



**ASSISTANT SECRETARY OF DEFENSE**

3050 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3050

NUCLEAR, CHEMICAL, AND  
BIOLOGICAL DEFENSE PROGRAMS

APR 20 2011

The Honorable John A. Boehner  
Speaker of the House  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Speaker:

On behalf of the Department, I am pleased to submit the 2011 *Department of Defense (DoD) Annual Report to Congress on Chemical and Biological Warfare Defense*. This report fulfills the reporting requirements of Title 50, United States Code, section 1523 (50 U.S.C. 1523), *Annual Report on Chemical and Biological Warfare Defense*.

A similar letter with a copy of the report has been provided to the President of the Senate and the congressional defense committees.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Weber".

Andrew Weber

Enclosure:  
As stated

cc:  
The Honorable Nancy Pelosi  
Minority Leader

**Introduction** – In the 2010 *Quadrennial Defense Review (QDR)*, the Secretary of Defense directed the Department of Defense (DoD) to rebalance its policy, doctrine, and capabilities to support six key mission areas more effectively. In its year-long effort to execute the guidance outlined in the *QDR*, the Chemical and Biological Defense Program (CBDP) has worked across DoD’s various elements to advance the fifth key mission – to prevent proliferation and counter weapons of mass destruction (WMD).

As chemical, biological, radiological, and nuclear (CBRN) threats continue to evolve, so must the nation’s defense programs. DoD’s ability to manage and integrate CBRN defense (CBRND) relies heavily on the coordination of its activities among other government agencies (OGA) and partner nations. Collaboration between DoD and OGAs fosters the exchange of knowledge, laboratories, test capabilities, and other resources while reducing duplicative efforts. The DoD actively seeks interagency opportunities and currently has formal coordination agreements with several organizations, including the Department of Homeland Security (DHS), the Department of Health and Human Services (HHS), and the Environmental Protection Agency.

In Fiscal Year (FY) 2010, DoD continued to improve CBRND readiness to counter known and emerging CBRN threats. Increased resources and efforts were directed to address defense capabilities against the evolving threats posed by biological weapons. The Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs initiated efforts to field viable Non-Traditional Agent (NTA) chemical weapon (CW) defense solutions to the Joint Force. The Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense (JRO-CBRND), in collaboration with the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) and the Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD), began an NTA defense technology demonstration and fielding program to equip Warfighters rapidly with improved NTA defense equipment.

A multitude of doctrine, organization, training, materiel, leadership and education, personnel, and facilities solutions were enacted throughout the Joint community, Services, and supporting organizations. This ongoing transformation ensures that currently available technologies are produced, procured, and swiftly provided to the Warfighter and that cutting-edge technologies are harnessed to provide improved capabilities in the near, mid, and far term.

In the execution of its mission to provide CBRND capabilities in support of national military strategies, the CBDP was fully integrated within the QDR process for the development of guidance and measures aimed at better understanding potential threats, securing and reducing dangerous materials whenever possible, and preventing CBRN threats and potential attacks.

**Requirements Integration** – The JRO-CBRND identifies future operational capability needs with input from the Services, the Joint Staff-led Capabilities-Based Assessments, and Combatant Commands. This cooperation ensures that the DoD fields the proper mix of capabilities to enable military operations and constitutes the front-end analysis required to begin capability generation. The output of this analysis is the Joint Priority List, which identifies and prioritizes CBRND core capabilities. FY 2010 highlights are provided:

