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On  
Countering Weapons of Mass Destruction Programs

Before the  
Intelligence, Emerging Threats and Capabilities Subcommittee  
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## Introduction

Chairman Thornberry, Ranking Member Langevin, and members of the Subcommittee, thank you for giving me the opportunity to testify about U.S. countering weapons of mass destruction (CWMD) programs.

I have the privilege of serving as the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (NCB). In this capacity I am a principal advisor to the Secretary of Defense, Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) on nuclear energy, nuclear weapons, and chemical biological defense. I also serve as the Staff Director of the Nuclear Weapons Council (NWC).

As the Assistant Secretary for NCB, I oversee the implementation of the Department of Defense (DoD) Cooperative Threat Reduction (CTR) program and manage the Department's treaty implementation activities to ensure compliance with nuclear nonproliferation agreements, the Chemical Weapons Convention (CWC), and the Biological and Toxin Weapons Convention (BWC). I am responsible for oversight, integration, and coordination of the Department's Chemical and Biological Defense (CBD) Program. This program develops capabilities to enable the warfighter to deter, prevent, protect, mitigate, respond, and recover from chemical, biological, radiological, and nuclear (CBRN) threats and effects as part of a layered, integrated defense. I oversee the Nuclear Matters (NM) Office, which is the focal point for DoD activities and initiatives related to the dual missions of sustaining a safe, secure, and effective nuclear deterrent and countering the threats of nuclear terrorism and nuclear proliferation. I also manage the Department's governance process for the U.S. Chemical Demilitarization Program.

Additionally, I oversee the Defense Threat Reduction Agency (DTRA), led by Mr. Ken Myers, who is here with us today. DTRA's mission is to safeguard the United States and its allies by providing capabilities to counter, reduce, and eliminate WMD threats and mitigate their effects. They are the Department's Combat Support Agency for the CWMD mission, executing critical programs for nonproliferation, counter proliferation, consequence management, and the development of improved CWMD capabilities.

I would like to recognize the outstanding contribution of the Joint Program Executive Office for Chemical and Biological Defense, which under Mr. Carmen Spencer's able leadership implements much of the Chemical and Biological Defense Program. His team designed and fabricated the Field Deployable Hydrolysis Systems tailored to the destruction of Syria's chemical weapons stockpile.

All of these programs are aligned to provide affordable and strong CWMD capabilities for the United States and our international partners and allies. The personnel running these programs closely coordinate and leverage one another's efforts and accomplishments to ensure DoD is unified and successful in countering WMD threats.

My testimony focuses on specific initiatives that prepare for emerging threats across the CBRN spectrum and strengthen our ability to respond effectively to the WMD threats that exist today. The President's FY15 budget requests a total of \$3.12 billion for these efforts: \$1.38 billion for

Chemical and Biological Defense; \$1.27 billion for DTRA programs; \$365.1M for the Cooperative Threat Reduction Program; \$55.6 million for the Nuclear Matters programs; and \$51.7 million for the CWMD Systems Program.

Support of the FY15 budget request will enable us to continue providing our nation with capabilities that are critical to our ability to counter chemical, biological, and nuclear threats.

### **Chemical Threats**

Long before the August 21, 2013 massive use of chemical weapons by the Syrian Arab Republic against its population, the DoD was acutely aware of the dangers posed by these weapons. There remain countries outside of the CWC that have developed, produced, and stockpiled these lethal weapons; as well as non-state actors who maintain an interest in having a chemical weapons capability. The DoD is targeting the programs I described to prevent chemical weapons and the capabilities to produce them from falling into the hands of terrorists, and to help international partners uphold their nonproliferation and disarmament obligations.

After the fall of Muammar Qaddafi, the DoD supported Libya in fulfilling its obligations under the CWC. The new Libyan government discovered nearly two tons of previously undeclared chemical weapons. They consolidated the newly declared munitions at the facility that the Qaddafi government had been using to destroy bulk chemical agent. The DoD worked with interagency and international partners to provide safety and security upgrades at the Libyan chemical weapons destruction site, which allowed Organisation for the Prohibition of Chemical Weapons (OPCW) inspectors to return and for destruction to resume. The DoD consulted with the Libyan Government to identify and procure the appropriate technology to destroy the newly discovered munitions, and provided training for Libyan chemical weapons destruction operators. Germany and Canada provided financial resources. These efforts led to the final destruction this winter of mustard-filled Category 1 chemical weapons munitions, consisting of 517 artillery shells, 45 bomb components, consisting of plastic tubes filled with mustard agent, and eight 500-pound bombs. Libya is now free Category 1 chemical munitions.

The DoD, with our interagency and international partners, is looking forward to building off of this success as we stand ready to destroy Syria's chemical weapons stockpile. The cooperative nature of our DoD programs makes international relationship-building a key component of our CWMD efforts.

