



ASSISTANT SECRETARY OF DEFENSE  
3050 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3050

MAY -4 2012

NUCLEAR, CHEMICAL, AND  
BIOLOGICAL DEFENSE PROGRAMS

The Honorable Joseph R. Biden, Jr.  
President of the Senate  
United States Senate  
Washington, DC 20510

Dear Mr. President:

On behalf of the Department, I am pleased to submit the 2012 *Department of Defense (DoD) Annual Report to Congress on Chemical and Biological Warfare Defense*. This report complies with the Secretary of Defense efficiency initiatives and fulfills the reporting requirements of 50 U.S.C. 1523, *Annual Report on Chemical and Biological Warfare Defense*.

A similar letter, with a copy of the report, is being provided to the Speaker of the House and the congressional defense committees.

Sincerely,

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

Andrew Weber

Enclosure:  
As stated

**Introduction** – In accordance with Section 1523, Title 50 U.S. Code, the U.S. Department of Defense (DoD) 2012 Annual Report to Congress on chemical and biological (CB) warfare defense provides an assessment of the Department’s overall readiness to detect and defeat the threat of chemical, biological, radiological, and nuclear (CBRN) agents.

To provide CBRN defense (CBRND) capabilities in support of the National Combating Weapons of Mass Destruction (CWMD) Strategies, the Chemical and Biological Defense Program (CBDP) requires a wide range of support, including a unified collection of systems, multi-disciplinary approaches, well-established doctrine and concepts, current and robust facilities and associated infrastructure, and an awareness and appreciation of critical emerging and non-traditional threats. To implement the goals and objectives of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, the CBDP Enterprise develops strategies tailored to its specific organizational responsibilities to address validated capability gaps for the Warfighter. The CBDP Enterprise is described within the *CBDP Strategic Plan* and DoD Directive 5160.05E, “Roles and Responsibilities Associated with the Chemical and Biological Defense (CBD) Program (CBDP).” Enclosure A summarizes primary roles and responsibilities of the CBDP Enterprise.

In Fiscal Year (FY) 2011, DoD continued to improve CBRND readiness to counter known and emerging CBRN threats and collaborated with other Government agencies to foster exchange of knowledge and coordination of activities for CBRND. Expansive doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) solutions were enacted throughout the Joint community, Services, and supporting organizations. This ongoing transformation ensures that currently available technologies are produced, procured, and provided swiftly to the Warfighter and that cutting-edge technologies are harnessed to provide improved capabilities in the near, mid, and far terms.

**Requirements Integration** – FY 2011 Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense (JRO-CBRND) highlights are provided:

- Finalized and exercised the Biosurveillance High-Level Operational Concept using an environmental biosurveillance limited objective experiment.
- Introduced broader requirements for the Next Generation Diagnostic System (NGDS) addressing both clinical diagnostics and environmental detection.
  - CBDP is working with JRO-CBRND and stakeholders to implement broader requirements in the appropriate capability documents.
- Conducted an Analysis of Alternatives for the Common Analytical Laboratory System in support of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD).
- Initiated or continued developing Capability Development Documents for the following capability areas:
  - Biological Therapeutics: Countermeasures against biological agents, including Hemorrhagic Fever Viruses (HFV) and Emerging Infectious Diseases (EID) (e.g., Influenza)
  - Radiological Therapeutic Countermeasures for gastrointestinal and hematopoietic injury
  - Medical Countermeasures (MCM), including prophylaxis and pretreatment against nerve agents

- Hands Free Radiological System Increment 1
- Improved (Chemical Agent) Point Detection System Life-Cycle Replacement.
- Initiated DOTMLPF Change Requests for CBRN Consequence Management (CM) Baseline Capabilities Alignment.
- Conducted and oversaw several concept experiments and studies through the Joint Experimentation and Analysis Division (JEAD) at Fort Leonard Wood (FLW), MO, and the Institute for Defense Analyses (IDA), as shown in Enclosure B.

**Science and Technology** – FY 2011 Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD) highlights are provided:

Basic Research:

- Developed a high-throughput, standardized Botulinum Neurotoxin (BoNT) assay.
- Established a near-natural transmission cycle for Rift Valley Fever Virus.
- Designed and fabricated slow-light waveguides for compact, high-resolution spectrometry.
- Determined mechanism through light-activated generation of reactive oxygen to potentially create reactive textiles that could improve Individual Protective Equipment.
- Showed correlation between certain factors and survival of hosts infected with HFVs to aid understanding of survival characteristics.