- JRO-CBRND distributed the Concept of Operations for Joint CBRN Contamination Mitigation, which describes how the Joint Force will conduct mitigation of hazardous contamination in support of military operations in FY 2016 – 2028. The concept informs DoD science and technology (S&T) efforts and capability development processes. Additionally, the Initial Capabilities Document (ICD) for CBRN Consequence Management (CM) was approved by the Force Protection Functional Capabilities Board in October 2010. The CBRN CM ICD outlines actions required to reduce the effects of a CBRN event, including Toxic Industrial Materials (TIM) and NTAs. This ICD identified materiel and non-materiel capability gap recommendations to guide CM capabilities development.
- JRO-CBRND finalized the Joint Biological Stand-off Detection System, Increment 2, and the Joint Biological Tactical Detection System, Increment 1, Analyses of Alternatives (AoA) in support of JPEO-CBD. In addition, the Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)) directed and prepared two AoA study reports in support of the acquisition process and milestone decision for developing medical countermeasures (MCM) against Hemorrhagic Fever Virus (HFV) and Intracellular Bacterial Pathogens (IBP).
- JRO-CBRND finalized the CBRN Dismounted Reconnaissance Set, Kit, or Outfit (DR SKO) Capability Development Document (CDD), Increment 1, to support transition of urgent Service needs into an acquisition program.
- JRO-CBRND initiated CDDs for:
  - Medical chemical therapeutic countermeasures, including Non-Injectable Nerve Agent Delivery-Based Countermeasures and the Centrally Acting Nerve Agent Treatment System;
  - Medical biological therapeutic countermeasures, including HFV and IBP;
  - Radiological therapeutic countermeasures for gastrointestinal and hematopoietic injury;
  - Medical chemical countermeasures, including Chemical Warfare Agent (CWA) prophylaxis and pretreatments; and
  - Medical biological prophylactic countermeasures, including Filovirus Vaccine.

**Science and Technology** – JSTO-CBD is the focal point for S&T expertise. Through the management and integration of the Chemical and Biological Defense (CBD) S&T portfolio, JSTO-CBD develops scientific knowledge and technological solutions to reduce the chemical, biological, and radiological threat to U.S. forces, our allies, and our homeland. FY 2010 highlights are provided:

**Basic Research:**

- Published more than 100 articles in peer-reviewed journals;
- Advanced the knowledge of how fluids interact with nanoporous membranes, contributing to the design of materials that exclude threat agents, yet are breathable to air and water;
- Identified bacteriophages for *Yersinia pestis* (plague) and characterized the processes by which they infect, multiply within, and lyse *Yersinia pestis* cells — a breakthrough that could be used for rapid diagnostics to support biosurveillance efforts; and
- Identified two novel oximes that provide a higher efficacy of cholinesterase reactivation relative to the current nerve-agent antidote, pralidoxime chloride (2-PAM).

**Applied Research:**

- Established clinical protocols to obtain human clinical samples from filovirus outbreaks in the Democratic Republic of the Congo;

- Exercised the pathogen characterization and bioinformatics components of the response capability at five pathogen characterization laboratories to identify an unknown organism using Transformational Medical Technologies (TMT) bioinformatics tools; and
- Developed a novel sorbent with leap-ahead improvements over current activated carbon media and transitioned technologies including self-detoxifying coatings, agent disclosure spray efforts, and strippable coatings.

#### Advanced Technology Development:

- Transitioned 14 technologies or software modules into advanced development programs at JPEO-CBD;
- Transitioned one Marburg virus vaccine candidate to advanced development and prepared a Ricin vaccine investigational new drug (IND) package for submission to the U.S. Food and Drug Administration (FDA);
- Submitted an IND to FDA for further evaluation of the HFV Class Countermeasure;
- Developed promethazine, an FDA-approved antihistamine, to reduce convulsions and mortality caused by soman; and
- Proved adenoviruses expressing the human and mouse butyrylcholinesterase enzymes protected mice against several potentially lethal doses of nerve agent VX.

#### Techbase Technology Transition:

- Completed the Interagency Biological Restoration Demonstration (IBRD), which:
  - Developed sampling, characterization, and long-term monitoring plans as well as developed and exercised wide-area decontamination methods;
  - Developed and demonstrated restoration system tools and conducted table top exercises, field exercises, and workshops; and
  - Demonstrated interagency advancement in recovering from an urban-wide area anthrax attack at the IBRD Capstone Exhibition in Seattle.
- Conducted the Trans-Atlantic Collaborative Biological Revitalization Demonstration to explore emergency management processes and levels of maturity in select countries, including Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic, and the United States.

**Research, Development, and Acquisition** – Within the DoD acquisition system, JPEO-CBD is the designated Milestone Decision Authority for all CBD acquisition programs. JPEO-CBD has embraced recent acquisition reform in order to field more refined and risk-reduced capabilities. In FY 2010, JPEO-CBD conducted six Materiel Development Decisions (MDD), three Milestone A decisions, and four Full Rate Production (FRP) decisions. Within JPEO-CBD, nine Joint Project Managers (JPM) lead, manage, and direct the acquisition and fielding of CBD systems. FY 2010 highlights are provided:

#### JPM Biological Defense (BD):

- Awarded the FRP contract for the Joint Biological Point Detection System (JBPDS) and initiated Phase 2 of the Whole System Live Agent Test (WSLAT) with the JBPDS (utilizing new containment chamber); and
- Designed a JBPDS “system refresh approach” for aging system components.

