Chemical Biological Defense Program

Fiscal Year (FY) 2009 Budget Estimates

February 2008

Research, Development, Test and Evaluation, Defense-Wide

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Fiscal Year (FY) 2009 Budget Estimates

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Department of Defense Chemical and Biological Defense Program Overview

Fiscal Year (FY) 2009 Budget Estimates

The DoD Chemical and Biological Defense Program (CBDP) is a key part of a comprehensive national strategy to counter the threat of chemical and biological weapons as outlined in the National Military Strategy to Combat Weapons of Mass Destruction, February 2006. The military mission is to dissuade, deter, defend, and defeat those who seek to harm the United States, its allies, and its partners thru WMD use or threat of use and, if attacked, mitigate the effects and restore deterrence. This mission is in direct support of the three pillars (non-proliferation, counterproliferation, and consequence management) of the National Strategy for Combating WMD. The DoD CBDP provides research, development, and acquisition (RDA) programs primarily to support the counterproliferation and consequence management pillars. In support of counterproliferation, the DoD CBDP provides passive defenses tailored to the unique characteristics of the various chemical and biological weapons, including emerging threats. These capabilities provide U.S. forces the ability to rapidly and effectively mitigate the effects of a CB attack against our deployed forces. In support of consequence management, the DoD CBDP provides capabilities to respond to the effects of WMD use against our forces deployed abroad, and the homeland.

The CBDP funds research to exploit leading edge technologies to ensure that U.S. forces are equipped with world class capabilities to defend against CB threats through the far term. This budget includes support of a comprehensive science and technology base program to ensure continued advances in CB defense capabilities. CBDP Science & Technology (S&T) research provides core capabilities to ensure U.S. technological advantages through the far term, including research into advanced chemical and biological detection systems, advanced materials for improved filtration systems and protection systems, advanced decontaminants, investigations into the environmental fate of chemical warfare agents, advanced information technologies, medical biological defense research (including novel biodefense initiatives that focus on interrupting the disease cycle before and after exposure, as well as addressing the bioengineered threat), diagnostics, therapeutics, and vaccines for viral, bacterial, toxin, and novel threat agents), and medical chemical defense (including investigations of low level chemical warfare agent exposures, diagnostics, therapeutics, pretreatments for classical chemical warfare threats and novel threat agents).

Technologies currently in Budget Activity 4 (Advanced Component Development and Prototypes) and Budget Activity 5 (System Development and Demonstration) provide leading edge tools that will enhance CB defense capabilities for U.S. forces in all CB defense missions in the near-term. The response to chemical and biological threats requires tailored approaches that recognize the fundamental differences between chemical and biological weapons (and even the different types of these threats). This budget details the comprehensive array of systems under development essential to support principles of contamination avoidance, protection, and decontamination.

Key systems in Budget Activity 4 and Budget Activity 5 in FY09 include: the Joint Chemical Agent Detector (JCAD) for portable point chemical agent detection, Joint Effects Model (JEM) and Joint Operational Effects Federation (JOEF) to provide risk management tools to the warfighter, Counterproliferation Advanced Concept Technology Demonstrations (ACTDs) and Advanced Technology Demonstrations (ATDs), Joint Service Sensitive Equipment Decontamination (JSSED), Joint Portable Decontamination System (JPDS), Joint Platform Interior Decontamination (JPID), Joint Service Transportable Decontamination System Large Scale (JSTDS-LS), Joint NBC Reconnaissance System (JNBCRS) Increments II and III, Joint Biological Point Detection System (JBPDS), Joint Biological Stand-off Detection System (JBSDS) Increment II, Advanced Anticonvulsant System (AAS), Bioscavenger, Improved Nerve Agent Treatment System (INATS), biological defense vaccines (including botulinum vaccine and plague vaccine), Critical Reagents Program (CRP) to support development of reagents for biological detection and diagnostic systems, Joint Service Chemical/Biological/Radiological Agent Water Monitor (JCBRAWM), Joint Bio Tactical Detection System (JBTDS), Joint Warning and Reporting Network (JWARN), Joint Expeditionary Collective Protection (JECP), Joint Service Aircrew Mask (JSAM) and Medical Radiological Countermeasures.