Applied Research:

- Demonstrated cross-reactivity of HFV antibodies, which showed that it may be possible to reduce the number of components in the Filovirus vaccine.
- Demonstrated efficacy of a BoNT inhibitor (i.e., antitoxin) in neurons, with no observed toxicity, and advanced compounds to *in vivo* efficacy evaluation studies.
- Established an improved small animal model for testing nerve agent pretreatments.
- Tested therapies that will enhance survival against inhaled sulfur mustard.
- Examined effects of nerve agent pretreatments on human performance.
- Developed human toxicity estimates for dermal exposure to two priority Non-Traditional Agents (NTA).
- Determined toxicity values establishing low-level exposure standards for NTAs.
- Characterized critical physical chemical properties of high-priority NTAs for use in countermeasure development.
- Defined synthetic pathways and characterization of emerging threats to validate information regarding compound generation and properties.
- Developed a “bar-coded” spore incorporating genetic tags to create a unique, non-pathogenic simulant for Research, Development, Test, and Evaluation.
- Rapidly developed and provided waterborne radionuclide transport and dispersion modeling capability for use by Defense Threat Reduction Agency (DTRA) Reachback in direct request to the Navy’s Seventh Fleet support of Operation TOMODACHI in Japan.
- Transitioned Bio-Event Expert Monitoring System code to the Office of the Chief of Naval Operations (OPNAV), Medical Resources, Plans, and Policy, for incorporation into the Navy Medical Knowledge Management System Suite.
- Produced integrated ensemble for evaluation by the Individual Protection Demonstration in support of the next-generation garment program.

- Developed new integrated air security design concepts for building protection.
- Developed self-decontaminating surface materials using enzymes and carbon nanotubes.
- Continued development of nano-scale biological agent identification and sensing technologies.
- Analyzed the technical impacts of the presence of agents on surfaces, including NTAs.
- Continued partnership with the National Science Foundation and National Geospatial-Intelligence Agency to increase CB detection range capabilities and reduce false positives.

#### Advanced Technology Development:

- Conducted a first-in-human Phase I clinical trial of a Ricin vaccine.
  - This vaccine will utilize the Advanced Development and Manufacturing component (ADM) of the MCM Initiative.
- Transitioned Ebola virus components of two Filovirus vaccines to advanced development.
  - This vaccine will utilize the ADM.
- Conducted pre-clinical studies of a Venezuelan Equine Encephalitis Virus vaccine in preparation for a FY 2012 Phase I clinical trial.
  - This vaccine will utilize the ADM.
- Submitted Investigational New Drug application for a novel bacterial topoisomerase inhibitor (i.e., antibiotic) against *Bacillus anthracis*, *Yersinia pestis*, and *Francisella tularensis*.
- Determined effective dosage and interaction of scopolamine in non-human primates.
- Transitioned 73 Assay Verification Data Packages to Joint Project Manager (JPM) Chemical Biological Medical Systems (CBMS) and the U.S. Food and Drug Administration (FDA) as pre-Emergency Use Authorization (EUA) status in support of diagnostic identification of biothreat agents and infectious disease.
- Continued development of automated sample preparation technology to sequence pathogen genomes.
- Completed studies to increase understanding of critical biological antigen variability.
- Completed assessment of chemical agent fate in potable water.
- Continued feasibility development of the plant sentinel concept for chemical point detection.

#### Techbase Technology Transition:

- Initiated the Trans-Atlantic Collaborative Biological Resiliency Demonstration to demonstrate a U.S. capability in countering a wide area biological incident.
- Rapid Area Sensitive Reconnaissance Advanced Technology Demonstration demonstrated a capability to rapidly survey sensitive sites to determine the presence of NTAs, Toxic Industrial Chemicals, or Chemical Warfare Agents (CWA).
- Joint Medical Distance Support and Evacuation Joint Concept Technology Demonstration displayed comprehensive casualty care capabilities to significantly enhance battlefield medicine.

**Research, Development, and Acquisition** – FY 2011 JPEO-CBD highlights by JPM are provided:

#### JPM Biological Defense (BD):

- Joint Biological Tactical Detection System was approved for entry into the Technology Development (TD) Phase of the Defense Acquisition System, and a contract was awarded to develop competitive prototype systems.