JPM Nuclear, Biological, and Chemical Contamination Avoidance (NBC CA):

- Conducted a successful MDD for CBRN DR SKO and initiated activity supporting a Milestone B decision in early FY11.

JPM Chemical Biological Medical Systems (CBMS):

- Established a provisional Joint Product Management Office for Biosurveillance to enhance information sharing among the DoD medical surveillance and public health communities;
- Obtained FDA clearance in July 2010 for the Influenza A/H5 assay on the Joint Biological Agent Identification and Diagnostic System and continued clinical trials of several MCMs; and
- Completed large-scale manufacturing process development for the plague vaccine program.

JPM Collective Protection (CP):

- Initiated Developmental Test and Evaluation on system-level Joint Expeditionary Collective Protection prototypes; and
- Initiated Enhanced M98 Filter Set testing to evaluate new carbon formulations against CWAs and TIMs.

JPM Decontamination (Decon):

- Collaborated with JPM-CBMS to place visual indicators on packaging for Reactive Skin Decontamination Lotion to warn against temperatures that degrade the decontaminant's efficacy.

JPM Guardian (GN):

- Entered into three Memoranda of Understanding with other federal agencies: DHS (BioWatch), National Institute of Standards and Technology, and U.S. Customs and Border Protection to share resources and subject matter expertise.

JPM Individual Protection (IP):

- Surpassed 300,000 in the continued fielding of the Joint Service General Purpose Mask (JSGPM). Ultimately, all four Services will utilize the JSGPM.

JPM Information Systems (IS):

- Worked with JSTO-CBD to transition key biosurveillance technologies into future versions of the Joint Effects Model for modeling impacts of biological attacks.

JPM Transformational Medical Technologies (TMT):

- Transitioned from an initiative to an acquisition program; and
- TMT is developing technologies to identify and counter biological warfare agents (BWA) rapidly, continues to identify and characterize threats through pathogen evaluation capabilities, and is developing broad-spectrum MCMs against HFVs, IBPs, and emerging infectious disease agents as model systems for engineered or unknown CBRN threats.

**Quantities and Capabilities** – During FY 2010, JPEO-CBD provided 2,507,796 individual pieces of CBD equipment, vaccine doses, assays, and reagents across the Services (Enclosure A). The characteristics and capabilities of the products provided include: CWA identification; biological weapons warning and identification; protection against potential exposure to BWAs; identification of biological warfare agent and radiological contamination in water supplies; dismantled CBRN reconnaissance; collective protection capabilities for amphibious class ships; and decontamination of current and emerging threats. JPEO-CBD also fielded hand and foot

protective equipment; lightweight, flame-resistant garments that protect armored vehicle crew members from chemical and biological (CB) agents; lightweight masks for protection against CB agents, TIMs, and radiological particulates; and a web-based software application for simulating the effects of CBRN incidents.

The Industrial Base (IB) continues to be challenged by fluctuations in both demand and production requirements. To address this concern and ensure the availability of CBRN systems, JPEO-CBD tasked the Joint Logistics Advisory Council for CBD-IB Working Group to conduct a Continental United States-based scenario analysis on CBRN systems to identify risks and potential mitigation strategies to ensure that JPEO-CBD can accomplish its mission in times of surge and national emergency.

**Testing and Evaluation** – In FY 2010, the CBRND Test and Evaluation (T&E) Executive implemented an initiative to develop community-coordinated CBRND T&E standards to ensure that test procedures, including those used to validate test infrastructure, are robust, reliable, and reproducible. This effort supports a White House initiative to develop CBRND standards across government agencies. The CBRND T&E Executive is integrating this process with Federal agency and industry partners to establish the required rigor and documentation of test methodologies.

CBRND T&E infrastructure has improved through investments made in FY 2006-2010. The WSLAT for biological point detection systems, the Dynamic Test Chamber for CWA point detection systems, and the Test Grid upgrades for field CWA simulant tests are scheduled to be completed by FY 2012. Additionally, development and validation efforts for several key test capabilities (NTAs, CB Agent Resistance Test, next generation CWA materials test, biological stand-off detection, and modeling and simulation) are ongoing, with expected incremental completions in FY 2013-2015.

