RECORD VERSION

STATEMENT BY

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THE FISCAL YEAR 2016 BUDGET REQUEST FOR THE DEPARTMENT OF DEFENSE AND COMBATING WEAPONS OF MASS DESTRUCTION IN A PERILOUS GLOBAL ENVIRONMENT

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INTRODUCTION

Mr. Chairman, Congressman Langevin, and distinguished members of the subcommittee, I am grateful for the opportunity to testify on behalf of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) as that organization's Deputy Joint Program Executive Officer. I am pleased to be joined by my leaders and partners in the countering weapons of mass destruction (WMD) community and I will provide an update regarding my organization's programs and activities consistent with the *Department of Defense Strategy for Countering Weapons of Mass Destruction*, published in June of 2014. The role of the JPEO-CBD in the latter plan's "countering WMD activities and tasks" required for success against the threat continues to increase as we remain focused on protecting the warfighter and the Nation. I will also note JPEO-CBD activity in support of the overall Department of Defense (DoD) response to the Ebola outbreak in West Africa, which illustrates the kinds of capacity called for in the *Strategy*.

JOINT PROGRAM EXECUTIVE OFFICE FOR CHEMICAL AND BIOLOGICAL DEFENSE

The JPEO-CBD is the materiel developer within the DoD Chemical and Biological Defense Program. We also develop capabilities with funding from other sources such as the Chemical Agents and Munitions Destruction - Defense program as well as the Nuclear and Conventional Physical Security - Countering Nuclear Threats program, both of which are led by the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. We consist of seven joint project managers, each with responsibility for defense acquisition in a specific commodity area. Fundamentally, we advance technologies and prototypes through research and development to procurement programs providing validated chemical, biological, radiological, and nuclear (CBRN) defense products to the military services. Our seven joint project managers are: Joint Project Manager – Nuclear, Biological, and Chemical Contamination Avoidance focusing on detection and reconnaissance; Joint Project Manager – Protection concentrating on individual and collective protection systems as well as decontamination; Joint Project Manager – Medical Countermeasure Systems developing medical solutions including prophylaxes, diagnostics, and therapeutics for CBRN threats; Joint Project Manager – Information Systems providing the information architecture and applications for increased battlefield awareness of CBRN hazards; Joint Project Manager – Guardian offering installation protection systems and mobile CBRN analytical, communications, and response capabilities in support of deployable forces and homeland defense; Joint Project Manager – Elimination developing and operating equipment for WMD eradication; and Joint Project Manager – Radiological and Nuclear Defense acquiring technologies for our service members to detect and monitor radiation levels as well as search for nuclear material. Joint Project Manager – Elimination is funded by the Chemical Agents and Munitions Destruction - Defense program while Joint Project Manager – Radiological and Nuclear Defense is funded by the Nuclear and Conventional Physical Security - Countering Nuclear Threats program.

TRANSLATIONAL TEAMING

To fulfill our materiel development mission, the JPEO-CBD works closely with the other components of the DoD Chemical and Biological Defense Program such as the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense which executes science and technology programs that provide the technical basis for future systems. To accelerate and improve acquisition outcomes for the warfighter, both organizations are implementing translational teaming within the Defense Acquisition Management System. This means both offices aspire to integrate technology base and advanced development program personnel across our portfolios. Ideally, science and technology efforts will include advanced developers while advanced development initiatives will include science and technology representation. The intent is to enable a more rapid and reliable transition of mature technologies into advanced development with reduced risk. By using this translational teaming approach, we intend to increase capabilities within shorter timelines and with less cost.

FUNDING AND STRATEGY

Within the Fiscal Year 2016 Budget Request for the DoD Chemical and Biological Defense Program of $1.28 billion, the JPEO-CBD is requesting $278.7 million for procurement and $505.8 million for advanced development. This investment supports the JPEO-CBD's continued participation in specific "countering WMD activities and tasks" under the *Department of Defense Strategy for Countering Weapons of Mass Destruction*, in particular those which "incorporate countering WMD efforts," "cooperate with and support partners," "understand the environment, threats, and vulnerabilities," "control, defeat, disable, and/or dispose of WMD threats," and "safeguard the force and manage consequences."

INCORPORATE COUNTERING WMD EFFORTS/COOPERATE WITH AND SUPPORT PARTNERS

Consistent with the call of the *Strategy* "to harmonize DoD activities with the efforts of other departments and agencies" and "promote common threat awareness," the JPEO-CBD participates along with its leaders and partners in regular formal interagency collaboration concerning a large component of our mission, medical countermeasure development. A primary mechanism for that collaboration is the Public Health Emergency Medical Countermeasures Enterprise. It is led by the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response and includes the Centers for Disease Control and Prevention, the Food and Drug Administration, the National Institutes of Health, the DoD, the Department of Veterans Affairs, the Department of Homeland Security, and the Department of Agriculture. This group coordinates Federal efforts to increase national preparedness with respect to medical countermeasures. The Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs represents DoD at the most senior level of this interagency forum.