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

- CBRN Dismounted Reconnaissance Set, Kit, and Outfit (DR SKO) was approved for entry into the Engineering and Manufacturing Development Phase of the Defense Acquisition System. DR SKO provides the capability to identify potential weapons of mass destruction (WMD) and WMD precursors.
- Conducted a successful production cut-in decision review to switch Joint Chemical Agent Detector (JCAD) production from the M4 to the M4A1 version, which has a new user interface and increased maintainability for this hand-held device.

#### JPM Chemical Biological Medical Systems (CBMS):

- Joint Biological Agent Identification and Diagnostic System (JBAIDS), a suitcase-sized system for rapid identification of biological agents, received FDA clearance for an expanded Influenza Panel and the first ever Q-fever assay to diagnose acute Q-fever using patient blood specimens. A pre-EUA data package was submitted to the FDA demonstrating performance of a test for Ebola Zaire virus. Total Package Fielding actions were completed for the JBAIDS.
- During this time, CBMS also worked toward the NGDS to eventually replace JBAIDS.
- Critical Reagents Program executed Interagency Agreements with the U.S. Secret Service, the Federal Reserve Board, the National Institute of Allergy and Infectious Diseases, the U.S. Capital Police, the Federal Emergency Management Agency, and the Department of Homeland Security (DHS).
- Continued Bioscavenger collaboration with the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), DTRA, JSTO-CBD, and the Defense Advanced Research Projects Agency (DARPA).

#### JPM Protection (P):

- Hazard Mitigation Programs: The Contaminated Human Remains Pouch, Joint Sensitive Equipment Wipe, General Purpose Decontaminants, and Contamination Indicator Decontamination Assurance System were approved for entry into the TD Phase of the Defense Acquisition System.
- Protection Programs: The Request for Proposal (RFP) on the Uniform Integrated Protection Ensemble (UIPE) Increment 1 was released, and a Source Selection Evaluation Board review of industry proposals was completed. UIPE offers reduced thermal burden to the wearer.

#### JPM Guardian (GN):

- DoD CBRN Response Enterprise: Provided emergency response equipment and training in support of the Defense CBRN Response Force (DCRF). Also, WMD Civil Support Team (WMD-CST) Analytical Laboratory Program maintained accreditation by the American Association for Laboratory Accreditation.
- Interagency: Collaborated with DHS BioWatch to support the prospective BioWatch Gen3 autonomous analyzer, which can be integrated into the JPM GN Decision Support System

currently fielded to DoD installations. Demonstrations on threat exposure mitigation informed the Concept of Operations for managing BioWatch detection indoors.

#### JPM Information Systems (IS):

- Joint Warning and Reporting Network (JWARN) integrates CBRN data and facilitates sensor information into Command and Control systems. JPM IS collaborated with JPM BD in the development of a Remote Operations Capability for CBRND on the Korean peninsula using the JWARN.
- Joint Effects Model (JEM) is the only DoD-accredited CBRN atmospheric transport and dispersion model. JEM was used by the 3<sup>rd</sup> WMD-CST to prepare for activities for the tenth anniversary of September 11, and JEM Increment 2 was approved for entry into the TD Phase of the Defense Acquisition System.

#### JPM Transformational Medical Technologies (TMT):

- HFVs: Phase 1 clinical trials began for two platform-based therapeutic candidates for the treatment of Ebola and Marburg viruses. JPM TMT collaborated with the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), the U.S. Army Medical Materiel Development Activity, and the FDA to refine a non-human primate model of Ebola virus infection to reduce risk during the advanced development of therapeutics for Ebola.
- Exercise *Key Resolve*: Demonstrated Rapid Response Capability in conjunction with JSTO-CBD and U.S. Forces Korea.
- Performed a pre-decisional market report of DTRA's TMT EID Influenza Therapeutics, which was validated by the Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)).

#### JPM Medical Countermeasures Advanced Development and Manufacturing (MCM ADM):

- A RFP for this capability was released in August 2011, with planned contract award in FY 2012. DoD will continue to issue separate contracts in the future as needed for specific MCM products (i.e., the MCM "pipeline").

**Quantities and Capabilities** – The 136,596 systems fielded by the JPEO-CBD to provide capability during FY 2011 are included in Enclosure C. System titles and acronyms are included in Enclosure E.