Although DoD conducted tests which involved human exposure to CB agents in the past, all such tests and programs have been halted and disbanded. Human biological agent testing ended on November 25, 1969, and human chemical agent testing ended on July 25, 1975. No humans have been used as subjects of any CB agent tests since that time. To provide the public with information on human exposures related to historic CB testing, the OASD(HA) maintains and updates the CB Warfare Exposure website. (<http://fhp.osd.mil/CBexposures>)

**Policy, Training, and Education** – DoD has developed doctrine and built robust training, leadership, and education programs to prepare the Warfighter to carry out missions on the battlefield and homeland in the face of CBRN threats. The Doctrine, Training, Leadership, and Education strategic goal is to continue developing and integrating Joint CBRND capabilities that enable the Department to operate readily with interagency and international partners in support of the national military strategy.

During FY 2010, JRO-CBRND continued to provide warfare defense training and improve readiness among the Armed Forces. Enclosure B lists the FY2010 JRO-CBRND-sponsored Leader Development and Education Courses and the number of attendees per course. Highlights from a select few are provided:

- Provided CBRN subject matter expertise support to Service intermediate- and senior-level college and the Joint Forces Staff College curricula and war games and to the CBRN and Military Police Captains Career Course;
- Sponsored the Joint Senior Leader Course;
- Provided the Joint Combating Weapons of Mass Destruction (CWMD) Familiarization Course to multiple Combatant Commands and the Joint Task Forces through a mobile training team;
- Supported several Combatant Commands and eight large-scale exercises focusing on interagency cooperation and response to a CBRN incident; and
- Assisted the U.S. Army Maneuver Support Center of Excellence and the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) in the development of tactical-level multi-Service doctrine and associated tactics, techniques, and procedures related to CBRND through sponsorship and oversight.

In support of and as directed by the 2010 QDR, the USACBRNS continues to engage key stakeholders in an enterprise approach to improve DoD's CM response forces through the development of effective training and education products. The USACBRNS and its partner CBRN Services schools are actively engaged in collective efforts to shape and refine the CBRN Enterprise concept to better achieve synergy with our training and education goals. Over the past year, they have increased their capacity and capability through the development of an enterprise approach to CWMD and partnering activities. The use of key expertise has significantly improved the scope and depth of CBRN instruction at Fort Leonard Wood (FLW), MO. Enclosure C lists the CWMD and CBRN Responder training and education courses at FLW in compliance with Public Law 103-160.

The U.S. Air Force (USAF) initiated the development of an integrated response standards manual for first responders and emergency responders in FY 2010. The USAF also developed an operations manual that updates chemical, biological, radiological, nuclear and high-yield explosives (CBRNE) guidance and includes new concepts and tools for responding to a radiological incident. In addition, the USAF developed and revised five training products and has 14 new courses in development. These courses will be delivered via web- and paper-based training.

The USAF hosted the 58<sup>th</sup> Annual International Association of Emergency Managers Conference, fostering multi-Service interaction by bringing together hundreds of emergency responders for briefings and training. The USAF, through its relationship with the USACBRNS, trained and awarded DoD Hazardous Materials certifications to more than 7,180 personnel.

The U.S. Navy continued to update the *Naval Ships' Technical Manual (NSTM) 070*, for nuclear and radiological defensive measures, and *NSTM 470*, for CB defensive measures. Additionally, two Office of the Chief of Naval Operations (OPNAV)-level instructions are under review: OPNAV instruction 3400.10G, *CBR Defense Requirements Supporting Operational Fleet Readiness*, which discusses roles and responsibilities for the Chief of Naval Operations Executive Agent for CBRND; and OPNAV instruction 9070.1, *Ship Survivability*, which addresses all aspects of ship survivability.

The U.S. Marine Corps (USMC) has incorporated CBRND awareness into readiness manuals and all levels of training and operational planning. The USMC is also the home to the Chemical Biological Incident Response Force (CBIRF), whose mission is to forward-deploy and/or respond to a credible threat of a CBRNE incident in order to assist local, state, or federal agencies and designated Combatant Commanders in the conduct of CM operations. CBRN skill progression training for CBRN Marines, collateral duty CBRN team members, and unit staff occurs at each Marine Expeditionary Force through the representative USMC Air Ground Task Force CBRN Schools. CBIRF conducts six Certification Exercises for the incident response forces as well as participating in numerous national-level exercises and real-world deployments.