The international destruction operation is crucial to preventing the Syrian regime from using chemical weapons against its population ever again, or leaving the material at risk of proliferation to terrorists. The DoD is contributing significant resources through contributions of equipment, destruction technology, and expertise. The DoD CTR Program provided transport and material handling equipment, medical countermeasures, and packaging materials to the OPCW-United Nations (UN) Joint Mission to enable removal of the declared chemical stockpile from Syria. The DoD has also outfitted the Motor Vessel (M/V) Cape Ray, a U.S. National Defense Reserve Fleet Vessel, with two specially-designed neutralization systems along with all of the equipment, personnel, and expertise necessary to neutralize the most dangerous Syrian chemicals in a safe and environmentally sound manner.

This will be the first ever chemical weapons destruction operation aboard a vessel. In order to ensure CWC compliance, the DoD and the OPCW worked very closely together to develop the treaty documents required for this one-of-a-kind mission. DoD treaty experts also planned, coordinated, and executed visits and engineering reviews aboard the ship with OPCW Technical Secretariat inspectors and verification experts.

In the broader Middle East, the DoD is reducing the risk of cross-border proliferation of chemical weapon assets. We are working with several of Syria's neighbors to enhance their ability to mitigate the risks of proliferation and possible chemical weapons use near their borders. For example, the DoD CTR Program is providing Jordan with training and equipment assistance to enhance security along its borders with Syria and Iraq, and to detect, interdict and respond to potential chemical weapons incidents.

The DoD has active programs that provide the capabilities required to respond to chemical threats in a layered approach. We invest in detection equipment to identify chemical agents and provide situational awareness for response. We also provide protective equipment to shield against exposure, and we develop responsive medical countermeasures.

DoD's development of chemical defense capabilities is a key part of an integrated national effort to address traditional and non-traditional threats. In this budget request, we continue to conduct research and develop technology for a range of chemical defense capabilities, including for detection, medical countermeasures, decontamination and protection. For example, this year we will complete the rapid fielding of enhanced equipment packages for the National Guard's Weapons of Mass Destruction Civil Support Teams to protect against and respond to non-traditional agents.

### **Biological Threats**

The DoD also continues to anticipate and prevent biological threats. We are working proactively to prepare for both existing and emerging biological threats and respond rapidly when necessary. Biological threats from an attack, accidental release, or natural occurrence have the potential to cause enormous damage in terms of lives lost, economic impact, and ability to recover. As stated in the National Strategy for Countering Biological Threats, "...fanatics have expressed interest in developing and using biological weapons against us and our allies." Rapid advancements in biotechnology are making it easier for an adversary, whether state or non-state, to develop biological weapons.

Unlike other threats, biological agents have the capacity to spread without regard to borders, conflicts, or intentions. As such, countering biological threats lies at the complex nexus of security and health, and needs to be addressed by all stakeholders involved, to include health, defense, law enforcement, private, international, and non-governmental counterparts.

One of the primary international initiatives to which DoD is contributing to address this challenge is the newly-announced Global Health Security Agenda -- an international effort to enhance our ability to prevent, detect, and respond to infectious disease threats. DoD drives the security components of this Agenda.

The DoD has unique contributions to protecting the health and security of U.S. citizens, both at home and abroad. Our programs prevent biological threats to our security through threat reduction activities such as biosecurity and pathogen consolidation. Dangerous pathogens, naturally prevalent in many regions of the world, are stored in laboratories to conduct vital research and medical diagnosis to protect and treat a nation's citizens. These same pathogens may be attractive to those who have ill intent, be they lone actors or terrorist organizations.

Recognizing this, DoD is expanding threat reduction activities to other parts of the world to limit access to dangerous pathogens and decrease the threat of their deliberate or accidental release; and build systems to rapidly detect, diagnose, and report biological threats around the world before they affect the American people or U.S. interests. We have expanded our bioengagement programs to the Middle East, Southeast Asia and Africa. Many countries in these regions have a confluence of dangerous pathogens that are naturally prevalent and nefarious actors who could exploit these biological agents.

Because integrated biological preparedness and response capabilities are critical to our security, the DoD is collaborating on this with key partners and allies. We are working with the Republic of Korea (ROK) to enhance biosecurity, biosurveillance, and biodefense. The United States and ROK designed the Able Response exercise to improve our governments' ability to prepare for and respond to an intentional biological incident by employing a "whole-of-government" approach. This year, the DoD and ROK will test their collaborative capabilities through a web-based enterprise environment that facilitates collaboration, communication, and information sharing in support of detection, management, and mitigation of biological incidents.

Our Chemical and Biological Defense team also collaborates closely with interagency partners, for example a joint effort with the Department of Health and Human Services (HHS) and Department of Homeland Security (DHS) called the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE). This effort ensures collaboration across the government to develop and deliver medical countermeasures. DoD focuses on protecting our forces deployed around the globe against weaponized agents, emerging threats that may be used against them, and diseases they might encounter. HHS focuses on responding to specific threats to the general population. By working together through the PHEMCE, we leverage each other's work.

We are also making progress on vaccine candidates for plague, botulinum toxin, Ebola and Marburg, equine encephalitis viruses, and nerve agent pretreatments through advanced development to Food and Drug Administration (FDA) licensure. DoD developed and fielded an FDA-cleared capability for diagnosis of biological warfare agents, and we are now moving forward with a next generation diagnostic providing capability for biological warfare agents and infectious diseases outside of established medical centers.