In FY09, the CBDP will start or continue procurement on a variety of CB defense systems intended to provide U.S. forces with the best available equipment to survive, fight, and win in CB contaminated environments. JNBCRS Increment III will begin procurement in FY09. Systems continuing procurement in FY09 include, Multi-Service Radiacs (MSR), Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS), the Joint Effects Model (JEM), Joint Service General Purpose Mask (JSGPM), JWARN, Joint Biological Agent Identification and Diagnostic System (JBAIDS), Joint Service Lightweight Integrated Suit Technology (JSLIST), JNBCRS Increment I and Increment II, Joint Bio Point Detection System (JBPDS), biological defense vaccines, CB Protective Shelters (CBPS), Collective Protective Field Hospitals (CPFH), Collective Protection System Backfit (CPSBKFT), JCAD, JCBRAWM, and chemical and biological defense equipment for installation force protection.

Overall, the FY 2009 President's Budget achieves a structured, executable, and integrated medical and non-medical joint CB Defense Program that balances urgent short-term procurement needs that include securing the homeland from terrorist attack, and long-term S&T efforts to mitigate future CB attacks. A key element of the program is the Transformational Medical Technologies Initiative (TMTI). This program is a major FY06 Quadrennial Defense Review initiative for the development of new technologies to reduce risk from the likely emergence of genetically engineered or manipulated biological agents.

The program supports our commitment to ensure full dimensional protection for all our fighting men and women operating at home and abroad under the threat of chemical and biological weapons. All of these capabilities are integrated as a family-of-systems essential to avoid contamination and to sustain operational tempo on an asymmetric battlefield, as well as satisfy emerging requirements for force protection and consequence management. In summary, the DoD CBDP remains committed to establishing the optimal balance between the near term requirement to field modernized equipment to the field, and the need to protect and replenish our long term investment in technology.

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Chemical and Biological Defense Program
Fiscal Year (FY) 2009 Budget Estimates

APPROPRIATION: 0400D Research, Development, Test & Eval, Defense Wide — Date: February 2008

Line No	Program Number	Item	Budget Activity	FY 2007	FY 2008	FY 2009	FY 2010
				Thousands of Dollars			
006	0601384BP	CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	1	104,830	83,132	53,191	55,484
	Basic Research			**104,830**	**83,132**	**53,191**	**55,484**
014	0602384BP	CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	2	252,343	266,999	203,731	187,744
	Applied Research			**252,343**	**266,999**	**203,731**	**187,744**
033	0603384BP	CHEMICAL/BIOLOGICAL DEFENSE (ATD)	3	223,838	245,591	337,927	311,052
	Advanced Technology Development (ATD)			**223,838**	**245,591**	**337,927**	**311,052**
075	0603884BP	CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	4	99,042	63,958	51,291	171,533
	Advanced Component Development and Prototypes (ACD&P)			**99,042**	**63,958**	**51,291**	**171,533**
104	0604384BP	CHEMICAL/BIOLOGICAL DEFENSE (SDD)	5	194,955	251,526	299,373	212,815
	System Development and Demonstration (SDD)			**194,955**	**251,526**	**299,373**	**212,815**
133	0605384BP	CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)	6	91,720	98,423	100,082	113,153
000	0605502BP	SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	6	9,529	0	0	0
	RDT&E Mgt Support			**101,249**	**98,423**	**100,082**	**113,153**
162	0607384BP	CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	7	6,940	7,667	10,274	12,592
	Operational Systems Development			**6,940**	**7,667**	**10,274**	**12,592**
	Total Chemical and Biological Defense Program			**983,197**	**1,017,296**	**1,055,869**	**1,064,373**

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BUDGET ACTIVITY 1
BASIC RESEARCH

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA1 - Basic Research

PE NUMBER AND TITLE
0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	104830	83132	53191	55484	52990	56651	54348	Continuing	Continuing
CB1	CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	28959	18885	24424	24350	23167	26836	25681	Continuing	Continuing
CI1	CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH)	0	16960	0	0	0	0	0	0	16960
TB1	MEDICAL BIOLOGICAL DEFENSE (BASIC RESEARCH)	66140	34951	16388	18131	17480	16942	15616	Continuing	Continuing
TC1	MEDICAL CHEMICAL DEFENSE (BASIC RESEARCH)	9731	12336	12379	13003	12343	12873	13051	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element (PE) funds the Joint Service fundamental research program for chemical and biological (CB) defense (medical and physical sciences). The basic research program aims to improve the operational performance, reliability, and capability of present and future Department of Defense (DoD) components by expanding knowledge in relevant fields of science and engineering for CB defense. Moreover, basic research supports a Joint Force concept of an integrated, supportable, highly mobile force with enhanced performance by the individual soldier, sailor, airman, or marine. Specifically, the program promotes theoretical and experimental research in the chemical, biological, medical, and related sciences.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA1 - Basic Research