Annually, CBRN Individual Survival Standards (ISS) training is conducted for all Marines using the standards of proficiency outlined in the Marine Corps Common Skills Manuals and the Marine Corps Order 3400.3F, *NBC Defense Training*, currently under revision to incorporate standards for Commanders, staff, and medical personnel. In conjunction with CBRN ISS training, all Marines complete an Individual Protective Equipment confidence exercise once per calendar year.

**Chemical Weapons Convention and Inspection Readiness** – The Organization for the Prohibition of Chemical Weapons (OPCW) oversees worldwide implementation of the Chemical Weapons Convention (CWC). OPCW Technical Secretariat (TS) inspectors conduct continuous and non-continuous monitoring at CW destruction facilities and systematic inspections at CW storage and former CW production facilities. In FY 2010, DoD hosted 92 inspections and visits at CW storage, destruction, and Schedule 1 chemical production facilities. OPCW TS conducted 21 inspections of U.S. chemical industry facilities.

All OPCW inspectors who conduct continuous monitoring at U.S. chemical demilitarization facilities are required to attend a 32-hour safety orientation. The orientation is divided into two sections: a 24-hour health and safety orientation course, which is a U.S. Government requirement for all personnel who must be present on a more than short-term basis at U.S. chemical demilitarization facilities; and an eight-hour ammunition safety course. In FY 2010, more than 200 OPCW TS inspectors attended training required to maintain necessary certifications.

The Technical Equipment Inspection Program ensures that OPCW TS verification equipment meets U.S. safety, environmental, and security requirements through a familiarization process authorized by the OPCW Conference of the States Parties. The U.S. Army Edgewood Chemical Biological Center's Research and Technology Directorate participated in and scored an "A" on the OPCW Proficiency Test in FY 2010, reflecting potential challenge inspection scenarios. This is the highest grade achievable, with no false positives/false negatives in the identification of nine reportable compounds in six samples.

**Defense Advanced Research Projects Agency Coordination** – The Defense Advanced Research Projects Agency (DARPA) continues to support CB warfare defense by developing revolutionary new CB threat detection, diagnostics, and decontamination capabilities. Annually, DARPA contributes to CBRNE reports that involve interagency coordination, including: the Counter Proliferation Program Review Committee Report; the Biological Weapons Convention



(BWC)/CWC Compliance Reviews; the BWC-Confidence Building Measures; and the Interagency CWMD Database of Responsibilities, Authorities, and Capabilities. In FY 2010, DARPA assessed the utility of transitioning a pre-symptomatic infectious disease detection system from the Predicting Health and Disease program. Additionally, DARPA supports programs that meet DoD objectives, including: Seven-Day Biodefense, Accelerated Manufacture of Pharmaceuticals, Hyperadsorptive Atmospheric Sampling Technology, Panoptic Analysis of Chemical Traces, Predicting Health and Disease, Prophecy, and Rapid Altitude and Hypoxia Acclimatization. In FY 2010, DARPA provided three Blue Angel briefings and three Defense Science Officer MCM Portfolio briefings to senior advisors and directors within DoD and the Joint Staff.

In FY 2010, DARPA provided programmatic updates and specific technical expertise to advise CB warfare defense activities, including the Biodefense Net Assessment Executive Review Panel (convened under DHS's S&T Directorate reporting to the Office of Emergency Preparedness National Security Staff), the Biological Emergency Advisory Team (organized by DHS's S&T Directorate and provides subject matter expertise in support of decisions regarding biological threat prevention and mitigation for DHS), and the National Academy of Science Committee on Cooperative Threat Reduction for CBRN.

**Path Forward** – In its efforts to ensure the protection of U.S. Service members and civilians from the threat of CB weapons and emerging infectious diseases, the DoD will continue to develop medical and non-medical countermeasures as an effective defense against potential attacks. To meet this need, the DoD will identify and develop transformational and operational capabilities for the Joint Force while exploring improved management practices to fulfill strategic roles and missions. The DoD will use current successes — such as its collaboration with HHS for the creation of a future national capability to develop and produce MCMs rapidly — as a blueprint for establishing similar relationships with OGAs and partner nations.