Exemplifying coordination within the Public Health Emergency Medical Countermeasures Enterprise is the Portfolio Advisory Committee which works to align DoD and Department of Health and Human Services resources for medical countermeasure development and infrastructure. This group is working to advance the concept of an "integrated portfolio" of CBRN medical countermeasures between the Department of Health and Human Services and DoD. Toward that end, both departments have combined resources to develop the Portfolio Tracking Tool which follows CBRN defense medical countermeasure development efforts within both organizations, providing information concerning contract execution and technical maturity of each product based on mutually agreed upon standards. The primary objectives of this web-based tool are to foster cooperation, reduce duplication, and, where possible, harmonize requirements. The JPEO-CBD uses the tool to synchronize medical countermeasure development efforts with the Department of Health and Human Services and was instrumental in developing the standards for determining technical maturity.

UNDERSTAND THE ENVIRONMENT, THREATS, AND VULNERABILITIES

The *Strategy* requires capabilities in "detection; modeling; detailed operational planning; and analysis of materials, precursors, and agents that may be related to a proliferation activity, an adversary's developmental or fielded capability, or the actual use of WMD." In response, the JPEO-CBD continues to provide the joint force the products and systems necessary to identify the threat. Concerning the detection and tracking of CBRN threats, systems fielded include the CBRN equipment suite in the Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle for determining the presence and extent of contamination on the battlefield and the Dismounted Reconnaissance Sets, Kits, and Outfits package which allows warfighters to perform dismounted assessment of WMD suspect areas not accessible by military vehicles. Additionally, we have fielded the Joint Biological Point Detection System which provides an automated capability to detect and identify biological agents in near real-time, as well as the miniaturized, hand-held Joint Chemical Agent Detector to sense, identify, and alert in the presence of chemical warfare agents.

Looking ahead, the Fiscal Year 2016 Budget Request funds our continued development of the Joint Biological Tactical Detection System, the goal of which is to deliver improved point detection and identification capabilities, providing forward deployed units the means to determine if they have been attacked with biological agents. The Fiscal Year 2016 Budget Request also supports the continued advancement of the Next Generation Chemical Detector, a point detection capability which will consist of several detection systems to address sampling of multiple states of matter and provide improved selectivity and sensitivity for chemical warfare agents and toxic industrial chemicals. The Next Generation Chemical Detector will be capable of detecting certain non-traditional agents, which are substances reportedly researched or developed with potential application or intent as chemical warfare agents, but which do not fall in the category of traditional chemical warfare agents, toxic industrial chemicals,

or toxic industrial materials. On the subject of emerging threats, the Fiscal Year 2016 Budget Request funds continued efforts within the broader Non-Traditional Agent Defense program which is responsible for incorporating capability against non-traditional agents across our portfolio of products and systems. To address the need for a near term capability, the JPEO-CBD has already supplied Domestic Response Capability kits to all 57 National Guard WMD Civil Support Teams. The kits provide emerging threat mitigation capability that includes detection, protection, and decontamination.

To meet radiological and nuclear defense challenges facing the joint force, the JPEO-CBD is developing two systems with funding from the Nuclear and Conventional Physical Security - Countering Nuclear Threats program. The Radiological Detection System is a joint materiel solution to replace the aging legacy radiation survey meters in the DoD inventory while the Joint Personal Dosimeter will provide the capability to record and retrieve a service member's exposure to radiation for their medical records. Both systems will enhance military service interoperability and effectiveness across the full spectrum of operations, from support operations such as Operation Tomodachi in Japan in 2011, to potential battlefield scenarios.

For CBRN battle management, the JPEO-CBD has fielded and continues to improve the Joint Warning and Reporting Network, for rapid warning and dissemination of CBRN information in both computer-based and web-based applications, and the Joint Effects Model, a web-based software application to effectively model and simulate the effects of CBRN weapon strikes and incidents. The Fiscal Year 2016 Budget Request funds both of these efforts as well as a new program in the more expansive JPEO-CBD push to improve DoD's ability to conduct biosurveillance, which the *National Strategy for Biosurveillance*, published in July of 2012, defines as "the process of gathering, integrating, interpreting, and communicating essential information related to all-hazards threats or disease activity affecting human, animal, or plant health to achieve early detection and warning, contribute to overall situational awareness of the health aspects of an incident, and to enable better decision-making at all levels." The new program is the Biosurveillance Portal which intends to provide an integrated suite of web-based components designed to support situational awareness of biological threats within the comprehensive public health and national defense communities.