PE NUMBER AND TITLE
0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

Research areas are aligned and prioritized to meet Joint Service needs as stated in mission area analyses and Joint operations requirements, they fully leverage and exploit scientific opportunities. Basic research is executed by government laboratories, industry, and academia to include; Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs). Funds directed to these laboratories and research organizations capitalize on scientific talent, specialized and uniquely engineered facilities, and technological breakthroughs. The work in this program element is consistent with the Chemical Biological Defense Program Research, Development, and Acquisition (RDA) Plan. Basic research efforts lead to expeditious transition of the resulting knowledge and technology to the applied research (PE 0602384BP) and advanced technology development (PE 0603384BP) activities. Where appropriate, scientific discovery and advances are shared within the broader DoD Research, Development, Test and Engineering (RDT&E) Program. The projects in this PE include basic research efforts directed toward providing fundamental knowledge for the solution of defense-related problems and new-improved military capabilities, and therefore, are correctly placed in Budget Activity 1.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA1 - Basic Research**

PE NUMBER AND TITLE: **0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		104257	72003	59191
FY09 President's Budget (FY 2009 PB)		104830	83132	53191
Total Adjustments		573	11129	-6000
a. Congressional General Reductions		0	-5831	0
b. Congressional Increases		0	16960	0
c. Reprogrammings		1586	0	0
d. SBIR/STTR Transfer		-1013	0	0
e. Other Adjustments		0	0	-6000

Change Summary Explanation:

Funding: FY08 - Congressional increases to enhance projects within the science and technology base (+$16,960K CI1). Congressional general reductions and other adjustments (-$5,439K CB1; -$290K TB1; -$102K TC1).

FY09 - Change proposals that realign funding within the Chemical and Biological Defense Program (CBDP) RDT&E (-$6,000K TB1)

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CB1	CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	28959	18885	24424	24350	23167	26836	25681	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CB1 CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH): This program supports basic research efforts in nanoscience, bioscience, surface science, information science, and threat agent sciences that focus on detection, protection, and decontamination. The project seeks to broaden knowledge and understanding of the fundamental phenomena observed in these fields. The aim is to foster radically new concepts and directions of research, which could lead to revolutionary innovations and capabilities that can enhance the performance and ensure the safety of the warfighter. Investment strategies are leveraged so as to maximize short-term and long-term gains from different scientific disciplines (chemistry, biology, physics, etc.). Research in synthetic biology, biomimetics for abiotic synthetic receptors and catalysts, and other emerging areas of science lay a foundation for developing novel "smart" materials which combine multiple functionalities into a common autonomous framework or network. Consequently, breakthroughs and advances in functional capabilities gained from these scientific disciplines will be incorporated into an overarching convergence, which will include nanotechnology, biotechnology, information technology, and cognitive science (NBIC). Following the framework envisioned by NBIC convergence, the Transformational Countermeasures Technology Initiative (TCTI) was launched at DTRA in FY2008. The TCTI concept leverages existing research programs and activities within the CBDP, DoD, and other government agencies in order to accelerate revolutionary transformational breakthroughs that can be readily transitioned to applied research or advanced development initiatives. The transformational initiatives were designed to shape the future of research to meet multiple, complex challenges from 21st century threats. Under the TCTI, this basic research program will continue to support world-class scientists whose research serves as pipelines of future breakthroughs. The broad-spectrum, integrated, cross-cutting, macro- and nano-scale technologies developed from these breakthroughs will be an effective countermeasure against traditional, evolving, and emerging chemical and biological threats; this revolutionary approach will gain new knowledge through Basic Research and will enable future CB defenses and countermeasures.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA1 - Basic Research

