrated system capable of providing optimal response to an event requiring an integrated laboratory response. In 2008, the under secretary of S&T transferred his duties as chair of the ICLN Joint Leadership Council to the assistant secretary for health affairs/chief medical officer. Presently, the S&T Directorate manages the ICLN and is making advances toward its operational status.

The recent emergence of the H1N1 influenza strain has highlighted the critical need for a system of laboratory networks capable of an integrated and coordinated response and consequence management during times of surge. The Office of Weapons of Mass Destruction—Biodefense within OHA has an agreement in place with the S&T Directorate's Chemical and Biological Division to transition the ICLN when S&T, in conjunction with ICLN partners, completes the establishment of coordination and governance mechanisms and establishes an integrated, functional response architecture. The current ICLN roadmap indicates completion of that integrated response architecture by June 2010. However, in addition to the criterion for a complete and functional integrated response architecture, the time of transition of the ICLN also hinges on two additional requirements. First, OHA is required to secure funding in order to manage the ICLN. Second, OHA must provide personnel to assume full-time duties of managing this effort.

S&T will continue its management of the ICLN until OHA has adequate resources to ensure the success of the ICLN. While I firmly believe OHA is well-positioned with its mission and existing relationships with the public health community to more appropriately manage ICLN operations, my intent is not to prematurely transition an effort from S&T that would not have the requisite support in OHA, but rather provide for a seamless transition that maintains the trust and confidence of the ICLN partners through the transition.

Question 6. OHA has indicated that it is developing medical intelligence capacity for use and inclusion in the State fusion centers. Although the committee supports the notion that public health, medical, veterinary, environmental, and other types of information should be fused with law enforcement and intelligence information already residing in fusion centers, we are concerned about the duplication and possible contradictory efforts occurring with medical intelligence activities at OHA, health intelligence activities occurring in I&A, and medical intelligence activities occurring (with DHS participation) at the DOD-sponsored National Center for Medical Intelligence. Dr. Kramer, what is your vision for DHS-driven medical intelligence activities, and how do you propose to eliminate inefficiency and ineffectiveness in this regard for the Department?

Answer. OHA does not conduct medical intelligence activities; we provide expertise to I&A and input as needed. OHA is a customer of—and supports as needed—I&A's efforts on medical intelligence. OHA has been involved as a gateway to the public health and medical communities for the Health Security Intelligence Enterprise (HSIE)—a partnership which includes OHA and I&A. Both partners bring critical elements to the HSIE. OHA gathers public health/medical responder requirements and serves as an interface to that community, while I&A produces assessments for this community (in collaboration with other relevant agencies) and sponsors the program throughout the national State and local fusion center. OHA provides support through funding, personnel, subject matter expertise, and a network of health and medical professionals in the public health and health care community. It is important to note that OHA will not be placing representatives in State and local fusion centers. The HSIE initiative is designed to facilitate the placement of State and/or local public health/health care representatives in those centers.

I&A has worked with the 70 designated State and local fusion centers to create an information-sharing environment that serves stakeholders' information needs and builds interoperability. By partnering with I&A, OHA has been able to leverage those relationships to formulate policies, guidance, and strategies to provide outreach, advisory services, training, and a variety of coordination and education activities. These activities maximize the efforts of OHA to enhance existing relationships

with the health community and promote the appropriate exchange of health security information and intelligence between all homeland security partners. As an indication of the strength and efficacy of the partnership between OHA and I&A, OHA has detailed an individual to I&A's State and Local Program Office to develop this program.

OHA is partnering with I&A to develop mechanisms to share appropriate WMD and health-related threat information with fusion centers and partners in the health community. Building information sharing links and a network is only part of the solution—we must have timely, tailored, and relevant intelligence information to share with our partners. To that end, I&A established a medical intelligence analysis team within the National Center for Medical Intelligence (NCMI) that focuses on threats to the homeland, and provides all-source analysis on human, animal, plant, and food security threat issues for customers at all levels—from the Secretary of Homeland Security to public health officers in the field. I&A is fully integrated within the NCMI and leverages existing capabilities to ensure there is no duplication of effort and that all customer requirements are met. I&A's integration into NCMI is such that the NCMI created a position of Deputy Director for Homeland Security, staffed by a senior I&A intelligence officer. I&A and NCMI provide individual and co-authored all-source intelligence analysis for medical intelligence threats to the homeland, and are able to disseminate them as appropriate to DHS-recognized fusion centers. In addition, I&A supported the 2009 H1N1 Flu Incident Management Cell located at OHA's main office, affording prompt access to intelligence products generated specifically for H1N1 by NCMI.