The delivery of medical and physical CB countermeasures to the advanced development community requires long-term investment in basic and applied research. S&T priorities will continue to include MCMs, biosurveillance, TMT, and NTAs. The DoD expects to transition nine programs through a Milestone B decision during FY 2012-2016. The Department will continue to fund Advanced Technology Demonstrations that address the DoD emphasis areas of hazard mitigation, early warning, comprehensive innovative protection, and countering biological threats to include collaboration for biological detection, surveillance recovery, and resilience.

Based on recent trends and anticipated support requests, the DoD expects to provide an increased amount of CWMD/CBRN Leader Development and Training support in FY 2011. These efforts will be enhanced by the strengthening of the partnership with the National Defense University and Joint Professional Military Education institutions, to provide CWMD education for key leaders and exercise and training support to Combatant Commands and Joint Task Forces.

The Warfighter and the nation are vulnerable to WMD attacks, and this threat continues to pose an immense challenge. The DoD will continue to shape and refine the defense programs to prevent, defend, and respond to this threat more effectively.

2011 DoD Chemical and Biological Defense Program Annual Report to Congress  
 Prepared by: ASD(NCB)

**ENCLOSURE A**

**FY 2010 FIELDING QUANTITIES**

Total CBDP Funded Items Fielded in FY 2010								
JPM	Product	Service						Totals
		USA	USAF	USMC	USN	NGB	OTHER	
Biological Defense	M31A2 Biological Integrated Detection System (BIDS)	21						21
	M98 Joint Biological Point Detection System (JBPDS)				9			9
Contamination Avoidance	Improved Chemical Agent Monitor (ICAM)	34						34
	Joint Chemical Agent Detector (JCAD)	11,589	4,988	8,643	200			25,420
	Joint Chemical, Biological, Radiological Agent Water Monitor (JCBRAWM)	181			645			826
	Joint NBC Reconnaissance System (JNBCRS) Increment 2	4						4
	Fox NBC Recon System - Survivability Upgrade (M93A1P2)	13						13
CB Medical Systems	Joint Biological Agent Identification and Diagnostic System (JBAIDS)				10			10
	Anthrax Vaccine Adsorbed	525,200	167,000		266,480		4,260	962,940
	Critical Reagent Program	76,562	2,119	325	26	26,105	22,233	127,370
	Smallpox Vaccine	115,900	109,100		110,500		8,000	343,500
Collective Protection	Collective Protection System - Backfit (CPS BKFT)				2			2
Decontamination	Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS)	1,328			189			1,517
Guardian	Installation Protection Program (IPP)	3	2	4	7			16
Individual Protection	Alternative Footwear Solution (AFS)	166,020	94,060	59,677	65,648			385,405
	JSLIST Block 2 Glove Upgrade non-Flame Resistant (JB2GUnFR)	208,197	98,188	89,452	89,199			485,036
	JSLIST CB Coverall for Combat Vehicle Crewmen (JC3)	3,146		2,904				6,050
	Joint Service General Purpose Mask (JSGPM)		129,588	40,000				169,588
Information Systems	Joint Effects Model (JEM) Increment 1	25	10					35
<b>Totals</b>		<b>1,108,223</b>	<b>605,055</b>	<b>201,005</b>	<b>532,915</b>	<b>26,105</b>	<b>34,493</b>	<b>2,507,796</b>

**ENCLOSURE B**

**FY 2010 JRO-CBRND SPONSORED LEADER DEVELOPMENT AND EDUCATION COURSES**

<b>Courses</b>	<b>Student Counts</b>
Joint and Combined Warfighting School (JCWS) CWMD Focus Study	261
JCWS CM Focus Study	164
Joint CWMD Familiarization Course Mobile Training Team	375
U.S. Army Maneuver Enhancement Brigade Commander's Conference	104
U.S. Army Command and General Staff School, CWMD Track	285
U.S. Army Command and General Staff School, Homeland Security Track	270
U.S. Army CBRN Captain's Career Course CM Module	82
U.S. Army Military Police Captain's Career Course CM Module	182
Joint Senior Leaders' Course	116
USMC Command and Staff College, CWMD Elective	100
U.S. Army War College, Strategic Decision Making Exercise	320
U.S. Army and USAF Command and Staff Colleges, Joint Interagency Planning Staff Exercise	208
Joint Land Aerospace Sea Simulation Exercise	138
USMC Command and Staff College, National Response to Catastrophic and Disruptive Threats Exercise	235
Air War College, Global Challenge Exercise	246
United States Coast Guard CBRN Conference, CWMD Presentation	40
USAF Counterproliferation Center Johnny Appleseed CWMD Workshop for Military Educators	37
<b>Total Number of Students</b>	<b>3163</b>