PE NUMBER AND TITLE: 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

PROJECT: CB1

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	10865	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CBDP Basic Research Initiative - FY 07 - Solicited proposals from degree-granting universities, nonprofit organizations, and commercial concerns, to include small businesses, in support of the CBDP to explore new and innovative ideas to fill identified knowledge gaps. Funded five research proposals that addressed reticular chemistry, microfilters for nano-aerosol filtration, modeling of flow containing nanoparticles through electrostatically charged monolith filters, organ specific blood signatures for host response to infection, and reliable and rapid prediction of agent fate and transport in porous materials.	4951	0	0
Fluorescence Activated Sensing Technology (FAST) Integrated Threat Management System - FY 07 - Enhanced and evaluated the prototype stand-alone instrument with an integrated air sampler and sonicator and a decision and control system with external communications.	991	0	0
Detection of Biological Agents in Water - FY 07 - Refined investigation of the basic techniques required to measure the Raman signature of a wide array of bio-chemical agents, including bacteria, viruses, and biological and chemical toxins, over a full spectra of excitation wave lengths ranging from the deep UV thru the near infrared regions of the electromagnetic spectra in portable water sources.	1486	0	0
New York Structural Biology Center - FY 07 - Refined the basic research program that leverages exceptional sensitivity and resolution of high-yield Nuclear Magnetic Resonance (NMR) technology to permit atomic-level structural characterization of chemical compounds.	1159	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Next Generation Protective Gear Research - FY 07 - Conducted investigative research for an adaptive individual protection system which was described at the Nanotechnology for Chemical & Biological Defense 2030 Workshop by the CB Protection Focus Group.	991	0	0
Organic Light Emitting Receptor Based Nanosensors - FY 07 - Conducted investigative research on multisignal nanosensors for the detection of chemical warfare agents and incorporated the sensors into a prototype of the handheld device capable of measuring the multiple signals generated by the nanosensors.	1287	0	0
Total	**10865**	**0**	**0**

	FY 2007	**FY 2008**	**FY 2009**
Threat Agent Science	18094	0	0

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
Threat Agent Science - FY 07 - Continued to investigate genetic and biochemical variability as a potential new source of exploitable signatures and characterized the population dynamics of bacterial germination and migration within the body (toxicokinetics) and infection of target tissue under natural and altered physiological states (toxicodynamics). In FY 08, Threat Agent Science changes to Basic Research Core.	1695	0	0
Integrated Basic Research - FY 07 - Continued to investigate a cross-cutting program involving industry, academia, and federally funded research efforts to determine best basic research investments and integration into the core applied research program. In FY 08, Threat Agent Science changes to Basic Research Core.	6998	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Detection Science - FY 07 - Continued investigation of nano-technologies as sensors and investigation of a theory-guided approach to the design of molecular sensing devices and systems. In FY 08, Threat Agent Science changes to Basic Research Core.	1698	0	0
Modeling/Simulation Science - FY 07 - Conducted basic research to understand fundamental relationships of atmospheric phenomena, linked equations of motion for terrestrial and space environments, investigated relationships between sensor data and dispersion forecasts, and improved the basic understanding of atmospheric turbulence in the stable boundary level. In FY 08, Threat Agent Science changes to Basic Research Core.	3775	0	0
Special Projects (Nano-technology Initiative) - FY 07 - Continued to leverage identified nano-science and nano-technologies from sources identified by the survey on the $1-Billion federal government's annual investment in nano-technology. In FY 08, Threat Agent Science changes to Basic Research Core.	2913	0	0
Decontamination Science - FY 07 - Continued investigating the growth of hydrophobic polymer chains from enzymes as solvent-soluble decontaminating biocatalysts, and characterized the reactions between vaporous hydrogen peroxide and chlorine dioxide on metallic, metal-oxide and polymeric surfaces. In FY 08, Threat Agent Science changes to Basic Research Core.	1015	0	0
Total	**18094**	**0**	**0**

