

Chemical and Biological Defense Program Overview

The Chemical and Biological Defense Program (CBDP) is vital to our Nation's ability to counter current and future threats posed by chemical and biological (CB) weapons. The hazards posed by CB weapons remain real and evolving. An increased willingness to use these types of weapons either for assassinations (e.g. Russia and North Korea) or to achieve asymmetric advantages (e.g. Syria and ISIS in Iraq) indicates eroding international norms against the use of CB weapons. This paradigm shift challenges the ability of the Joint Force to operate unencumbered. The proliferation of knowledge and technology, increased ease of access, difficulty in detecting illicit activities, emerging threats, improved delivery capabilities, and our limited ability to anticipate how adversaries might employ Weapons of Mass Destruction (WMD) heighten the risk of attacks against the U.S. or its allies.

The *2018 National Defense Strategy* (NDS) and Department of Defense (DoD) strategic guidance acknowledges an increasingly complex global security environment, characterized by the re-emergence of long-term, strategic competition between nations and the growing potential for strategic surprise stemming from advances in technology and science. The NDS recognizes the effects of WMD and prioritizes efforts to prevent WMD proliferation, defend the homeland from WMD, and manage the consequences of WMD attacks. We must remain vigilant in preparing and responding to threats from near-peer threat actors. Our adversaries' ambitions and increasing dominance in biotechnology, engineering, and computational science create challenges and opportunities for the Joint Force's battlefield superiority. Therefore, we must lean forward into the future to leverage innovation, integrate our collective CB knowledge, and deploy adaptive solutions to mitigate these enhanced and emerging threats.

Considering the international security environment and the objectives of the NDS, the vision for the CBDP is a Joint Force ready to fight and win in CB-contested environments through a coordinated and integrated effort that systematically neutralizes the chemical and biological threats presented by our adversaries. The CBDP will achieve this vision through its mission to enable the lethality of the Joint Force by anticipating future threats and delivering capabilities that ensure the Warfighter fights and wins in CB-contested environments. These capabilities are a part of an integrated and layered defensive capacity that enables countering weapons of mass destruction (CWMD) missions ranging from major combat operations to Defense Support to Civil Authorities (DSCA) domestic incident response. However, in Fiscal Year (FY) 2021, the program will no longer resource radiological passive defense and tactical disablement efforts to focus the CBDP on its core mission of CB defense. The FY 2021 President's Budget Request includes \$1.29 billion aligned against the highest CB defense priorities for the Department, Joint Services, and Combatant Commands to improve near-term Joint Force readiness and modernize the force to address emerging threats.

Budget Overview

This FY 2021 budget request supports the NDS and the DoD Strategy for CWMD and will continue to develop capabilities to increase the resiliency of our warfighters and support efforts to deter, prevent, mitigate, respond to, and recover from CB incidents and hazards in the following areas:

- Prevent Surprise (NDS Pillar: Build a More Lethal Force) - Reduce the risk from emerging threats resulting from advances in technology and the increased proliferation of WMD and enablers. Efforts focus on accelerating characterization and early assessment of possible CB hazards by leveraging advances in technology and artificial intelligence.
- Situational Awareness (NDS Pillar: Build a More Lethal Force) – Improve tactical and operational commanders' decisions by developing and fielding better detection and identification capabilities to conduct CB reconnaissance, surveillance, and site exploitation missions. Developmental efforts focus on increasing detection accuracy, range and effectiveness, ensuring that detection data integrates seamlessly with other non-CB sensor systems and relevant information systems, and integration of sensors onto Service-fielded unmanned platforms.
- Protection (NDS Pillar: Build a More Lethal Force) - Enhance mission performance and provide effective protection against current and emerging threats by rapidly developing and fielding modernized protection capabilities. Developmental efforts focus on advances in materials and systems engineering to enhance protective properties against a broader array of hazards, while reducing CWMD operational challenges and logistical burdens. Approaches focus on modular and customizable solutions that are effective against a broad range of challenges in varied environments.
- Hazard Mitigation (NDS Pillar: Build a More Lethal Force) - Preserve combat power by developing and fielding systems that mitigate exposure to CB hazards and restore combat readiness of critical personnel and platforms. Developmental efforts address personnel decontamination, to include handling mass casualties and human remains, along with materiel decontamination, which includes sensitive equipment and aircraft. Novel decontamination approaches focus on broad decontaminant applicability to CB hazards, while minimizing harm to individuals, equipment, and platforms.
- Medical Countermeasures (NDS Pillar: Build a More Lethal Force) - Improve delivery of medical countermeasures to the warfighter by enhancing development through a platform-based approach to enable cost effective and agile delivery of prophylactic, diagnostic, and therapeutic capabilities for known and emerging threats. Developmental efforts focus on advanced vaccines, therapeutic drugs, and diagnostic capabilities that provide safe and effective medical defenses against biological agents (bacteria, toxins, and viruses), emerging infectious diseases, and traditional and non-traditional chemical agents.