**ENCLOSURE C**

**FY 2010 COMBATING WMD AND CBRN RESPONDER COURSES**

<b>Courses</b>	<b>Student Counts</b>
WMD Civil Support Team Civil Support Skills Course	179
WMD Civil Support Team Operations Course	20
WMD Civil Support Team Pre-Command Course	53
WMD Civil Support Team Analytical Laboratory Operator's Course	37
WMD Civil Support Team Unified Command Suite Operator's Course	25
CBRN Responder Course	528
CBRN Mass Casualty Decontamination Course	252
CBRN Staff Planner's Course	96
Advanced Mass Chromatograph/Mass Spectrometer Course	0
Technical Escort	355
Biological Integrated Detection Systems	255
<b>Total Number of Students</b>	<b>1800</b>

**ENCLOSURE D**

**ACRONYM LIST**

<b>ACRONYM</b>	<b>TERM</b>
AoA	Analyses of Alternatives
BD	Biological Defense
BW	Biological Weapon
BWA	Biological Warfare Agent
BWC	Biological Weapons Convention
CA	Contamination Avoidance
CB	Chemical and Biological
CBDP	Chemical and Biological Defense Program
CBIRF	Chemical Biological Incident Response Force
CBMS	Chemical Biological Medical Systems
CBRN	Chemical, Biological, Radiological, and Nuclear
CBRND	Chemical, Biological, Radiological, and Nuclear Defense
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives
CDD	Capability Development Document
CM	Consequence Management
CP	Collective Protection
CW	Chemical Weapon
CWA	Chemical Warfare Agent
CWC	Chemical Weapons Convention
CWMD	Combating Weapons of Mass Destruction
DARPA	Defense Advanced Research Projects Agency
Decon	Decontamination
DHS	Department of Homeland Security
DoD	Department of Defense
DR SKO	Dismounted Reconnaissance Set, Kit, or Outfit
FDA	Food and Drug Administration

<b>ACRONYM</b>	<b>TERM</b>
FLW	Fort Leonard Wood
FRP	Full Rate Production
FY	Fiscal Year
GN	Guardian
HFV	Hemorrhagic Fever Virus
HHS	Department of Health and Human Services
IB	Industrial Base
IBP	Intracellular Bacterial Pathogen
IBRD	Interagency Biological Restoration Demonstration
ICD	Initial Capabilities Document
IND	Investigational New Drug
IP	Individual Protection
IS	Information Systems
ISS	Individual Survival Standards
JCWS	Joint and Combined Warfighting School
JPEO-CBD	Joint Program Executive Office for Chemical and Biological Defense
JPM	Joint Project Manager
JRO-CBRND	Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense
JSGPM	Joint Service General Purpose Mask
JSTO-CBD	Joint Science and Technology Office for Chemical and Biological Defense
MCM	Medical Countermeasures
MDD	Materiel Development Decision
NBC	Nuclear, Biological, and Chemical
NSTM	Naval Ships' Technical Manual
NTA	Non-Traditional Agent
OASD(HA)	Office of Assistant Secretary of Defense for Health Affairs
OGA	Other Government Agencies
OPCW	Organization for the Prohibition of Chemical Weapons

<b>ACRONYM</b>	<b>TERM</b>
OPNAV	Office of the Chief of Naval Operations
QDR	Quadrennial Defense Review
S&T	Science and Technology
T&E	Test and Evaluation
TIM	Toxic Industrial Materials
TMT	Transformational Medical Technologies
TS	Technical Secretariat
USACBRNS	U.S. Army Chemical, Biological, Radiological, and Nuclear School
USAF	U.S. Air Force
USMC	U.S. Marine Corps
WMD	Weapons of Mass Destruction
WSLAT	Whole System Live Agent Testing