Chemical Biological Defense Program Overview

The threat from chemical, biological, radiological, and nuclear (CBRN) weapons is growing as state and non-state actors are increasingly willing to use these type of weapons of mass destruction (WMD) for assassinations (Russia and North Korea) or to achieve asymmetric advantage (Syria and ISIS in Iraq). The threat continues to evolve as barriers to acquiring WMD decrease due to rapid advances in biotechnology and the relative ease of sharing these technologies.

Recent Presidential guidance directs strengthening defenses against WMD at home and abroad. The National Defense Strategy (NDS) recognizes the threat of WMD and prioritizes efforts to prevent the proliferation of WMD materials, defend the homeland from WMD threats, and manage the consequences of WMD attacks. The Chemical and Biological Defense Program (CBDP) is a key enabler to the NDS pillar to "Build a more lethal force" and through its activities and collaborations with interdepartmental, interagency and international partners the program supports the NDS pillar to "Strengthen Alliances".

The lethality of the Joint Force and its ability to continue the mission depends on the warfighter's ability to prepare for, prevent, protect, respond to, mitigate, and recover from the effects of WMD use. The CBDP provides materiel solutions as part of an integrated and layered capability to enable Countering WMD (CWMD) missions ranging from combat operations to DoD support to domestic incident prevention and response. This Fiscal Year 2020 President's Budget Request includes $1.40 billion aligned against the highest CBRN-defense priorities for the Department, Joint Service, and Combatant Commands to improve near-term Joint Force readiness and modernize the force over the long term.

Budget Overview

This budget request supports the NDS and the DoD Strategy for CWMD and advances the following areas:

- Situational Awareness (NDS Pillar: Build a More Lethal Force) - Improving tactical and operational commanders' decisions by developing and fielding better detection and identification capabilities to conduct CBRN reconnaissance, surveillance, and site exploitation missions. Developmental efforts focus on increasing detector accuracy, range, effectiveness, ensuring that detector data integrates seamlessly with other non-CBRN sensor systems and relevant information systems, and integration of sensors onto Service-fielded unmanned platforms.
- Protection (NDS Pillar: Build a More Lethal Force) - Enhancing mission performance while providing effective protection against current and emerging threats by rapidly developing and fielding modernized protective capabilities. Developmental efforts focus on advances in materials and systems engineering to enhance protective properties against a broader array of threats while reducing

CWMD operational challenges and logistical burdens. Modular and customizable solutions will be effective against a broad range of challenges in varied environments.

- Hazard Mitigation (NDS Pillar: Build a More Lethal Force) - Preserving combat power by developing and fielding systems that mitigate exposure to CBRN 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 decontaminate applicability to CB hazards, while minimizing harm to individuals, equipment, and platforms.
- Medical Countermeasures (NDS Pillar: Build a More Lethal Force) - Improving delivery of medical countermeasures (MCMs) to the warfighter by enhancing development with 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 validated biological threat agents (bacteria, toxins, and viruses), emerging infectious disease, in addition to traditional and non-traditional chemical agents.
- Prevent Surprise (NDS Pillar: Build a More Lethal Force) - Reducing the risk from emerging threats resulting from advances in biotechnology and the increased proliferation of WMD and enablers. Efforts focus on accelerating characterization and early assessment of possible threats by leveraging advances in biotechnology and artificial intelligence.

FY20 Budget Request Highlights

- The FY 2020 Research, Development, Test and Evaluation (RDT&E) budget request of $1,052 Million supports key efforts including:
    - $249 Million supporting RDT&E efforts advancing environmental (detectors) and medical diagnostic capabilities providing enhanced situational awareness of traditional and non-traditional chemical threats, as well as traditional and emerging biological threats.
    - $230 Million to continue support of research and development of medical countermeasures (MCMs) vaccines and therapeutics addressing high-priority biological threats.
    - $113 Million to continue support of research and development of medical countermeasures focused on protecting and treating against traditional and non-traditional chemical agents.
    - $103 Million to support critical chemical and biological defense research, development, and test infrastructure and operations.
    - $79 Million supporting basic research and threat agent sciences advancing fundamental knowledge and experimental research in the life and physical sciences.
    - $72 Million supporting biosurveillance, warning & reporting, decision support, and modeling and simulation capabilities.

- $50 Million supporting MCM platform and manufacturing technologies to streamline and accelerate MCM delivery by reducing developmental risk. Efforts center on leveraging and sustaining the DoD's Advanced Development and Manufacturing (ADM) capability.
- $63 Million supporting RDT&E for personnel protection, collective protection and hazard mitigation capabilities against traditional and non-traditional chemical threats as well as traditional and emerging biological threats.
- $24 Million supporting concepts development, technology demonstrations, and experimentation capability demonstrations of enhanced military operational capability for technologies and equipment.

- The FY 2020 Procurement budget request of $351 Million supports key efforts including:
  - $83 Million to procure modernized respiratory and ocular protection for ground and air forces.
  - $55 Million to procure modernized Analytical Laboratory Systems to enhance and sustain the National Guard – Weapons of Mass Destruction Civil Support Teams (WMD-CST) analytical capabilities for defense support to civil authorities.
  - $53 Million to procure CBRN Dismounted Reconnaissance Sets, Kits, and Outfits (DR SKO) which allows warfighters to perform CBRN dismounted reconnaissance, surveillance, and site assessment of WMD suspect areas not accessible by traditional CBRN reconnaissance-mounted platforms.
  - $36 Million to procure modernized Collective Protection capabilities (Joint Expeditionary Collective Protection, CB Protective Shelters and CB Aircraft Survivability Barrier).
  - $25 Million to procure Joint Biological Agent Decontamination Systems providing the capability to conduct biological agent decontamination of the interior and exterior of aircraft and vehicle platforms.
  - $17 Million to procure Enhanced Maritime Biological Detectors which provide the U.S. Navy improved detection/identification capabilities, decreased operational costs, and increased reliability and maintainability for detection of biological threats.
  - $13 Million to procure protective ensembles supporting enhanced protection for the Joint Force, to include Special Purpose Units.

Summary

The proliferation of WMD is among the greatest challenges facing the United States, and improving our ability to counter WMD is a top priority of the United States of America. Accordingly, the CBDP continues to develop capabilities as part of an integrated, layered defense to strengthen the Joint Force's ability to prevent, protect against, respond to, mitigate and recover from CBRN threats and effects. This budget enables the CBDP to support the Joint Force to ensure that they are equipped to complete missions in CBRN environments, preserving the security and freedom of our nation.