FY 2021 Budget Request Highlights

- The FY 2021 Research, Development, Test and Evaluation (RDT&E) budget request of \$993.7 Million supports key efforts including:
 - \$294 Million supporting RDT&E efforts advancing environmental detection and medical diagnostic capabilities providing enhanced situational awareness of traditional and non-traditional chemical hazards, as well as traditional and emerging biological hazards.
 - \$156 Million to continue support of research and development of Medical Countermeasures (MCMs), such as vaccines and therapeutics, addressing high-priority biological hazards.
 - \$103 Million to continue support of research and development of MCMs focused on protecting against and treating exposure to traditional and non-traditional chemical agents.
 - \$99 Million to support critical CB defense research, development, and test infrastructure and operations.
 - \$78 Million supporting RDT&E for personnel protection, respiratory and ocular protection, collective protection, and hazard mitigation capabilities against traditional and non-traditional CB agents.
 - \$81 Million supporting MCM platform and manufacturing technologies to streamline and accelerate product delivery and reduce developmental risk. Efforts center on leveraging and sustaining the DoD's Advanced Development and Manufacturing capability. Additionally, it resources efforts to improve domestic incident preparedness and response to a CB incident.
 - \$81 Million supporting basic research and threat agent sciences, advancing fundamental knowledge and experimental research in the life and physical sciences.
 - \$51 Million supporting integrated early warning, biosurveillance, warning & reporting, decision support, and modeling and simulation capabilities.
 - \$20 Million supporting concepts development, technology demonstrations, enhanced capability demonstrations, and Special Operations Forces Rapid Capability Development and Deployment to enhance military operational capabilities with technologies and equipment.

- The FY 2021 Procurement budget request of \$297.1 Million supports key efforts including:
 - \$95 Million to procure modernized respiratory and ocular protection for ground and air forces.
 - \$65 Million to procure modernized Analytical Laboratory Systems to enhance and sustain the National Guard – WMD Civil Support Teams analytical capabilities for DSCA. Funding also supports procurement of the Common Analytical Laboratory System capability to integrate a common suite of commercial- and government-off-the-shelf components to provide a common, modular, and transportable/mobile analytical laboratory system to support DoD field analytic units.
 - \$47 Million to procure CBRN Dismounted Reconnaissance Sets, Kits, and Outfits which allows warfighters to perform CBRN dismounted reconnaissance, surveillance, and site assessment of WMD suspect areas not accessible by traditional CBRN reconnaissance-mounted platforms.
 - \$23 Million to procure modernized collective protection capabilities (Joint Expeditionary Collective Protection, and CB Aircraft Survivability Barrier).
 - \$21 Million to procure Enhanced Maritime Biological Detectors to provide the U.S. Navy improved detection and identification capabilities with decreased operational costs and increased reliability for detection of biological agents.
 - \$5 Million to procure improved air crew ensembles to increase protection against advanced chemical threats and decrease physiological burden.

Summary

The proliferation of WMD continues to fall among the greatest challenges facing the United States of America, and the Nation must prioritize improving our ability to counter WMD. Currently, eroding international norms regarding CB weapons use, knowledge proliferation in the areas of advanced biotechnology and unmanned systems, and a diminishing distinction between chemical and biological capabilities all fuel the current CB threat environment. The DoD must remain at the leading edge of innovation and develop technologies to address present and future threats. Accordingly, this budget enables the CBDP to increase the lethality of the Joint Force by ensuring that they can fight and win in CB-contested environments, preserving the security and freedom of our Nation.