Meanwhile, the Joint United States Forces Korea Portal and Integrated Threat Recognition advanced technology demonstration, also known by the acronym JUPITR, continues to provide specific detection and analysis capabilities to address the need for biosurveillance on the Korean Peninsula, enhancing the ability of U.S. Forces Korea and the Republic of Korea to respond to biological threats. As this JPEO-CBD led advanced technology demonstration winds down, technical lessons learned from JUPITR are being applied to specific JPEO-CBD programs to enable faster development of a more thorough biosurveillance capability for DoD.

CONTROL, DEFEAT, DISABLE, AND/OR DISPOSE OF WMD THREATS

The *Department of Defense Strategy for Countering Weapons of Mass Destruction* states, “DoD must possess the capabilities to conduct activities to control, defeat, disable, and/or dispose of specific WMD threats.” Arguably, there is no better example in recent history of disabling and disposing of a particular WMD threat than DoD support in 2013 and 2014 to the Organization for the Prohibition of Chemical Weapons, the implementing body of the Chemical Weapons Convention, regarding the fate of Syria’s declared chemical weapons. Although not funded by the DoD Chemical and Biological Defense Program, the overall DoD action in this case utilized JPEO-CBD personnel and expertise. In response to the international community’s request for assistance, a DoD team comprised of personnel from the JPEO-CBD, the Defense Threat Reduction Agency, U.S. Army Edgewood Chemical Biological Center, U.S. Army Chemical Materials Activity, and U.S. Army Contracting Command created the Field Deployable Hydrolysis System, a transportable, high throughput neutralization system designed to transform chemical warfare material into compounds unusable as weapons.

An acquisition effort was launched in February of 2013 and the first system was provided within six months. The Field Deployable Hydrolysis System was deployed aboard the M/V CAPE RAY, one of the Ready Reserve Force vessels maintained by the U.S. Department of Transportation Maritime Administration, and went on to successfully destroy at sea the most lethal declared chemical weapons possessed by the Syrian regime, ahead of schedule. The U.S. Government contribution in this case is an excellent example of interagency collaboration and agility resulting in undisputable threat reduction. Looking forward, should our personnel, equipment, or expertise be required again, the JPEO-CBD stands ready to collaborate with our customers and partners who conduct chemical weapons nonproliferation and elimination activities.

SAFEGUARD THE FORCE AND MANAGE CONSEQUENCES

The *Strategy* also requires capabilities which “allow military personnel and other mission-critical personnel to sustain effective operations” despite the presence of CBRN contamination and “enable support for U.S. civil authorities and foreign civil authorities as authorized.” Critical to sustaining operations are the medical products and individual protective equipment the JPEO-CBD has fielded or is currently developing. With respect to medical capabilities, the JPEO-CBD has fielded vaccines against anthrax and smallpox, therapeutics to treat exposure to nerve agents, and agile diagnostics for determining the presence of a wide range of pathogens of operational concern. Products currently in the medical countermeasure development pipeline and funded in the Fiscal Year 2016 Budget Request include prophylaxes against botulism, plague, and nerve agents, as well as therapeutics to address hemorrhagic fever viruses and emerging infectious diseases. The Fiscal Year 2016 Budget Request also funds continuation of the Countermeasures for Multi-Drug Resistant Bacteria program which focuses specifically on the threat of biological warfare agents and organisms genetically modified to be multi-drug resistant. Finally, to accelerate the fulfillment of DoD’s unique requirements concerning medical countermeasures, the JPEO-CBD continues to

establish in Alachua, Florida, the DoD Medical Countermeasure Advanced Development and Manufacturing Capability, a dedicated state-of-the-art center of excellence intended to provide development and manufacturing services to separately funded medical countermeasure products. The JPEO-CBD estimates that the advanced development and manufacturing capabilities being established under the contract with the Florida performer will be operational by the end of 2016.

Regarding individual protective equipment, the JPEO-CBD provided and currently sustains the Joint Service Lightweight Integrated Suit Technology protective garment which remains the global standard for the general military battlefield requirement. We are continuing to field the improved protective footwear and gloves which accompany the suit, both with greater operational suitability than their predecessors. The Fiscal Year 2016 Budget Request continues to buy the Joint Service General Purpose Mask, the improved standard protective mask designed to be used by ground force components across the military services, reducing the need to sustain multiple mask products within the DoD inventory. The Fiscal Year 2016 Budget Request also funds procurement of our Uniform Integrated Protection Ensemble Increment 1 protective garment for the special operations community. Increment 1 offers the warfighter the ability to tailor the configuration based on the expected threat level, resulting in the correct amount of protection while minimizing burdens associated with wearing protective clothing. Finally, the Fiscal Year 2016 Budget Request funds continued development of the Uniform Integrated Protection Ensemble Increment 2, currently a possible basis for replacement of the Joint Service Lightweight Integrated Suit Technology garment. Defense Acquisition Management System Technology Maturation and Risk Reduction activities in support of Increment 2 planned for fiscal year 2016 include developmental testing on select materials to determine physical properties, thermal burden, and flame resistance, as well as capability against certain aerosols and chemicals. Ultimately, the JPEO-CBD intends to provide a system with the capability to protect against non-traditional agents.