**Industrial Base (IB)** – The JPEO-CBD Joint Logistics Advisory Council for CBD Industrial Base Working Group (IBWG) focus areas for FY 2011 were CBDP Items and U.S. Northern Command (USNORTHCOM) Critical CBRND Items. The CBDP Item assessment evaluated the commercial and organic IB capability to sustain the Joint Force in the immediate future and identified alternatives and risk mitigation procedures to ensure readiness. The USNORTHCOM assessment addressed commercial IB capability to sustain CBRND equipment requirements of the DoD, other Federal agencies, and local governments. The assessment revealed that this broader community has increased demands for equipment, bringing new manufacturers into the industrial sector and increasing capability. Anticipated reductions in investment across Government will significantly impact the IB in the near and far terms. Although economic impacts and fluctuations in program requirements will continue to affect the CBRN IB, the

IBWG provides the framework to identify and mitigate risks through industrial preparedness measures and risk reduction recommendations.

**Testing and Evaluation** – In FY 2011, CBRND test and evaluation (T&E) standards expanded to include NTAs and biosurveillance, and T&E continues to support a White House initiative to develop CBRND standards across Government agencies. To date, 27 standards documents have been approved and distributed.

CBD-unique T&E infrastructure and capabilities have been maintained through investments made in FY 2007-2011. Grid upgrades for field CWA simulant tests are on track for completion in FY 2012, and the Whole System Live Agent Test for biological point detection systems will have an initial capability in FY 2012. Development and validation efforts for NTA, next-generation CWA material, and modeling test capabilities are ongoing. Operations and modernization of the CBDP Major Range and Test Facility Base, West Desert Test Center (WDTC) at Dugway Proving Ground will be re-examined due to strategic shifts impacting the CBDP.

No individuals have been used as subjects of any CB agent tests in the U.S. since 1975. DoD continues to work with the Department of Veterans Affairs to identify and locate previous human test subjects so they can receive appropriate attention. To provide the public with the information on human exposures related to historic CB testing, the OASD(HA) maintains CB exposure databases and updates the CB Warfare Exposures website. (<http://fhp.osd.mil/CBexposures>)

**Policy, Training, and Education** – 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 strategies. Enclosure D lists the CWMD, CBRN Responder, and medical personnel training and education courses in compliance with Public Law 103-160.

OASD(HA) updated policy guidance on the smallpox and anthrax vaccine immunization programs. Efforts are ongoing within the OASD(HA) to evaluate possible changes to policy enabling immunization of the entire CBRN Response Enterprise with these two vaccines.

JRO-CBRND continued to sponsor warfare defense training and improve readiness among the Armed Forces. FY 2011 highlights are as follows:

- Provided CBRN subject matter expertise support to Service and Joint Forces Staff College curricula and war games.
- Supported several Combatant Commands (CCMD) and 12 large-scale exercises focusing on Interagency cooperation and response to a CBRN incident, including a bilateral U.S. and Republic of Korea Senior Leader Seminar/Table-Top Exercise simulating two biological incidents.
- Assisted the U.S. Army Maneuver Support Center of Excellence and the U.S. Army CBRN School (USACBRNS) in developing multi-Service doctrine and Tactics, Techniques, and Procedures (TTP) related to CBRND.

The U.S. Army continues to develop and provide a training base, preparing Soldiers for rapid response, full-spectrum operations in support of CCMDs. This has been accomplished in leveraging key facilities such as the WDTC and Center for National Response as well as the Terry Center, the Army's flagship facility at FLW, and the Muscatatuck Urban Training Center. Through the USACBRNS, the DoD trains and maintains a flexible and responsive CBRN Response Enterprise, which consists of 57 National Guard (NG) WMD-CSTs, 17 NG Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Enhanced Response Force Packages (CERFP), 10 NG Homeland Response Forces (HRF), 1 DCRF, and 2 Command and Control CBRN Consequence Response Elements. Additionally, the Army trained more than 1,500 medical personnel through USAMRICD and USAMRIID in FY11.

The U.S. Air Force (USAF) published Air Force Manual 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment*, developed and fielded 26 new training products, reviewed 80 products for accuracy, and has five new courses in development. Through its relationship with the USACBRNS, the USAF trained and awarded DoD Hazardous Materials certifications to more than 9,410 personnel. The USAF hosted an emergency management training symposium, fostering multi-Service interaction among hundreds of emergency managers and responders. The USAF's Sixth Annual CBRN Challenge was held at the Center for National Response, where 50 Airmen representing 10 Major Commands experienced eight real-world based scenarios designed to test their knowledge of career field-specific equipment, procedures, and skill sets; sharpen emergency response procedures; and identify policy and equipment gaps.

