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**STATEMENT TESTIMONY OF**

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**BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES**

**COMMITTEE ON ARMED SERVICES  
SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL THREATS  
AND CAPABILITIES**

**AND**

**COMMITTEE ON HOMELAND SECURITY  
SUBCOMMITTEE ON EMERGENCY PREPAREDNESS, SCIENCE, AND  
TECHNOLOGY**

**JULY 21, 2005**

Mr. Chairmen and distinguished members of these Subcommittees, I appreciate the opportunity to discuss the transfer of technology in support of counterterrorism response efforts. I am Sue Payton, the Deputy Under Secretary of Defense for Advanced Systems and Concepts (DUSD(ASC)) as well as the acting Deputy Director for Defense Research and Engineering within the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics.

As the DUSD(ASC), my portfolio includes the following programs that facilitate the transfer of technology. These include: Advanced Concept Technology Demonstrations (known as ACTDs), Technology Transition Initiative, Technology Transfer, Tech Link, and other programs supporting industry participation in technology development. I would like to share with you some examples of technologies that are proving useful to both the warfighter and first responders.

The Department of Defense (DoD) has a standing commitment to assist the Nation in times of need. Prior to 9/11 this was primarily focused on assistance to the recovery from natural disasters. Since that time, the Nation has focused an increasing commitment of resources to deterring, responding, and recovering from terrorist activities on the home front. As established by the President and Congress, the DoD plays an important but supporting role in proactively mitigating threats to first responders, and the communities they support, while preparing for consequence management. Furthermore, in June of 2005, the acting Deputy Secretary of Defense published the “Strategy for Homeland Defense and Civil Support” stating that “the DoD seeks to improve the homeland defense and homeland security contributions of our domestic and

international partners and, in turn, to improve DoD capabilities by sharing expertise and technology, as appropriate, across military and civilian boundaries.”

We are simultaneously expediting the research and development (R&D) and commercialization of dual use technologies with the needs of the first responder community as a priority for the DoD. Standoff detection capabilities for explosives, chemical, and biological agents; and enhanced blast resistant coatings for vehicles, boats, buildings and public transportation are some of the current technologies we are focused on. We are looking at existing DoD technologies and concepts that could be adapted or developed for first responder use in ways similar or slightly different than those needed by DoD. High speed correlators that process radar input and detect small planes flying into restricted areas are DoD technologies integrated with the FAA, NORAD and the Air Force. In addition, we are looking at existing equipment that could be used or modified/enhanced to serve the needs of the first responder community. Residual equipment from several Advanced Concept Technology Demonstrations such as Backscatter X-ray systems for explosive detection and the US NORTHCOM InfraLynx communications van are some examples of explosive detection, command, control and communications equipment being transferred from DoD to first responders. Additionally, under existing technology transfer authorities, DoD has undertaken the transfer and sharing of technology with the first responder community. One example of these efforts is the use of communication sensors in the fireman’s helmet to foster hands free communications – originally developed for the Navy SEALs, it has applicability for firefighters and other first responders.

My office is providing personnel and know how to support the Assistant Secretary of Defense (Homeland Defense) for the Department's technology transfer efforts in support of the first responder community. We participate in joint working groups to identify technology initiatives that can assist in meeting first responder needs and to develop investment strategy opportunities that Homeland Defense can provide through collaborative efforts with the Department of Justice and Department of Homeland Security. One working group, chaired by OASD(HD), includes the Military Departments and appropriate Defense Agencies to identify high priority technologies with potential applicability to first responders. Additionally, the Defense Department has established a technology transfer center for first responders (FIRSTLINK) at the University of Pittsburgh.

DoD's Office of Technology Transition (ODUSD(AS&C)), the Defense Advanced Research Projects Agency (DARPA), the Naval Surface Warfare Center Panama City (NSWC PC), and commercial industry joined forces to design, develop, produce and field a miniaturized water-purification system that destroys biological and chemical warfare agents. The Water Purification System/Water Pen Unit was funded as a Technology Transition Initiative (TTI) project to provide the warfighter a portable water purification device for tactical missions. TTI facilitates the rapid transition of new/mature technologies from DoD science and technology (S&T) programs into acquisition programs for production. TTI funded the purchase of 6600 Water Pens, accelerating their introduction and use throughout the Services and SOCOM by an estimated 18-24 months, and at a 40 percent cost savings. Cascade Designs, the developer of the Water Pen, provided 1200 units for the tsunami relief effort. The water purifier is now available

through the Government Services Administration (GSA) supply schedule or through the Department of Defense's National Stock Number catalog.

We have a Joint Robotics Program responding to the Global War on Terrorism by deploying unmanned countermine, explosive ordnance disposal (EOD), and reconnaissance systems to support our troops in the Balkans and in Operations Enduring Freedom and Iraqi Freedom. Prototype and fielded Unmanned Ground Vehicles participated in and are essential tools in completing dangerous missions in support of our forces in Afghanistan and in Iraq. Robots are saving lives and preventing injury to EOD personnel. We are completing the retrograde of all Vanguard MK1 systems from the FY 04 procurement for redistribution/loan to support local and state government requirements for first responders. We have 40 units currently being refurbished and these should be available in a few weeks. These robots are available by request at <http://robot.spawar.navy.mil>. We are making information about availability of these robots known to the first responder community through this and other websites as well as through participation in conferences focused on first responders, and articles in journals targeted toward first responders.