	FY 2007	**FY 2008**	**FY 2009**
Basic Research Core	0	18682	24424

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Basic Research in Nanoscience - FY 08 - Initiate research on fundamental phenomena to address opportunities to leverage advances in nanoscience to support chemical and biological defense program requirements. Efforts include investigating: mechanical tools for assessing chemical absorption capacities and rates of chemical absorption for nano-porous materials; atomistic-continuum multi-scale methods for quantum-dot surface growth; silicates as nucleophilic reagents and self-assembling protein nanostructures incorporating active functionality; nano-scale plasmonic and chemical mechanisms of surface enhanced Raman scattering and molecular machines. These developments will prove promising for advanced protection and surface detection of next generation chemical agents. Conduct systematic investigations of biomimetic catalysts in the synthesis of reactive metal oxide nanoparticle networks. Investigate hydrodynamic focusing templated electrochemical fabrication of high density conducting nanowire arrays for nano-sensing technologies for identifying chemical agents. Investigate supramolecular self-assemblies for high-throughput screening of chemical and biological spiral structures, porous carbons using molecular simulations and nonlinear spectroscopy of nanoparticles. Study nanocomposite structures as active and passive barrier materials; and liquid crystalline nanocolloids for sensors and actuators. Analyze molecule-surface encounters relevant to molecular adsorption, size and chemically selective collection and trace identification. Study and elucidate the role of conjugated polyelectrolytes as sensitizers of reactive oxygen species and versatile antimicrobials. FY 09 - Continue research on projects initiated in FY 08. Initiate efforts to investigate ultra-oleophobic textile surfaces, multifunctional nano-structured materials controlled by nanovalves, biomimetic living systems, and bio-nano interfaces of living cells and nanomaterials to provide for future intelligent protection concepts; for example individual protection.	0	3950	6000

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	CB1

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Basic Research in Bioscience - FY 08 - Initiate and continue to leverage previous Basic Research efforts in fundamental phenomena to address opportunities to leverage advances in bioscience to support chemical and biological defense program requirements. Investigate multi-variant polymeric substrates for biomolecular adsorption and cell signaling; new hybrid nanomaterials that bridge nanoparticle and metallic surface-biological interfaces; dynamic properties of biological molecules of submillimeter wave-length and integrated micro-resonators; real-time changes in bacterial sizes during germination and growth of standardized preparation of biological agent simulants; recombinant single domain antibodies; immobilized antimicrobial activities in inorganic composites and antibacterial materials and coatings. These developments will prove promising for new and advanced sensing and detection concepts. Study biophysical fluid dynamics near surfaces and interaction of bio-aerosols with shock blast waves on the dispersion, activation, and destruction of airborne threats. Study impedance-based biosensors with tunable sensitivity using micro fluidic flow focusing and three modes of inhibiting a specific target from anthrax. FY 09 - Continue research on projects initiated in FY 08. Initiate efforts to investigate multi-metal ion catalyzed alcoholysis reactions of neutral and anionic organophosphorus compounds in alcohol media, beta-roll peptide structures for allosterically controlled biomolecular recognition and decontamination, investigation of proteomics and bioinformatics approaches for the classification of biological agents and specifically engineered genetics.	0	3860	4800

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Basic Research in Information Science - FY 08 - Initiate and continue to leverage previous Basic Research efforts in fundamental phenomena to address opportunities to leverage advances in information science to support chemical and biological defense program requirements. Investigate the use of dynamic combinatorial chemistry that enables new host-guest combinations that may result in new approaches in detection, protection, or decontamination. Study the physics of molecules adhered to surfaces under conditions of flow using first principle of computations. Investigate the dynamics of bacterial germination and migration within the body, infection of target tissues and model the results. Conduct an analysis of atmospheric behavior by deriving basic mathematical and physical relationships such as momentum and energy exchanges. Study the fundamental relationships between models and data for moisture in soil, variability in clouds, and characteristics of the wind and turbulence at the boundary layer. Investigate the atmospheric turbulence in the stable boundary layer through theoretical and laboratory studies to further knowledge of dispersion of chemical and biological agents. FY 09 - Continue research on projects initiated in FY 08. Initiate efforts to investigate genetic algorithms to identify optimal material arrangements, quantification and reduction of uncertainty for dispersion models via meteorological predictions through computer experimentation, calculations of the complete electromagnetic response of large macromolecules, new molecular recognition signatures in the electromagnetic spectrum.	0	4680	5925