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. Two OPNAV-level instructions are under review: OPNAV instruction 3400.10G, *Chemical, Biological, and Radiological (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) incorporated CBRN defense into training and readiness manuals at all levels of training. Marines are annually trained using standards from Marine Corps Common Skills Manuals and Marine Corps Order 3400.3G, "CBRN Defense Training Requirements." Additionally, Marines conducted CBRN training during exercises and pre-deployment training. Chemical and Biological Incident Response Force completed multiple CBRN training and exercise events with domestic and international emergency responders, including training with the Japanese Self-Defense Force during Operation TOMODACHI. The USMC CBRN School conducted the first consolidated CBRN Warrant Officer Basic Course with the USMC and U.S. Army CBRN Warrant Officers. The USMC CWMD Operating concept led to a CWMD Capabilities-Based Assessment (CBA) that identified tasks, gaps, and solutions to strengthen its ability to conduct and support CWMD operations.

**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 monitor chemical

weapon (CW) destruction facilities and conduct inspections at CW storage and former CW production facilities. In FY 2011, OPCW TS conducted 23 inspections of U.S. chemical industry facilities, and DoD hosted 67 inspections and visits at CW storage, destruction, and Schedule 1 chemical production facilities. The DoD continues to oversee and ensure that all CB defense programs are compliant with the CWC.

OPCW inspectors monitoring U.S. chemical demilitarization facilities are required to attend a safety orientation, divided into two sections: a 24-hour health and safety course, which is a U.S. Government requirement; and a yearly eight-hour refresher. In FY 2011, more than 170 OPCW TS inspectors attended required certification training.

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. In FY 2011, U.S. Army Edgewood Chemical Biological Center's Research and Technology Directorate participated in the OPCW Proficiency Test, scoring the highest achievable grade.

**Defense Advanced Research Projects Agency Coordination** – DARPA supports CB warfare defense by developing revolutionary new CB threat detection, diagnostics, and decontamination capabilities. DARPA contributes to the following interagency CBRNE reports: 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 2011, DARPA provided nine briefings and three senior-level briefings within DoD and the Joint Staff. DARPA provided programmatic updates and technical expertise to the Biodefense Net Assessment Executive Review Panel, the Biological Emergency Advisory Team, the National Academy of Science Committee on Cooperative Threat Reduction for CBRN, and the Institute of Medicine Committee for Anthrax Preparedness.

**Path Forward** – DoD efforts to provide CBRND capabilities will strengthen and expand efforts that prevent, protect, mitigate, respond to, and recover from CBR threats as part of a layered, integrated defense and improve the Warfighter's ability to find, track, interdict, and eliminate CBRN weapons or emerging threats.

The top priorities of the CBDP program in FY12 will focus on building an end-to-end responsive MCM capability. These focus areas will be a priority of both the science and technology (S&T) base of JSTO-CBD and the advanced development and procurement system of JPEO-CBD. First is the increased focus on the NGDS currently in the early acquisition stages within CBMS, bringing new diagnostic capabilities to the DoD allowing us to rapidly diagnose our forces in the field so they can either complete the mission on a CBRN battlefield or evacuate for expedient treatment. This awareness adds capability to our biosurveillance architecture. Timely provision of existing MCMs or generation of new therapeutics will require agile and responsive ADM. The main focal point is the MCM ADM capability, focused on flexible and efficient technologies enabling production of multiple MCMs without requiring dedicated infrastructure for each. Responsiveness highlights priorities endorsed by the administration for the CBDP in 2010.

The CBDDP S&T portfolio includes CB detection systems; advanced materials for improved filtration and protection systems; advanced decontaminants; information technologies; medical biological defense research for viral, bacterial, toxin, and emerging threat agents; chemical defense; and medical radiological defense research. Focused efforts for FY 2012 are directed towards mutually supporting S&T efforts, systems acquisition programs, and T&E capabilities aimed at delivering comprehensive CBR defense capabilities to the Warfighter.

In the execution of its mission, the CBDDP will continue to provide capabilities in support of national military strategies, both in the implementation of strategic guidance and in support of measures aimed at better understanding potential threats, securing and reducing dangerous materials whenever possible, preventing potential attacks, and developing a layered, integrated defense against CBRN threats.