Question 7. As you are well aware, there are many emergency medical personnel—most especially EMTs—that work in various capacities throughout the Department of Homeland Security for the various component agencies. In carrying out their responsibilities, they are often required to traverse State, territorial, and sometimes international boundaries. The current approach utilized by the Department is to require all such personnel to obtain and maintain accreditation in the States in which they are permanently assigned. However, this does not take into account their cross-border operational requirements. Further, it does not take into account the requirements of those undercover law enforcement personnel to maintain their EMT status while remaining under cover. A simple solution would be for DHS to establish an accreditation program similar to those used by other Federal departments and agencies (such as the FBI and the DOD). The committee supports the implementation and use of such a model. Dr. Kramer, do you agree? If not, please explain to the committee how the currently used or alternative models best serve the needs of the Department and its employees?

Answer. The Department is currently developing a plan for establishing an EMS medical oversight and credentialing system within the Department. This system would provide that EMS providers who are employed by, contracted by, or detailed to DHS who possess a current, valid State license or certification to provide EMS, and who perform authorized duties for the Department, may provide EMS in any State, the District of Columbia, or a Commonwealth, territory, or possession of the United States. DHS is currently determining whether the Department can move forward with such a system under its current statutory authorities.

QUESTIONS FROM RANKING MEMBER DANIEL E. LUNGREN OF CALIFORNIA FOR JON KROHMER, ACTING ASSISTANT SECRETARY AND CHIEF MEDICAL OFFICER, OFFICE OF HEALTH AFFAIRS, DEPARTMENT OF HOMELAND SECURITY

Question 1. The budget request for Planning and Coordination, which is predominantly accounted for by the Office of Medical Readiness, has been cut significantly, by $3.3 million. This office is responsible for the critical task of planning the medical aspects of incident management for both the Department and the interagency, including for pandemic influenza preparedness. The importance of its work has become readily apparent during the current influenza outbreak. Yet I understand that the office has received no specific funding request this year for pandemic activities.

Why was the budget cut for this office?

Why is there no funding request specific for pandemic activities?

Answer. The Planning and Coordination PPA account funds the activities of the Office of Medical Readiness and the Food, Agriculture, and Veterinary Defense Division within the Office of Health Affairs. The budget request reflects a balancing of priorities within the Department. As the requested funding level, the Office of Medical Readiness will continue to review Federal plans for the medical and public health impacts, including pandemic influenza, and will continue to provide subject matter expertise during incidents and exercises.

DHS pandemic activities will continue in fiscal year 2010 through funding from the Pandemic Supplemental of fiscal year 2006 ($47.283 million). That supplemental is 99% obligated at this time, and will be fully obligated in fiscal year 2010. The Department is currently conducting an after-action review of the recent H1N1 flu outbreak response. If the Department identifies additional needs or resources in fiscal year 2010, the Department will prepare a request for Congressional and Department of Health and Human Services consideration to be funded out of the recent pandemic supplemental appropriation. OHA will continue to provide subject matter expertise for DHS pandemic activities through fiscal year 2010.

Question 2. OHA's mission statement states that OHA "leads the Department's role in developing and supporting a scientifically rigorous, intelligence-based biodefense and health preparedness architecture to ensure the security of our Nation in the face of all hazards." Yet, the National Biodefense Architecture received no funding request. This initiative was a necessary attempt to do what no other agency or program is doing to collate and coordinate the myriad biodefense activities across all levels of Government.

Why have you cut a program that is, by title and definition, key to OHA's mission?

Why does the Department view oversight and coordination of biodefense activities as an unnecessary initiative?

How can a reduction in contractor support, which was given as a reason to staff for the reduction in the budget request, explain zeroing out of the program entirely?

What are your plans for the future of this program; will it disappear after its fiscal year 2009 funding is consumed?

Answer. The National Biodefense Architecture (NBA) continues to be an important program for the Office of Health Affairs. The bulk of the work supporting the NBA will be done with 2009 funds. In fiscal year 2010, the NBA program will continue some of the activities started in fiscal year 2009 including development of a baseline assessment of the Nation's biodefense capabilities. OHA will continue to work closely with existing partners and will reach out to other agencies as well to ensure that DHS plays the appropriate role within the interagency and preserves its interests in a national plan to monitor, detect, respond to, and recover from biological catastrophes.

