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**STATEMENT OF  
DR. STEPHEN YOUNGER  
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**BEFORE THE  
SENATE ARMED SERVICES COMMITTEE  
EMERGING THREATS AND CAPABILITIES SUBCOMMITTEE  
DOD SCIENCE AND TECHNOLOGY PROGRAMS**

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**Statement of Dr. Stephen Younger**  
**Director, Defense Threat Reduction Agency**  
**Before the Subcommittee on Emerging Threats and Capabilities**  
**Committee on Armed Services**  
**United States Senate**  
**April 10, 2002**

Madam Chair and Members of the Subcommittee, I am pleased to be here today to testify on the contributions of the Defense Threat Reduction Agency (DTRA) to our nation's warfighting capability. I will summarize my statement and ask that it be included in its entirety in the record.

*DTRA Reduces the Threats Posed by WMD*

The mission of DTRA is simple to understand but critically important to the nation and indeed to the whole world – to reduce the threat of weapons of mass destruction, or “WMD.” As the events of September 11, 2001 and what followed amply demonstrated the urgency for this mission has only increased since the end of the Cold War. Whereas during the Cold War we had a small number of potential adversaries to worry about, today we face clear and present threats from many nations and groups who see weapons of mass destruction as a means to level the playing field against the United States and our interests. Any country or group with minimal technological capability can manufacture chemical and biological weapons and an increasing number of states are pursuing a nuclear capability. The awful events of September 11 showed that terrorists will use our own strengths against us. It is no longer a case of WMD “over there.” The job of DTRA is to reduce the threat of WMD against us, and that if they are that we contribute to minimizing the consequences.

Organizationally we report to Dr. Dale Klein, the Assistant to the Secretary of Defense (Nuclear, and Chemical, and Biological Defense Programs), but we work closely on a day-to-day basis with OSD, the Chairman of the JCS, the CINCs and the Services. To make sure that we are coupled into the needs of the CINC’s we have liaison officers assigned to the commands allowing real time reachback to DTRA capabilities.

### *DTRA Is A Combat Support Agency*

DTRA is a combat support agency. We are the near term interface between the laboratory and people who wear muddy boots. Sometimes our timelines are as short as a few hours, as is the case when we model the effects of a WMD event on a specific location using real time weather and geography. At other times we execute development programs that span several years. The Combatant Commands look to us for assistance in dealing with and overcoming the full range of WMD threats – chemical, biological, radiological, nuclear, and high explosives. Recent studies confirm that it is difficult for every command and the Services to have all of the WMD expertise that it needs to carry out its mission. DTRA provides essential support for the needs of the CINC's and the services.

### *DTRA Integrates and Focuses WMD Expertise from All Sources*

We do this by integrating and focusing WMD expertise from all sources – the Department of Defense, other US Government entities, industry, academia, and from our allies and friends - into products that meet their needs. Our products range from consequence prediction to consequence management, from targeting to the weapons that are being used on target. We provide WMD expertise, technology, and support to plans and operations. For example, within hours of the attacks on September 11 we were providing data on smoke plumes from the World Trade Center. Within weeks we had accelerated the development of the new thermobaric weapon so that it would be ready for use in Afghanistan. We have people on the ground in that country looking for WMD activities in caves. We have people in laboratories and test ranges figuring out what to do if or when we find such activities.

Although the Agency was established in 1998, it was built upon organizations with decades of experience in nuclear weapons effects, chemical and biological agent defeat, weapons effects against hardened facilities, the protection of structures against high explosives attacks, vulnerability assessments, and implementation of arms control treaties and other cooperative threat reduction programs. This blend of expertise positions DTRA at the crossroads of WMD threat reduction.

As an integrator of technology and operational concepts, DTRA works closely with the required expertise wherever it may reside. We work very closely with the Research, Development, Test and Evaluation (RDT&E) organizations of the Services. We have many enduring and emerging partnerships with the Department of Energy and its National Labs. We also depend very heavily upon the talent and skills of the private sector and academia. Virtually every DTRA RDT&E program employs a team approach.

The development of the thermobaric warhead exemplifies the benefit of this team approach in accelerating development of technology needed by the warfighter. This program originated as a response to the terrorist acts of September 11, 2001. DTRA was tasked by OSD to form and lead an interagency team to produce a thermobaric weapon that would hold tunnels and caves at greater risk, thereby eliminating sanctuaries for terrorists in Afghanistan. The DTRA-led team produced, tested, and delivered a very effective capability in a mere 60 days. DTRA's proven experience with Advanced Concept Technology Demonstrations (ACTDs) was key to precisely choreographing the various program partners through the developmental process. Team members in addition to DTRA included Navy, Air Force, and DOE organizations. DTRA integrated all efforts and coordinated the testing activities. The Navy's explosive experts at the Naval Surface Weapons Center (NSWC), Indian Head, MD, provided an effective new composition explosive fill that significantly enhanced blast pressure and range. The Air Force Precision Strike Program Office at Eglin AFB, FL, led the Air Force team performing weapon system integration, safety, and flight clearances. They also produced a modified fuze for a new warhead. NSWC Indian Head conducted static testing of the new fuze/weapon configuration to demonstrate reliable initiation of the new explosive. Static and flight tests were conducted in full-scale tunnel facilities at DOE's Nevada Test Site. The Air Force 422<sup>nd</sup> Test and Evaluation Squadron at Nellis AFB, NV, flawlessly executed the flight test to demonstrate the viability of the new weapon in a dynamic environment.