## ENCLOSURE A

### CBDP ENTERPRISE ROLES AND RESPONSIBILITIES

**JRO-CBRND** – JRO-CBRND develops and maintains a prioritized list of CBRN operational capability needs. With input from the Services, CCMDs, and Joint Staff-led CBAs, a Joint Priority List (JPL) of CBRN core capabilities is developed. The JPL informs CBDP Program Objective Memorandum development, guides DoD efforts in S&T research and R&D of materiel and non-materiel solutions that enable military operations, and supports the front-end analysis required to begin program solution through the Joint Capabilities Integration and Development System.

**JSTO-CBD** – DTRA's JSTO-CBD is the focal point for S&T expertise. Through the management and integration of the CBD S&T portfolio, JSTO-CBD develops scientific knowledge and technological solutions to reduce the CBR threat to U.S. forces, our allies, and our homeland and is responsible for maintaining robust Service Lab S&T core capabilities.

**JPEO-CBD** – Within the DoD acquisition system, JPEO-CBD is the designated Milestone Decision Authority for all CBD acquisition programs. Within JPEO-CBD, eight JPMs lead, manage, and direct the acquisition and fielding of CBD systems. JPEO-CBD recently consolidated three of its JPMs into a single JPM while standing up a new JPM to establish a dedicated and enduring DoD capability to efficiently provide the broader range of MCMs required by DoD. JPEO-CBD has embraced acquisition reform and DoD Efficiency Initiatives in order to field more refined and risk-reduced capabilities while saving the taxpayer money.

**T&E Executive** – The Deputy Under Secretary of the Army, Test and Evaluation (DUSA-TE), as the T&E Executive, establishes test standards, processes, and procedures and oversees CBDP T&E infrastructure to ensure that adequate T&E is conducted for CBDP systems. DUSA-TE coordinates all T&E issues with the Joint Staff and Office of the Secretary of Defense, specifically, the Under Secretary of Defense for Acquisition, Technology, and Logistics; the Director, Operational Test and Evaluation; and the Deputy Assistant Secretary of Defense for Developmental Test and Evaluation.

**USACBRNS** – The USACBRNS and its partner Service schools are engaged in efforts to shape and refine the CBRN Response Enterprise concept. The use of key expertise has significantly improved the scope and depth of CBRN instruction at FLW. USACBRNS provides institutional training to military units such as the NG WMD-CSTs, CERFPs and HRFs, USNORTHCOM CBRNE CM forces, and the Coast Guard's National Response Teams.

**Joint CBRN Defense Program Analysis and Integration Office (PAIO)** – PAIO provides independent analysis, review, and integration functions across a variety of CWMD mission areas to leverage resources, eliminate duplication, and ultimately ensure that programs support Warfighters and response teams.

**ENCLOSURE B**

**JRO-CBRND EXPERIMENTS AND STUDIES**

<b>EXPERIMENT/STUDY</b>	<b>DESCRIPTION</b>	<b>COLLABORATING ORGANIZATION</b>
<i>Environmental Biological Surveillance Experiment</i>	Showed that DoD biological detection/sampling capabilities can contribute to global bio-surveillance	JEAD
<i>Shipboard Isolation and Quarantine Concept Experiment</i>	Identified TTP for Medical isolation and quarantine to protect Service members from contagious BWAs and naturally occurring disease	JEAD
<i>CBRN Decision and Risk Assessment Tools Experiment</i>	Identified need for CBRND automated decision support and risk assessment tools to quickly make necessary decisions in support of combat operations in a CBRND environment	JEAD
<i>Chemical Detector Mix Study</i>	Examined the added value of mixes of chemical point and standoff detectors based on variations in numbers and sensitivity	IDA
<i>Operational NTA Assessment</i>	Compared hazards posed by traditional agents and NTAs and changes in TTP necessary to protect Warfighters	IDA
<i>Chemical Challenge Study, Volume II, Vapor, Liquid, and Solid Tracking Source Terms</i>	Provided documentation of the modeling parameters used in the IDA Chemical Challenge Study	IDA
<i>Biological Challenge Database Version 1.0</i>	Provided data supporting the previously published Biological Challenge Study	IDA
<i>NTA Challenge Study</i>	Quantified the hazard from emerging threats (first in a series of studies)	IDA
<i>Concept of Operations in NTA Contamination Experiment</i>	Provided the Services with a starting point for developing doctrine and training dealing with emerging threats, including draft TTP and a ready-to-use Commander's Guide	JEAD and IDA