As to consequence management, the JPEO-CBD continues to provide CBRN defense rapid response equipment to the DoD units responsible for homeland defense and defense support of civil authorities. Our activities include conducting life cycle assessments of fielded commercial-off-the-shelf (COTS) products, identification and evaluation of emerging capabilities, prioritization and fielding of improved systems to meet existing requirements, and formalizing training. Typical equipment packages provided include detection, protection, decontamination, and situational awareness capabilities. Units receiving equipment and support include the National Guard WMD Civil Support Teams, the National Guard Chemical, Biological, Radiological, Nuclear, and High Yield Explosives Enhanced Response Force Packages, the U.S. Marine Corps Chemical Biological Incident Response Force, and the U.S. Army's 20th CBRNE Command.

CRISIS RESPONSE

The JPEO-CBD's importance to the "countering WMD activities and tasks" under the *Department of Defense Strategy for Countering Weapons of Mass Destruction* continues to be evident in the DoD response to the Ebola outbreak in West Africa. Notably, JPEO-CBD efforts support DoD capacity in one of the three fundamental "lines of effort" identified in the *Strategy* as necessary to counter WMD, responding to crises.

The JPEO-CBD has been engaged in the Ebola outbreak response since April of 2014 when the first laboratory confirmed diagnosis was made using a DoD Ebola Zaire diagnostic test fielded by our Critical Reagents Program, DoD's primary repository of reference materials, reagents, and detection tests in support of the Federal biological defense community. Both the DoD Ebola Zaire diagnostic test and a JPEO-CBD diagnostics platform funded in the Fiscal Year 2016 Budget Request, the Next Generation Diagnostics System Increment 1, received Emergency Use Authorization from the U.S. Food and Drug Administration and have become a principal DoD diagnostics capability in West Africa during this crisis. DoD Ebola Zaire diagnostic tests are currently deployed to specific DoD laboratories across the globe as well as to public health laboratories within the Centers for Disease Control and Prevention Laboratory Response Network. With respect to prophylaxes and therapeutics against Ebola, the JPEO-CBD, in collaboration with the Department of Health and Human Services and industry, is accelerating development of specific contenders such as a Merck/NewLink vaccine candidate, a Tekmira therapeutic candidate, and a Medivector therapeutic candidate.

With the deployment of service members to West Africa under Operation United Assistance, multiple unique DoD capabilities were required. The Joint Science and Technology Office for Chemical and Biological Defense and the JPEO-CBD collaborated to make available under emergency conditions post-exposure vaccines and therapeutics to treat DoD personnel should they be exposed to Ebola. Also, DoD needed a way to safely transport by aircraft multiple contagious patients simultaneously while preventing exposure to the aircrew or aircraft. To fulfill this requirement, the JPEO-CBD and the Joint Science and Technology Office for Chemical and Biological Defense partnered to develop the Transport Isolation System, based on current military patient support pallets and engineered to fit on Air Force mobility aircraft. Additionally, in the unlikely event that our forces would have to recover human remains during the mission, the JPEO-CBD developed a recovery and containment capability for the protection of service members against hazards associated with handling potentially infected human remains.

In support of the mobile laboratory component of Operation United Assistance, the JPEO-CBD procured equipment items for the mobile diagnostic labs of the expeditionary 1st Area Medical Laboratory, a U.S. Army Forces Command unit. This action ensured the unit was fully capable of fulfilling its mission to field four mobile labs in West Africa to increase capacity and reduce timelines for providing test results for Ebola Zaire infection within the populace. Finally, in the area of biosurveillance, the

JPEO-CBD, the Defense Threat Reduction Agency, and the interagency Combating Terrorism Technical Support Office joined efforts to develop the Ebola Portal, an online resource consisting of collaborative tools, event watch-boards, disease monitoring, and geographic information. A version cleared for public release is available at www.ebolaportal.org, allowing government and non-government stakeholder access to the site to support their activities.

CONCLUSION

The challenges we face countering WMD are not decreasing in volume or complexity. Nonetheless, I am optimistic that with continued support from Congress, the JPEO-CBD can continue with its partners, both internal and external to DoD, to contribute to the "countering WMD activities and tasks" called for in the *Department of Defense Strategy for Countering Weapons of Mass Destruction*. I am grateful for this subcommittee's ongoing focus on addressing the WMD threat and I look forward to additional engagements on the best ways to meet DoD's unique requirements. Mr. Chairman, Congressman Langevin and members of the subcommittee, on behalf of the men and women of the JPEO-CBD, thank you for the opportunity to appear before you and for your continued leadership.