Question 3. The Food, Agriculture, and Veterinary Defense (FAVD) office request was level, at $727,000. This office has the critical mission of leading the Department's efforts to ensure the security of the Nation's food supply. OHA has informed staff that the current funding and staff levels enable FAVD to meet its most pressing needs.

Is it enough to support only the most pressing needs? Shouldn't we support this office so it can meet the day-to-day needs as well as the crisis of the moment?

What needs is the office not meeting at current staffing and funding levels?

Answer. The fiscal year 2010 President's budget requested $727,000 to fund the Food, Agriculture, and Veterinary Defense (FAVD) Division within the Office of Health Affairs (OHA). This funding level will support current operations and FAVD will continue to work, in coordination with the United States Department of Agriculture and other internal and external partners, to ensure the security of the Nation's food and agriculture sectors.

Question 4. BioWatch Gen–3.0 is getting ready for operational testing and evaluation by the Office of Health Affairs.

I have heard with some concern that when it is ready, the Gen–2.0 machines will be taken out of commission. Is this the case, and if so, wouldn't it make more sense to maintain the budget for both, thereby gaining a significant net increase in capability?

Even though the Gen–3.0 machines will offer faster detection times, is it true that they may not in fact be able to identify any more agents than Gen–2.0? Would it make sense to fund the S&T Directorate for development of better, broader assays to make this happen?

Answer. DHS' current plan for the BioWatch Program is to replace manually operated collectors (Gen–1 and Gen–2 systems) with automated detectors. These automated detectors will analyze air samples internally and will report out results. Automated analysis of air samples is estimated to reduce detection time from 10–34 hours to 4–6 hours. When fully deployed, an automated BioWatch detection network will have replaced all previous generation sensors.

It is DHS' expectation that the value gained by having an autonomous system will provide the Nation with the most effective approach toward biodetection.

The initial testing and use of the Gen–3 systems will be for the same agents as detected by Gen–1 and Gen–2 systems. The end goal for the Gen–3 systems is to have the capability to detect as many as 20 agents if appropriate. The Science and

Technology (S&T) Directorate at DHS will continue to lead the development of additional assays for inclusion in the BioWatch detection system that allow for a broader range of detectable agents for Gen–3 systems.

QUESTIONS FROM CHAIRWOMAN YVETTE D. CLARKE OF NEW YORK FOR CHARLES R. GALLAWAY, ACTING DIRECTOR, DOMESTIC NUCLEAR DETECTION OFFICE

Question 1. What is your current estimated date for ASP Secretarial Certification? Is the current intention to certify for primary inspection, secondary inspection, or both?

Answer. Testing for Advanced Spectroscopic Portal (ASP) systems is currently ongoing, but we anticipate that we will be prepared to provide test data and analysis, along with consultation with the National Academy of Sciences, to inform the Secretary's decision on certification of ASP performance this fall. Based on the fulfillment of criteria defining a "significant increase in operational effectiveness" set forth for primary and secondary inspections, the Secretary will be able to determine whether to certify ASP systems for primary and/or secondary deployments.

Question 2. The fiscal year 2010 budget request for Systems Acquisition—that is for procurement of detection technologies—has been zeroed out, a cut of $153.5 million. Your Congressional Justification states that: "No funds are being requested for the Domestic Nuclear Detection Office Systems Acquisition reflecting unobligated carryover balances from prior appropriations and unanticipated delays in final Secretarial certification of Advanced Spectroscopic Portals. DNDO will continue to acquire radiological/nuclear detection equipment in fiscal year 2010 as it draws down unobligated balances remaining for this activity. To date, DNDO's acquisition program has successfully enabled DHS components to dramatically increase scanning of cargo and persons at U.S. points of entry." How much do you have in "unobligated carryover balances"? Are these carryover funds sufficient for all fiscal year 2010 procurements?

Answer. The fiscal year 2009 unobligated balance for current generation radiation portal monitors (RPMs), which will soon be obligated for current year requirements, is $39 million. The unobligated balance for ASP systems is $77 million, of which $17 million remains from fiscal year 2008 and $60 million remains from fiscal year 2009. Assuming a successful outcome of Secretarial certification, these funds will be used to procure a mix of current generation and ASP systems. If certification does not occur, these funds will be used to procure only current generation systems. Based on prior year purchases, 158 additional PVT radiation portal monitors could be delivered and deployed in fiscal year 2010 using the funding currently planned for ASP systems.