**ENCLOSURE C**

**FY 2011 FIELDING QUANTITIES**

<b>Total Systems Fielded FY11</b>						
		<b>Service</b>				
<b>JPM</b>	<b>Product</b>	<b>USA</b>	<b>USAF</b>	<b>USN</b>	<b>USMC</b>	<b>Totals</b>
BD	M31A2 BIDS	56				56
	M98 JBPDS			9		9
CA	FOX	6				6
	JCAD	15,901		312		16,213
	JCBRAWM	476				476
	JNBCRS2	11				11
CBMS	JBAIDS			20		20
GN	IPP	5	5	2		12
IS	JWARN				7	7
P	AFS	557			7,260	7,817
	JB2GU <sub>n</sub> FR	13,605	1,416		8,988	24,009
	JC3	3,132			853	3,985
	JSGPM		52,186		30,500	82,686
	JSTDS-SS	1,289				1,289
<b>Total</b>		<b>35,038</b>	<b>53,607</b>	<b>343</b>	<b>47,608</b>	<b>136,596</b>
<b>Medical Systems Acquired from the Strategic National Stockpile</b>						
CBMS	AVA*	627,020	104,360	182,400	87,470	1,001,250
	SMALLPOX*	164,200	90,500	75,600	38,800	369,100
<b>Total</b>		<b>791,220</b>	<b>194,860</b>	<b>258,000</b>	<b>126,270</b>	<b>1,370,350</b>

*\*Number of doses*

**ENCLOSURE D**

**FY 2011 CWMD AND CBRN RESPONDER TRAINING AND EDUCATION**

<b>JRO-CBRND Sponsored Leader Development and Education Courses</b>	<b>Attendees</b>
Joint and Combined Warfighting School (JCWS) CWMD Focus Study	362
JCWS CM Focus Study	164
Joint CWMD Familiarization Course Mobile Training Team	382
JCWS Purple Guardian Exercise	216
U.S. Army Command and General Staff School, CWMD & Homeland Security Tracks	563
U.S. Army CBRN Captain's Career Course CM Module	96
U.S. Army Military Police Captain's Career Course CM Module	212
Joint Senior Leaders' Course	86
U.S. Army Engineer Captain's Career Course CM Module	201
U.S. Army War College, Strategic Decision Making Exercise	347
U.S. Army and USAF Command and Staff Colleges, Joint Interagency Planning Staff Exercise	307
Joint Land Aerospace Sea Simulation (JLASS) Exercise	106
USMC Command and Staff College, National Response to Catastrophic and Disruptive Threats Exercise	208
Air War College, Global Challenge Exercise	228
Joint Special Operations University	46
Public Health Emergency Managers Course	255
Marine Corps War College JLASS Prep	27
<b>FY 11 Total Number of Students</b>	<b>3,806</b>
<b>FY 10 Total Number of Students</b>	<b>3,163</b>

<b>USACBRNS Courses</b>	<b>Attendees</b>
WMD-CST Civil Support Skills Course	333
WMD-CST Operations Course	12
WMD-CST Pre-Command Course	20
WMD-CST Analytical Laboratory Operator's Course	48
WMD-CST Unified Command Suite Operator's Course	25
CBRN Responders Course	537
CBRN Mass Casualty Decontamination Course	424
CBRN Senior Leaders Course	160
CBRN Warrant Officer Basic Course	38
Technical Escort	581
Biological Integrated Detection Systems	436
<b>FY 11 Total Number of Students</b>	<b>2,614</b>
<b>FY 10 Total Number of Students</b>	<b>1,800</b>

<b>USAMRICD Courses</b>	<b>Attendees</b>
Field Management of CB Casualties Course	440
Medical Management of CB Casualties Course (Phase 2)	369
Hospital Management of CBRNE Incidents Course	188
Off-site Courses	28
Distance Learning via Defense Connect Online	212
<b>FY 11 Total Number of Students</b>	<b>1,237</b>
<b>FY 10 Total Number of Students</b>	<b>1,094</b>

<b>USAMRIID Courses</b>	<b>Attendees</b>
Medical Management of CB Casualties Course (Phase 1)	325
Field Identification of BWAs Course	22
Field Identification of BWAs Manager's Course	20
<b>FY 11 Total Number of Students</b>	<b>367</b>
<b>FY 10 Total Number of Students</b>	<b>294</b>