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Basic Research in Cognitive Science - FY 08 - Initiate efforts in fundamental phenomena to address opportunities to leverage advances in cognitive science to support chemical and biological defense program requirements. Conduct research in cognitive science that draws from many disciplines including cognitive psychology, neuroscience, linguistics, computer science, physics, mathematics, and biology. Initiate research on imaging methods (e.g., modern optical microscopy, functional brain mapping) and their applications to the affects of chemical and biological agents. Leverage data gathered during the study of human cognitive and sensorimotor processes. Conduct research to fill the "gap" between psychological processes and brain functions as they may apply to cause and effect from exposure to chemical and biological agents. FY 09 - Continue research on projects initiated in FY 08. Initiate efforts to investigate the presentation of risk and uncertainty for CB decision making.	0	3174	4199
Integration of Basic Research Science- FY 08 - This is a consolidation of efforts undertaken in Threat Agent Science Basic Research in FY 2007. Initiate a multi-faceted, integrated, and cross-cutting effort involving DoD laboratories, industry, academia, and federally funded research efforts to determine best basic research investment strategies and approach integration of CB basic research findings into applied research. FY 09 - Continue research on projects initiated in FY 08. Initiate research in Abiotic Networked Threat Systems (ANTS) and integrated approach to the NBIC sciences.	0	3018	3500
Total	**0**	**18682**	**24424**

	FY 2007	**FY 2008**	**FY 2009**
SBIR/STTR	0	203	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA1 - Basic Research**

PE NUMBER AND TITLE: **0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**

PROJECT: **CB1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	203	0
Total	**0**	**203**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
CB2 CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	128194	87984	110984	99931	91149	93975	94292	Cont	Cont
CB3 CHEMICAL BIOLOGICAL DEFENSE (ATD)	103420	20499	19242	21745	14112	14178	13695	Cont	Cont
TT3 TECHBASE TECHNOLOGY TRANSITION	15616	7817	8241	8389	8253	9343	9445	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CI1**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CI1	CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH)	0	16960	0	0	0	0	0	0	16960

A. Mission Description and Budget Item Justification:

Project CI1 CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH):

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	0	16718	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CBDP Initiative Fund Basic Research - FY 08 - Solicit proposals from degree-granting universities, nonprofit organizations, and commercial concerns, to include small businesses, in support of the CBDP to explore new and innovative ideas to fill identified knowledge gaps. Upon technical evaluation and selection of proposals, provide a report detailing the number of projects funded and areas of research.	0	3943	0
Detection of Biological Agents in Water - FY 08 - Conduct research to develop a highly sensitive and selective acoustic wave biosensor arrays with signal analysis system to provide a fingerprint for the real-time identification and quantification of a wide array of bacterial pathogens and environmental health hazards.	0	1972	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	CI1

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Diamond MEMS Sensors for Real-Time Sensing of Weaponized Pathogens - FY 08 - Research and develop a new class of compact, wearable, real-time chemical and biological point sensors using the unique properties of diamond.	0	986	0
Portable Continuous Monitor for Biodetection - FY 08 - Conduct research to develop a platform capable of performing multiple bioassays for live organisms and toxins simultaneously, efficiently, accurately and extremely fast.	0	1577	0
Rapid Response Database Systems Initiative - FY 08 - Conduct research to develop an exercise system (that can be implemented and replicated throughout the military, guard and the world) that most effectively ensures a rapid response to All Hazards whether natural or man-made.	0	986	0
Garden State Cancer Center Vaccine Development Program - FY 08 - Conduct research to continue the development of a safe vaccine against smallpox that does not require whole or live virus, thereby eliminating the danger of vaccine-associated side effects and transmission for viral infections to immunocompromised individuals.	0	789	0
DNA Safeguard.	0	1341	0
PhotoScrub - FY 08 - Conduct research using PhotoScrub to break down chemical and biological threats into simpler, non-hazardous molecules such as carbon dioxide and water.	0	1578	0
Initiative for Defense Against Bio-Warfare and Bio-Terrorism - FY 08 - Research and develop pharmaceutical drugs with a broad spectrum of action against a range of Categories A and B bacterial pathogens, and emerging drug-resistant bacteria that cause serious, life-threatening infections in the community and health-care facilities.	0	1576	0
Multisignal Nanosensors for Detections of IEDs.	0	1970	0
Total	**0**	**16718**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**CI1**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	242	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	242	0
Total	**0**	**242**	**0**