Question 3. Is there a "drop-dead" date for Secretarial Certification for ASP? That is to say, the date for certification has been pushed back several times. Is there a point at which you must cut your losses and re-evaluate the program?

Answer. The fundamental technology that ASP brings to the Nation's homeland security arsenal is sound, and as a system it promises to deliver a significant improvement over previous capabilities in the detection and identification of radiological/nuclear threats. To date, the delays in certification of ASP have been related to issues of operational ease and reliability—problems that take time to resolve but do not seriously threaten the viability or potential contribution of the new system. Given the nature of the rad/nuc threat, our continuing belief in the soundness of the underlying technology, and the progress we have made in addressing operational issues to date, we are confident that ASP remains the ideal solution to the requirement for a detection and identification system at ports of entry for the near future.

Question 4. Let us suppose that the "Significant Increase In Operational Effectiveness" criteria are met for the ASP, and that the Secretary certifies the ASP. The next consideration is that an ASP costs 2.67 times as much as a current PVT. Does the increase in performance then justify the increased cost?

Answer. DNDO has prepared, and is in the last stages of reviewing, a comprehensive Cost Benefit Analysis and Life Cycle Cost Estimate to determine the cost effectiveness of ASP detectors. This analysis, along with input from the stakeholders, and concurrence from the DHS Acquisition Review Board, will form the basis of any acquisition or deployment decisions.

Question 5. The committee is very concerned with Source Security and DNDO's role in the trilateral effort to secure radioactive sources. It is our understanding that OMB requested that source security funding go through one agency (DOE/NNSA), rather than multiple sources. Please describe the current status of the trilateral effort, DNDO's role, the role of the other two agencies (DOE/NNSA and NRC), and the funding levels for these efforts at DNDO and at your other two agency partners.

Answer. DNDO's source security work involves performing gap analysis and promoting mitigation strategies to secure radiological material at its source within the United States. In fiscal year 2009, the DNDO budget included $1 million in funding for irradiator hardening, however in fiscal year 2010 source security work such as irradiator hardening will be conducted exclusively by DOE. A forum for discussion on source security between DOE, DHS, and the Nuclear Regulatory Commission (NRC) is still in place, and DHS, through the Nuclear Government Coordinating Council and Nuclear Critical Infrastructure Partnership Advisory Council (CIPAC), will continue to play an advisory role.

The NRC is the regulatory body of the United States Government for licensing of all radioactive medical and industrial sources in the United States, including the security of the radioactive materials. In addition to regulatory controls on radioactive materials, NRC has implemented many additional security requirements on the licensees of radioactive source, and has raised the security culture among the licensees in the United States in partnership with the Agreement States.

DOE has established a domestic source security program that, in cooperation with the U.S. licensees and the NRC, is targeted at implementing security measures above what is required by the NRC. DOE is providing funding to licensees to implement increased security measures at licensee facilities in the United States. It is our understanding that the DOE funds approximately $400 million for their domestic security program; the NRC does not break out their source security expenditures in this manner.

Question 6. The budget requests a plus-up of $7.2 million for Transformational Research. Can you give us some examples of research that you are pursuing?

Answer. DNDO's transformational research and development program identifies, explores, and develops scientific and technological approaches that will dramatically improve the performance of nuclear detection components and systems. There are three efforts underway that support long-term research—Exploratory Research, Advanced Technology Demonstrations (ATDs), and a dedicated Academic Research Initiative (ARI).

The Exploratory Research program has made major advances in the area of new materials for passive radiation detection. Since all detectors rely on some material to detect the radiation emitted by a threat, discoveries of new, more effective detection materials have a high payoff because they can be incorporated into many different types of detectors for many different applications or threat scenarios. For gamma-ray detection, the new materials will result in detectors that are more efficient, cheaper, or have improved ability to reduce false alarms. For neutron detection, DNDO is accelerating the final development and initial production of new materials to replace the scarce, but presently-used, helium-3 by the end of fiscal year 2009 or early fiscal year 2010. To put this in perspective, to advance from the discovery of a new detector material to construction of prototype instruments in the space of 2–3 years is really remarkable. It is our intent to continue and accelerate these material research successes in fiscal year 2010, while still focusing on potential techniques for closing gaps in the architecture and substantially improving the performance or reducing the cost of RN detection capabilities.