Information sharing has been identified as a great need in homeland protection, and to contribute, the Department of Defense developed an online, digitally enabled information sharing system. This was developed under one of our ACTD efforts driven by the needs of US NORTHERN Command and US PACIFIC Command. It was transferred to the Coast Guard and demonstrated to the DHS CIO and the Joint Task Force National Capital Region Headquarters at Fort McNair and is available to defense and non-defense organizations including federal, state and local

agencies, and industry (which is important since they control about 85% of the nation's infrastructure) This "Area Security Operations Command and Control (ASOCC)" system has a number of features that enable it to rapidly respond to an event. Several of the features included are alert capabilities showing force protection conditions in a color coded display, the ability to notify others instantly of events as they develop along with updates, and an audible alert when action is required. ASOCC alerts may also be instantly relayed to other alerting systems. It provides an "alert Framework" capability that allows authorized agencies to use the ASOCC as an interface to their individual information systems to mitigate some of the challenges of interoperability between disparate federal, state and local systems. The system also has a web-linked chat room allowing all involved in an event to discuss events real-time and share relevant information. As part of its visualization tool, users can draw on maps or graphics to show escape routes or force deployments, or in the event of a chemical attack, the Defense Threat Reduction Agency might graphically display plume model outputs for contaminated areas.

In responding specifically to terrorism threats, The Combating Terrorism Technology Task Force (CTTTF) was established by the DDR&E post 9/11 to rapidly identify, prioritize, and integrate DoD S&T initiatives to help combat terrorism. It includes OSD, Service, Defense S&T Executives, program managers, advisors from the Joint Staff, the DoE, and other federal organizations. As an example, the CTTTF works closely with the Technical Support Working Group which includes multi-Agency subgroups led by DoD, FBI, DOE, DHS and FBI. The CTTTF Working Groups are organized in the following four areas: Deterrence, Indications and Warning; Survivability and Denial; Consequence Management and Recovery; and Attribution and Retaliation. They identified gaps and potential remediation programs, generated prioritized

lists of investment recommendations for near (1 month), mid (1 year) and long-term (5 years) technologies. The CTTTF continues to serve as a conduit for matching the identification of new challenges in the Global War on Terrorism with available technologies developed both by the DoD, through commercial sources, and with other Departments of the Federal Government. CTTTF items shared with DHS include a Counter Insurgency Pattern Assessment Tool (CIPA) and a Laser Induced Breakdown Spectroscopy (LIBS) system for stand-off detection of explosives. DHS personnel attended the December 2004 demo at Yuma and DHS is currently contributing cooperative funding of \$200,000 through HSARPA into a follow-on LIBS program. The DoD has taken a technology program from DHS for detection of deception during interrogation and is funding it through the Naval Research Lab. An additional example of the Task Force's efforts is the Nuclear Quadropole Resonance technology. The Naval Research Laboratory licensed nine patents to Quantum Magnetics to produce bulk explosive detectors (i.e. QScan 160s). Two units were deployed and are in use in the National Capitol Region.

All of these efforts can be strengthened and leveraged by working in coordination with DHS, DoJ, and ultimately the first responders in the field to understand their needs, requirements, and challenges in this post 9/11 environment. As mentioned earlier, in response to a Congressional earmark, we established FIRSTLINK. As mentioned earlier, and as part of our efforts to focus on and prioritize needs, we established FIRSTLINK at the University of Pittsburgh. FIRSTLINK works to identify technology in DoD that can help the first responders, develop a business plan and strategy to promote its commercialization, and to act as a facilitator to enable continuous feedback from the first responder end user community. FIRSTLINK has been working with a small consumer electronics company in southwestern Pennsylvania and the Army on a new first

alert radio technology. This consumer-priced device is capable of receiving configurable text messages targeted to specific geographic or demographic recipients. Emergency managers can securely generate and send customized messages using an online interface and database. It has been demonstrated in simulated terrorist events in Johnstown and Philadelphia, Pennsylvania and Pinellas County, Florida. In the area of fire suppression FIRSTLINK is assisting a company that has licensed a "Fine Water Mist" system from the Navy. This device uses small amounts of water at very low pressures for extinguishing fires. FIRSTLINK is assisting the company with their business and marketing plans and arranging technology demos at a regional fire training academy. Performance and design feedback is also being provided to the company and the Navy.

The nature of current threats indicates that our adversaries, while often using low technology weapons, are very adaptive. We will fulfill our role in collaboration with other federal agencies in implementing responsive technology transfer processes while maintaining its inherent flexibilities to anticipate, share information and technology, respond to, predict, and mitigate the adversaries adaptation cycles if we are to be successful in this long-term struggle. We must further strengthen our ability to leverage the tax payer's investment across the Federal Government in order to respond to the challenge to quickly adapt to the changing threat and quick technology turnover, overcome resistance to change, and protect our national security at home and abroad.

I thank you for the opportunity to testify before you today and to answer any questions you might have regarding our current state of collaboration and technology sharing across the Federal



Government to counter terrorism. I look forward to facilitating the establishment of what acting Deputy Secretary of Defense England defines as a need for “a systematic approach to ensure close coordination with the Department of Homeland Security and other interagency, state and local partners.”