Since then, the Air Force has completed verification and validation of technical data and operational flight clearances required to field the BLU-118 warhead. A small number of these weapons is now available for operational use.

### *DTRA Spans the Full Spectrum of WMD Threat Reduction*

DTRA is unique in that it spans the full spectrum of WMD threat reduction. We do the on-site inspections to make sure that other countries are abiding by their agreements. We execute the Cooperative Threat Reduction Program to help countries of the Former Soviet Union to dismantle weapons. We support the Chemical and Biological Defense Program to ensure proper protection for our forces. We develop new technology, such as advanced penetrators, a sort of “non-cooperative threat reduction program.” DTRA is the center of expertise for our understanding of weapons effects, especially nuclear effects. For example, our understanding of the science of blast and shock effects on rock and concrete provides the basis for developing more effective bunker and tunnel defeat weapons – as well as for the operational concept for using such weapons in combat. We build bunkers just like the adversary and then develop the best way to destroy them. We are the glue that binds together WMD expertise from all sources into focused programs that provides accelerated responses to the needs of the warfighters.

We also help to ensure that our nation's nuclear arsenal – the ultimate deterrent against aggression is safe and effective. DTRA performs nuclear safety and surety assessments, assists with emergency response capabilities, and provides targeting support. In partnership with the US Strategic Command and the Services, we developed the DoD Nuclear Mission Management Plan that serves as a guide for managing DoD's nuclear responsibilities.

### *DTRA Is Making A Difference*

I would like to give you several examples of how DTRA has improved the combat capability of our nation. My examples will include offensive and defensive contributions, and programs that have dual applicability to homeland security.

- DTRA assisted the CINCs in identifying and successfully striking hardened and deeply buried targets in the Balkans, Iraq, and Afghanistan.
- DTRA led the development of new hardened target defeat weapons including the Conventional Air Launched Cruise Missile penetrator, the Advanced Unitary Penetrator, the Hard Target Smart Fuze, and the Thermobaric warhead.

- DTRA provides direct support to the warfighter in predicting the spread of WMD agents following the use of such weapons against our forces – or the release of an agent following an attack by US forces on enemy facilities.
- DTRA is fielding an unconventional nuclear warfare protection system at four military installations. This project, to be completed in one year, will take currently available technology and integrate it into a working protective system capable of detecting a terrorist nuclear device.
- DTRA is working with the warfighters to develop the means for ensuring the use of ports and airfields despite enemy use of chemical and biological agents.
- DTRA performs vulnerability assessments of key leadership facilities and military bases. Recently, we performed vulnerability assessments of Capitol Hill for various terrorist threats. I am particularly proud of the fact that force protection technology developed by DTRA saved lives at the Pentagon on September 11.

#### *DTRA Is Contributing to Homeland Security*

Although DTRA remains focused on the needs of the warfighter, much of our expertise is applicable to homeland security. We are applying training and planning related to nuclear weapon accident response to broader WMD terrorism scenarios. In particular, we are developing "play books" that will aid civilian leadership in preparing for and responding to the issues and events following the use of WMD in urban areas. We are supporting the Office of Homeland Security to develop a near-term biological defense system. Consistent with our approach of harnessing national WMD expertise to address challenges, we are developing a program for near-term improvements in detection of biological agents and consequence management.

Other DTRA activities that can contribute to homeland security include support to operational responses following detection of WMD weapons, prediction of WMD agent dispersal, consequence management, vulnerability assessments, integrated WMD training and exercises, and contingency planning.

*Where We Are Headed*

DTRA's focus remains on combat support – providing technology, operational concepts, and other support for the warfighters' response to WMD. We continue to support the US nuclear deterrent. We will develop new technologies and means for dealing with unconventional nuclear threats; develop enhanced lethality, long-range precision strike weapons; expand support to contingency planning and current military operations; and develop the means for ensuring the use of ports and airfields in WMD environments.

Thank you Madam Chair, for the opportunity to be here today. I am proud to lead a great team on an important mission for the nation. I would be happy to answer your questions and to provide additional material at your request.