DNDO is also partnering with the National Science Foundation (NSF) on the ARI to emphasize radiation detection sciences in academia, a field that has been in decline at American universities for years. The joint DNDO/NSF effort, in coordination with the efforts of other agencies, is advancing fundamental knowledge in new technologies for the detection of nuclear threats, and in the development of the next generation of scientists and engineers in technical fields relevant to long-term advances in nuclear detection capability.

DNDO's ATDs are also showing great promise for users in the law enforcement, first responder, counterterrorism, and intelligence communities. The IPRL ATD is developing pocket-sized systems to autonomously determine the location of radiation while maintaining sufficient energy resolution and sensitivity to reliably discriminate between NORM, background radiation, and special nuclear materials. Likewise, the Stand-off Radiation Detection Systems (SORDS) ATD is developing mobile passive gamma detection system that can locate small sources at distances up to 100 meters using developing technologies like gamma-ray imaging, advanced alarming algorithms, and sensor and data fusion techniques that may dramatically improve sensitivity and directional accuracy. Finally, the Shielded Special Nuclear Alarm Resolution (SNAR) ATD is developing systems to verify the presence (or absence) of shielded SNM. These systems are being developed as either an addition to existing radiography systems or a relocatable system which potentially could greatly improve the clearing of alarms.

Question 7. DNDO has, in the past, expressed to this committee the need to push radiological and nuclear detection to other modes of transportation, such as rail,

commercial aviation, general aviation, and small maritime craft. What are these plans, and if you are pursuing them, where are they in the budget?

Answer. Rather than considering development-specific efforts in isolation, DNDO considers all activities that inform the solution development process for a given pathway or mission area, including pilots, training and exercises, follow-on architecture studies, and cross-cutting technologies.

Within the maritime mission area, DNDO is conducting a number of testing activities, pilot programs, and architecture studies to assess alternatives for radiological and nuclear (rad/nuc) detection in the maritime domain, and to inform future maritime systems development activities. The West Coast Maritime Pilot (WCMP) program supports the DHS Small Vessel Security Strategy objective to develop a robust layered defense by expanding and enhancing maritime rad/nuc detection capabilities for international, Federal, State, local, Tribal, and private stakeholders. Consequently, the focus of this effort is to evaluate the effectiveness of a limited, phased deployment of commercially available and Government-Off-the-Shelf (GOTS) rad/nuc detection capabilities against the small vessel threat in the Puget Sound and San Diego port regions and gather lessons learned to improve effectiveness of a wider deployment of maritime capabilities to other priority U.S. ports. In addition, results of the fiscal year 2008 maritime test campaign (Crawdad) and the fiscal year 2009 boat-mounted system test campaign (Dolphin) will help define future development and/or deployment of boat-mounted radiation detection systems.

DNDO is also focusing on On-Dock Rail, which accounts for approximately 2% of all import containers to the United States. This program addresses the challenge of scanning cargo at seaport terminals where containers are transferred from ships to a rail facility that is within the terminal. These shipments therefore leave on rail cars that bypass the detectors at the terminal exit gate which scan trucks departing with the other 98% of the containers. Operational testing conducted at the Rail Test Center at the Port of Tacoma has demonstrated that either mobile or fixed radiation portal monitors are adequate to scan containers where chassis are used to move containers to the rail facility. However, when straddle carriers are used in this role, no currently available technology is sufficiently effective at scanning containers at domestic operations. Efforts are underway to develop the use of a large radiation detector portal to scan the container as a straddle carrier moves it from dockside to a lay-down area prior to being loaded onto a rail.

Within the aviation mission area, DNDO worked closely with Customs and Border Protection (CBP) last year at Andrews Air Force Base to obtain an accurate baseline assessment of the Radio-Isotope Identification Devices currently being used by CBP to scan international general aviation (IGA) aircraft. Additionally, other handheld Commercial-Off-The-Shelf (COTS) equipment, variations to the current CONOPs, and infrastructure requirements were evaluated during this campaign. As a result of these testing activities, DNDO and CBP conducted a joint assessment indicating that current equipment is sufficient to execute the rad/nuc mission for arriving IGA aircraft, with appropriate Standard Operating Procedure adjustments. Thus, DNDO will not undertake an aviation-specific development program at this time. The joint assessment, however, recommended inclusion of next-generation detection and identification systems within the IGA environment, as they become available through DNDO's R&D programs.