In support of these medical countermeasure requirements, the Department has invested in a dynamic and agile manufacturing capability through the Advanced Development and Manufacturing (ADM) facility being developed in Alachua, Florida.

The DoD ADM and the HHS Centers for Innovation and Advanced Development and Manufacturing (CIADM) capabilities are complementary. DoD and HHS have worked the design of their respective capabilities to ensure DoD is technically matched to the scale required for the Joint Force versus the scale required to support the public health emergency needs of the United States. Furthermore, DoD's medical countermeasures must be flexible and agile to meet a broad range of medical countermeasure needs for agents encountered by the Joint Force globally. In partnership with HHS, we are revolutionizing national capabilities to respond to emergencies and address threats to DoD personnel and U.S. citizens across the globe.

## **Nuclear Threats**

Finally, I want to highlight DoD's efforts to ensure that terrorists and proliferators cannot access nuclear materials and expertise abroad. President Obama has called nuclear weapons in the hands of terrorists "the single biggest threat to U.S. security." As the President has said, just one nuclear weapon detonated in an American city would devastate "our very way of life." With such destructive ability, nuclear threats remain a prominent concern.

Continued reports of nuclear material trafficking and insufficient security standards at nuclear sites demonstrate that these threats are still present. The combination of vulnerable nuclear materials, the global distribution of nuclear weapons, and non-state actors seeking to acquire WMD capabilities presents a grave threat to U.S. security and that of our allies.

The ongoing spread of advanced nuclear knowledge, potential new enrichment techniques, and improved weaponization and delivery capabilities contribute to new challenges. The DoD is working with the Departments of Energy and State to reduce the availability and accessibility of weapons-usable nuclear materials worldwide, promote a culture of security and to sustain robust interdiction efforts and ensure that nefarious nuclear ambitions of state and non-state actors will remain difficult to realize.

Last month, the third Nuclear Security Summit was held in The Hague. Heads of state and international organizations enacted measures to combat the threat of nuclear terrorism, protect nuclear materials, and prevent the illicit trafficking of nuclear materials. DoD has supported this effort by working with global partners to secure weapons-usable nuclear material and establish nuclear security training centers. We are also expanding nuclear counterterrorism and threat reduction cooperation with two of our closest allies, the United Kingdom and France, building on all three countries' technical expertise and history of cooperation.

I would like to echo what President Obama said at this year's Summit: we still have a lot more work to do to fully secure all nuclear and radiological material. DoD continues to contribute to this critical effort.

On the domestic front, the Nuclear Weapons Accident Incident Exercise (NUWAIX) program focuses on developing the capabilities required to mitigate the consequences of a U.S. nuclear weapon accident or incident. This full-scale national-level exercise program is shared among the Air Force, Navy, the Department of Energy's National Nuclear Security Administration and the Federal Bureau of Investigation. The exercises provide realistic training to either safely recover a weapon, or recapture a weapon, in order to stop a terrorist attack. We look forward to ongoing

collaboration in future exercises and continued progress in preparing for potentially catastrophic events.

Although past assessments suggest the likelihood of an electromagnetic pulse (EMP) attack from potential adversaries is low, the Department considers our nuclear survivability, including EMP survivability, an important part of maintaining a credible deterrent posture, particularly with regard to all DoD assets considered critical to ensuring our national security missions. To this end, my office establishes oversight for survivability of DoD mission-critical systems to nuclear effects, to include EMP. We also coordinate with the Department of Homeland Security, which provides the official government policy on threats and vulnerabilities potentially facing the nation that fall outside DoD's roles and responsibilities.

### **CWMD Awareness**

All CWMD efforts, not just within the DoD but across the interagency and internationally, generate immense amounts of information regarding the location of WMD-related materials, available expertise, and international dual-use capabilities. We are working to integrate and fuse this and other existing CWMD information across the U.S. government to foster a shared understanding of the CWMD operating environment and to support decision making.

My office recently developed a Research, Development, Test, and Evaluation Defense Wide program called CWMD Systems. It is focused on developing, testing, and fielding a new CWMD situational awareness prototype that we will call Constellation. Constellation is a next-generation information gathering, sharing, analysis, collaboration, and visualization system. It will provide a platform for sharing information across security domains. Constellation leverages emergent DoD and Intelligence Community technologies to revolutionize CWMD knowledge management. When completed, it will provide a dynamic, holistic view of the global CWMD operating environment. This platform will ensure that information gathered from WMD threat reduction activities, when integrated with other relevant US Government and international partner information, will provide decision-makers and operational personnel a holistic view of the WMD landscape.

We are also supporting the special operations community in its critical CWMD efforts. My office is working with these forces to provide the training and equipment they require for success in their missions.

### **Conclusion**

Nuclear, chemical, or biological threats to our troops, our homeland, our allies, and innocent civilians around the world is very real and always evolving. This means DoD must develop agile programs to respond. The Department is working to strengthen our capabilities to effectively prevent, deter, defeat, and respond to these threats. I ask you to support a responsible FY15 authorization bill and the President's FY15 budget request so that we can achieve these goals.

I appreciate the opportunity you have given me to testify today and would be pleased to answer your questions.