## ENCLOSURE E

### ACRONYM LIST

<b>ACRONYM</b>	<b>TERM</b>
ADM	Advanced Development and Manufacturing
AFS	Alternative Footwear Solution
AVA	Anthrax Vaccine Adsorbed
BD	Biological Defense
BIDS	Biological Integrated Detection System
BoNT	Botulinum Neurotoxin
BWA	Biological Warfare Agent
BWC	Biological Weapons Convention
CB	Chemical and Biological
CBA	Capabilities-Based Assessment
CBD	Chemical and Biological Defense
CBDP	Chemical and Biological Defense Program
CBMS	Chemical Biological Medical Systems
CBR	Chemical, Biological, and Radiological
CBRN	Chemical, Biological, Radiological, and Nuclear
CBRND	Chemical, Biological, Radiological, and Nuclear Defense
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive
CCMD	Combatant Command
CERFP	CBRNE Enhanced Response Force Package
CM	Consequence Management
CW	Chemical Weapon
CWA	Chemical Warfare Agent
CWC	Chemical Weapons Convention
CWMD	Combating Weapons of Mass Destruction
DARPA	Defense Advanced Research Projects Agency
DCRF	Defense CBRN Response Force
DHS	U.S. Department of Homeland Security

<b>ACRONYM</b>	<b>TERM</b>
DoD	U.S. Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
DR SKO	Dismounted Reconnaissance Sets, Kits, and Outfits
DTRA	Defense Threat Reduction Agency
EID	Emerging Infectious Disease
EUA	Emergency Use Authorization
FDA	U.S. Food and Drug Administration
FLW	Fort Leonard Wood
FY	Fiscal Year
GN	Guardian
HFV	Hemorrhagic Fever Virus
HRF	Homeland Response Force
IB	Industrial Base
IBWG	Industrial Base Working Group
IDA	Institute for Defense Analyses
IPP	Installation Protection Program
IS	Information Systems
JB2GU <sub>n</sub> FR	Joint Lightweight Integrated Suit Technology (JSLIST) Block II Glove Upgrade Non-Flame Resistant Variant
JBAIDS	Joint Biological Agent Identification and Diagnostic System
JBPDS	Joint Biological Point Detection System
JC3	JSLIST CB Coverall for Combat Vehicle Crewmen
JCAD	Joint Chemical Agent Detector
JCBRAWM	Joint Chemical, Biological, and Radiological Agent Water Monitor
JCWS	Joint and Combined Warfighting School
JEAD	Joint Experimentation and Analysis Division
JEM	Joint Effects Model
JLASS	Joint Land Aerospace Sea Simulation
JNBCRS2	Joint Nuclear Biological Chemical Reconnaissance System Increment 2

<b>ACRONYM</b>	<b>TERM</b>
JPEO-CBD	Joint Program Executive Office for Chemical and Biological Defense
JPL	Joint Priority List
JPM	Joint Project Manager
JRO-CBRND	Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense
JSGPM	Joint Service General Purpose Mask
JSTDS-SS	Joint Service Transportable Decontamination System-Small Scale
JSTO-CBD	Joint Science and Technology Office for Chemical and Biological Defense
JWARN	Joint Warning and Reporting Network
MCM	Medical Countermeasures
NBC CA	Nuclear, Biological, and Chemical Contamination Avoidance
NG	U.S. National Guard
NGDS	Next Generation Diagnostic System
NSTM	Naval Ships' Technical Manual
NTA	Non-Traditional Agent
OASD(HA)	Office of the Assistant Secretary of Defense for Health Affairs
OPCW	Organization for the Prohibition of Chemical Weapons
OPNAV	Office of the Chief of Naval Operations
P	Protection
R&D	Research and Development
RFP	Request for Proposal
S&T	Science and Technology
T&E	Test and Evaluation
TD	Technology Development
TMT	Transformational Medical Technologies
TS	Technical Secretariat
TTP	Tactics, Techniques, and Procedures
UIPE	Uniform Integrated Protection Ensemble
USACBRNS	U.S. Army Chemical, Biological, Radiological, and Nuclear School

<b>ACRONYM</b>	<b>TERM</b>
USAF	U.S. Air Force
USAMRICD	U.S. Army Medical Research Institute of Chemical Defense
USAMRIID	U.S. Army Medical Research Institute of Infectious Diseases
USMC	U.S. Marine Corps
USNORTHCOM	U.S. Northern Command
WDTC	West Desert Test Center
WMD	Weapons of Mass Destruction
WMD-CST	Weapons of Mass Destruction Civil Support Team