DNDO and CBP have also initiated a pilot program for screening international commercial passengers and their baggage at airports of entry (APOEs). This Passenger and Baggage (Pax/Bag) Pilot Program will evaluate the technical and operational integration of rad/nuc detection capabilities in this environment. DNDO will also undertake a number of architecture studies using fiscal year 2009 and fiscal year 2010 funds to further evaluate the aviation domain. With the exception of these architecture studies and cross-cutting programs (e.g., human portable systems) referenced above, all fiscal year 2009 activities in the aviation mission area are funded using fiscal year 2007 supplemental funds.

Finally, within the land border mission area, DNDO has established the International Rail (IRAIL) Program to develop a family of systems to scan rail cargo (either passively, actively, or both) for rad/nuc screening. The IRAIL program will use a phased approach with a mix of risk reduction activities, technology development projects, and pilot demonstration projects as appropriate, and will develop and test rad/nuc threat system solutions to achieve minimal impact on the flow and speed of commerce via Concept Studies/Experiments/Technology Demonstrations. Interim existing technology solutions that contribute to the rapid reduction of the threat space will be considered for prototype and/or pilot activities to evaluate performance in a cargo environment representative of international rail commerce. To support project test and evaluation (T&E) with rad/nuc materials, a Rail Test Bed Infrastructure Study will be conducted to determine how, when, and where to conduct

system T&E. Ultimately, the suite of technical solutions or family of systems for each international rail scanning/screening site will be tailored to meet the requirements of the rail POE and accommodate physical, geological, or infrastructure limitations.

Question 8. The committee has been concerned in the past with DNDO's (as well as other DHS component's) reliance on large corporations for technology development. What are you doing to ensure that small businesses with specific technologies that could further the DNDO mission are able to work with you?

Answer. DHS has an Office of Small and Disadvantaged Business Utilization, which works to ensure that small businesses have a fair opportunity to compete and be selected for contracts. DHS provides a Forecast of Contracting Opportunities to assist small businesses in finding contracts with DHS, which includes opportunities at DNDO. Further DHS efforts include compliance with U.S. Government goals for procurement and subcontracting contracts with regards to dollar amounts for small businesses.

DNDO also has a dedicated Small Business Innovative Research (SBIR) program. This program funds research and development projects from small firms within private industry on selected topics that directly or indirectly further the DNDO mission. The goal is to utilize small businesses to meet R&D needs and increase private sector commercialization.

In addition to the dedicated SBIR program, new awards for Exploratory Research and ATDs are done through open solicitations, to which small businesses are eligible to apply. Currently, several small businesses have Exploratory Research projects underway.

Question 9. Many Members are concerned that the DNDO budget request zeroes-out the Securing the Cities Initiative. Please explain why this decision was made.

Answer. Beginning in fiscal year 2010, no additional funds are being requested for the STC initiative. The 3-year pilot is scheduled to end in fiscal year 2009. To date, the initiative has been appropriated over $50 million to support New York City regional STC stakeholders. For fiscal year 2010, DNDO will extract lessons learned from the pilot in the New York City region.

Question 10. Many Members are concerned that the DNDO budget request zeroes-out the Radiation Portal Monitors program. Please explain why this decision was made.

Answer. Due to unanticipated delays in Secretarial certification of ASP systems, DNDO has a carryover balance from past year appropriations. DNDO will continue to carryout its radiation portal monitor deployment plan by using the remaining funds appropriated for current generation (PVT) RPMs. Following a successful outcome of Secretarial certification, prior year funds could be used to procure a mix of current generation and ASP systems. If certification does not occur, these funds will be used to procure only current generation systems.

QUESTIONS FROM RANKING MEMBER DANIEL E. LUNGREN OF CALIFORNIA FOR CHARLES R. GALLAWAY, ACTING DIRECTOR, DOMESTIC NUCLEAR DETECTION OFFICE

Question 1. Are we setting the bar too high for testing and certification of the Advanced Spectroscopic Portal (ASP) monitors, the next generation of radiation monitoring technology?

Answer. The plans and procedures in place for the Advanced Spectroscopic Portal (ASP) program provide a sound foundation for future certification and acquisition decisions. ASP systems have been under review and evaluation for over 3 years and, while further improvements will always be possible, I believe that after the planned testing and analysis is complete and the requirements of MD 102–01 have been fulfilled, DHS will be in a position to make an informed certification decision.