C. Other Program Funding Summary: N/A

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TB1	MEDICAL BIOLOGICAL DEFENSE (BASIC RESEARCH)	66140	34951	16388	18131	17480	16942	15616	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TB1 MEDICAL BIOLOGICAL DEFENSE (BASIC RESEARCH): This project area funds basic research which seeks to promote the development of vaccines and therapeutic drugs to provide effective medical defense against validated biological threat agents including bacteria, toxins, and viruses. These Basic Research efforts advance promising biotechnology with the potential to rapidly identify, diagnose, prevent, and treat disease due to exposure to biological threat agents. Categories for this project area include core science and technology program areas in medical biological defense capability areas (Pretreatments, Diagnostics, Therapeutics) and directed research areas such as the Transformational Medical Technologies Initiative (TMTI). The TMTI was launched in FY06 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. It augments the core science and technology area by expanding the novel programs currently funded under the core Therapeutics program and introducing new technologies for developmental focus. TMTI is a novel experiment to develop drugs that are broad spectrum in nature by using non-traditional and high risk approaches to accelerate the development and licensure of new medicines. The basic research supported by the TMTI is focused on delineating the pathogenic mechanisms of intracellular bacterial pathogens and hemorrhagic fever viruses. Teaming the core program and TMTI provides a complementary strategy (single agent versus broad spectrum, conventional versus emerging threats and established model systems versus expanded integration of novel technology, respectively) towards the development of effective medical countermeasures against biothreat agents.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	9410	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Northeast Biodefense Center - FY 07 - Increased laboratory capacity so that urgent local, national and global needs can be met without compromising ongoing research programs. Key research objectives include: establishing new technologies for producing monoclonal antibodies for passive administration; establishing new technologies for rapid active immunization employing dendritic cell, macrophage and B-cell interactions; discovering novel therapeutic preventive and immunomodulatory targets and molecules for bacterial and viral pathogens.	991	0	0
FY 07 - Anthrax Vaccine Research.	496	0	0
FY 07 - Mismatch Repair Derived Medicines to treat Clostridium, Staphylococcus and Bacillus Bioweapons.	1981	0	0
FY 07 - UCLA High Speed, High Volume Laboratory Network for Infectious Diseases - Initiated development of a high speed, high volume (high-throughput) laboratory capability that links into a network and is operated by several premier institutions.	5942	0	0
Total	**9410**	**0**	**0**

	FY 2007	FY 2008	FY 2009
Transformational Medical Technologies Initiative	32273	22510	6211

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA1 - Basic Research

PE NUMBER AND TITLE: 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

PROJECT: TB1

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Multiagent (Broad Spectrum) Medical Countermeasures -	32273	22510	6211
FY 07 - Identified common biomarkers for several broad classes of Pathogenic Agents with specific applications to intracellular bacterial pathogens and hemorrhagic fever viruses. Developed a problem solving approach that focused on four major modules of broad-spectrum effort (host immune response, small molecule therapeutics, nucleotide therapeutics, protein based therapeutics) with the emphasis on developing adaptive technology to speed drug approval process and next generation break-through technology. Accelerated a systematic evaluation of pathogen biomarkers for categories of Biological Warfare (BW) Pathogenic Agents that tie to commonality in pathogenic mechanism(s) of action. Identified primary common host pathways/networks that respond to pathogenesis events to uncover promising intervention points for broad-spectrum therapeutic approaches. Exploited advances in genomics, proteomics and systems biology studies to identify pathogenesis pathways and networks using two classes of agents (hemorrhagic fever viruses and intracellular bacterial pathogens) as model systems. Built on knowledge of host cellular response patterns that have been compromised by pathogen-directed shifts in pathways.			
FY 08 - Apply knowledge on common biomarkers for broad classes of Pathogenic Agents to specific species of intracellular bacterial pathogens and hemorrhagic fever viruses. Validate problem solving approach focusing on four major modules of broad-spectrum effort (host immune response, small molecular therapeutics, nucleotide therapeutics, protein based therapeutics). Assess the systematic evaluation of pathogen biomarkers for categories of BW Pathogenic Agents that tie to commonality in pathogenic mechanisms(s) of action. Relate primary or common host pathways/networks that respond to pathogenesis events to uncover promising intervention points for broad-spectrum therapeutic approaches. Continue to mine advances in genomics, proteomics and systems biology studies. Initiate collaborations to develop in silico and other methodologies to predict three-dimensional structure and comparative assessment of virulence moieties on important protein virulence molecules from genetic sequences. Collate knowledge of host cellular response patterns that have been compromised by pathogen-directed shifts in pathways (e.g., override of host apoptosis (programmed cell death) pathways, immune down-regulation, signal transduction agonists/antagonists, etc.).			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Bullet Text (cont)	**FY2007**	**FY2008**	**FY2009**
FY 09 - Validate knowledge on common biomarkers for broad classes of Pathogenic Agents beyond intracellular bacterial pathogens hemorrhagic fever viruses. Continue to follow a systematic/problem solving approach towards the broad-spectrum development effort by mining advances in genomics, proteomics and systems biology studies and applying them to pathogen science; host response systems biology; adaptive technology to speed drug approval process; and next generation break-through technology. Pursue promising intervention points for broad-spectrum therapeutic approaches. Develop in silico and other methodologies to predict three-dimensional structure and comparative assessment of virulence moieties on important protein virulence molecules from genetic sequences. Continue to collate knowledge of host cellular response patterns that have been compromised by pathogen-directed shifts in pathways. Continue to mine advances in genomics, proteomics and systems biology studies.	32273	22510	6211
Total	**32273**	**22510**	**6211**