Question 2. If the Secretary fails to certify ASP in September or whenever certification is determined, you testified that you would procure current generation systems or PVT units.

Is there another emerging technology that could fill this void and identify the radiation materials detected and minimize false alarms? Is radiography scanning a possible replacement for ASP?

Answer. The fundamental technology that ASP brings to the Nation's homeland security arsenal is sound, and as a system it promises to deliver a significant improvement over previous capabilities in the detection and identification of radiological/nuclear threats. To date, the delays in certification of ASP have been related to issues of operational ease and reliability—problems that take time to resolve but do not seriously threaten the viability or potential contribution of the basic system. Given the dire nature of the threat, our continuing belief in the soundness of the underlying technology, and the progress we have made in addressing operational

issues to date, ASP remains the most immediate solution to the requirement for a detection and identification system at ports of entry.

Passive radiation detection (radiation portal monitors (RPMs), including ASP) and active detection technology (radiography) are considered complementary, rather than competing, technologies. Passive radiation detection provides the capability to screen 100% of cargo against unshielded and lightly shielded threats, but capability diminishes with greater levels of shielding. Conversely, radiography systems can detect large heavy objects such as shielding sufficient to defeat passive systems, but would struggle against small unshielded or lightly shielded threats and slow down commerce. While DNDO is pursuing development of advanced radiography systems, there are operational considerations associated with radiography that reflect its role as a complementary detection technology in a layered system, rather than a replacement for passive inspection systems. For example:

- *Scanning time*.—Radiography systems may require the driver to exit the truck during the radiograph and could take about a minute per scan. Doing this for targeted screening or secondary inspections would not impact the flow of commerce, but if all cargo was required to be scanned by radiography, the impact on the flow of commerce would be severe. Radiation portal monitors, like ASP, in contrast, are drive-through systems that take only a few seconds per scan.
- *Cost*.—It is anticipated that radiography systems could cost significantly more than current systems.
- *Operational staffing*.—Radiography systems can also be used to detect other types of contraband as well as special nuclear material (SNM) detection. Current CBP policy requires that any images of incoming cargo must be reviewed by a CBP image analyst to screen for dangerous or illegal goods or people. This manual analysis process requires staffing by an image analyst and can take several minutes, determining the actual scanning time.
- *Operational footprint*.—Radiography systems have larger footprints than portal monitors. Some ports of entry may not have adequate space to accommodate these larger systems.
- *Technical readiness*.—In a layered approach to counter threats, systems should be fielded as they are ready. An advanced radiography system that can automatically detect and locate shielding in cargo and is also capable of directly detecting and locating high density, high atomic number materials such as nuclear threats is still under development.

For these reasons, deployments of radiography systems to detect SNM would be done as a complement to passive detection systems.

Question 3a. Over the last year, DNDO and its Government partners have developed a nuclear detection architecture, which is designed to assess how we, as a Nation, are doing to detect dangerous nuclear material. Part of that strategy includes an assessment of gaps that exist, and what technology might be needed to mitigate those gaps.

How does DNDO work with the private sector—specifically the technology development community—to explain the architecture and the technology gaps that exist so that Government and industry can work together to develop solutions and better manage risk to our Nation?

Answer. Within DNDO, there are several offices that work together and communicate with stakeholders in private industry. We communicate with the private sector through conferences and solicitations. We work with the technology development community to address gaps in the GNDA through our transformational research and development programs that foster innovative solutions to address capabilities gaps.

One thing that DNDO has learned in its short existence is that industry, even without Government funding, often continues to develop commercial-off-the-shelf (COTS) detectors that may satisfy a greater range of requirements with limited additional development. DNDO has accordingly adjusted its strategy to investigate opportunities to address certain needs by developing customer-driven design modifications to currently available human portable equipment. In addition to these efforts, DNDO will develop human portable systems that transition successfully from our transformational research and development work. As we work at DNDO to improve our business models, we are looking at additional ways to leverage COTS technology wherever appropriate.

Question 3b. Is DNDO charged with responding to a rad/nuc attack? If not, who has that responsibility?

Answer. The 2009 DHS Integrated Planning Guidance assigns FEMA the responsibility to initiate a Response and Recovery program for a nuclear incident.

FEMA will develop and issue a strategy for improving the national response and recovery from an IND attack by the end of fiscal year 2009. The strategy will include prioritizing and addressing capability gaps identified by the fiscal year 2008

Nuclear Response and Short-term Recovery RPT; specifying intra- and inter-agency roles and responsibilities; identifying research and development and training needs; and addressing any conflicts that exist in current activities, plans, and procedures. FEMA will develop and implement a dedicated IND Response and Recovery Program within FEMA no later than fiscal year 2010.

Question 4. In your testimony you discuss DNDO's development of time-phased, multi-layered, global nuclear detection architecture (GNDA) because no single layer of defense can detect all radiological and nuclear threats.

What are our detection and interdiction opportunities overseas? Are we operating beyond foreign seaports?

Answer. DNDO supports other Federal efforts to improve detection capabilities beyond the Nation's ports of entry. In late 2006, DHS, DOE, and the State Department announced the Secure Freight Initiative (SFI)—an effort to build upon existing port security measures by enhancing the Federal Government's ability to scan containers for nuclear and radiological materials overseas and to better assess the risk of inbound containers. Phase I of SFI leverages the DOE Megaports Initiative, DHS Container Security Initiative (CSI), DHS domestic nuclear detection programs, and recent test deployments of relevant technology. Under SFI, all U.S.-bound containers are being scanned at three ports in Pakistan, Honduras, and the United Kingdom, fulfilling the 2006 SAFE Port Act requirement to couple non-intrusive imaging (NII) equipment and radiation detection equipment in order to evaluate the effectiveness of 100 percent scanning of U.S.-bound containers. Furthermore, DHS and DOE also expanded the deployment of scanning equipment to certain terminals in Port Busan (South Korea) and Singapore.

DNDO has been working with SFI representatives to develop methods for analyzing the combined data produced by these installations, i.e., the combination of passive radiation detection scans from polyvinyl toluene (PVT) radiation portal monitors (RPMs), X-ray or gamma-ray images from NII equipment, and targeting information taken from manifests and other sources. DNDO is working in coordination with CBP to develop image analysis tools that could be included in the viewers that CBP officers use to scan SFI data. The groundwork for these cooperative efforts has been laid by DNDO's analytical work on the Global Nuclear Detection Architecture (GNDA). DNDO continues to work with DOE and partners in DHS to coordinate data fusion efforts and support development and acquisition of technology that meets the operational and performance needs of detection programs.

To strengthen international rad/nuc detection, DNDO works with DOE, the Department of Defense, and State to engage other nations through the Global Initiative (GI) to Combat Nuclear Terrorism. Within the framework of the GI, DNDO has been working with foreign counterparts to jointly develop model guidelines for a global rad/nuc detection architecture that will focus on all the layers and associated pathways and can serve as a template for an integrated defense-in-depth strategy, should nations or regions decide to develop or strengthen their nuclear detection capabilities.

Question 5. I support leveraging commercial-off-the-shelf (COTS) technology wherever appropriate and I'm pleased to hear you say that this is part of DNDO's long-term business model. I also agree with "piggy-backing" on existing programs to enhance our security i.e., the radioactive isotope identification device (RIIDs).

Are these RIID devices providing CBP with the capability to detect radiological and nuclear threats? What improvements are on the horizon?

Answer. At ports of entry, current-generation poly-vinyl toluene (PVT) RPMs are typically installed in a primary scanning location to detect the presence of radiation in cargo and vehicles. CBP operates additional RPMs and handheld radioisotopic identification devices (RIIDs) in secondary scanning locations to further investigate alarms originating in primary and identify the specific source of the radiation detected. Test campaigns have identified limitations in the hardware and algorithms of the current RIID systems to effectively identify nuclear materials over the ranges of shielding that are relevant for passive radiation detection.

To improve the capabilities of handhelds, DNDO has several development programs underway in conjunction with our end-users. The human-portable systems under development will be targeted for use by CBP Office of Field Operations and Office of Border Patrol. Our human-portable system programs seeks to expand the spectrum of detectors available to end users by: (1) Investigating existing commercially available systems and tailoring them to better meet the needs of operators; (2) developing cutting-edge technology when current systems are inadequate to meet customer requirements; and (3) conducting systems development efforts for maturing technologies that transition from ATDs. Next-generation systems will provide enhanced radiation detection and threat source identification, localization, and notification capabilities to aid end-users in mitigating nuclear threats.

The first human-portable detection technology expected to transition from an ATD to a systems development phase is the Intelligent Personal Radiation Locator (IPRL), a pocket-sized spectroscopic radiation locator that detects radiation, delineates source type, and locates the source.

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