	FY 2007	**FY 2008**	**FY 2009**
Diagnostics	7541	4875	3210

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Diagnostic Technologies - FY 07 - Expanded assay design for nucleic acid and immunoassays to additional agents/targets. Continued to improve sensitivity and specificity of existing assays, as new genomic data and techniques became available. Directed research towards increasing sample concentration and extending pathogen viability prior to nucleic acid testing. Collated/analyzed microarray data on host response to immunization from biowarfare vaccine recipients and made recommendations for follow-on studies. Directed research towards development of a microfluidic card to automate sample preparation. Investigated surface amplification methods to enhance microarray sensitivity. Investigated novel method to produce improved immunodiagnostic reagents. FY 08 - Explore new avenues for assay design and application, focusing on those that enhance sensitivity and specificity. Validate microfluidic card to automate sample preparation. Optimize surface amplification methods for selected microarrays. Accelerate development of a novel method to produce improved immunodiagnostic reagents. Assess the applicability of novel technology platforms as new genomic techniques become available. Pursue identification of novel biomarkers identifying exposure to biological pathogens. FY 09 - Continue to seek novel avenues for assay design and application. Investigate cutting edge technologies as new genomic techniques become available. Accelerate identification of novel biomarkers of biological warfare agent (BWA) infection and apply to assay development.	7541	4875	3210
Total	**7541**	**4875**	**3210**

	FY 2007	FY 2008	FY 2009
Pretreatments	8062	2261	3339

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	TB1

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Pretreatments, Multiagent Vaccines - FY 07 - Expanded the identification of potential vaccine target antigens for multiple agents using genomics/proteomics-based high throughput approaches. Further assessed the use of novel approaches for vaccine construction and delivery including recombinant protein and/or fusion protein constructs. FY 08 - Identify conserved genes required for the survival and/or virulence of intracellular pathogens (i.e., those considered potential biological threats), that could serve as potential targets in the design of multi-agent vaccines. FY 09 - Utilize novel technologies to define target antigens for different bio-threat pathogens. Explore DNA-based vaccine formulations against multiple agents. Incorporate novel adjuvants and/or delivery systems in the design of a multi-agent vaccine.	1728	504	345
Pretreatments, Vaccine Technology Development - FY 07 - Evaluated cell-mediated immune targeting of antigens for intracellular pathogens. Investigated the T-cell response against selected target antigens (analysis of cell-mediated immune response). Continued to investigate Toll-Like Receptor (TLR) agonists and other aspects of the innate immune system for vaccine construction and enhancement. Examined multiple T-cell agonists in the induction/enhancement of immune responses against biothreat agents. FY 08 - Identify common pathogenic mechanisms to subvert TLR signaling. Explore the manipulation of TLR signaling pathways in vaccine design for enhanced immunity. FY 09 - Vaccine technology development efforts transition to Vaccine Research Support in FY 09.	2000	481	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Pretreatments, Vaccine Research Support - FY 07 - Explored additional intracellular pathogen target antigens using animal model systems including the use of alternative delivery platforms. Evaluated gene expression technologies for in vitro analysis of host responses to bacterial pathogens. Analyzed information in the genomics/bioinformatics database to aid in the design of unique target antigens. Conducted basic pathogenicity studies of selected biothreat agents. Continued B and T-cell epitope mapping of lead antigen candidates. Characterized in vitro correlates of immunity for biothreat agents. FY 08 - Expand evaluation of human immune response to bacterial pathogens. Continue basic pathogenicity studies of selected biothreat agents. Develop and refine in vitro correlates of immunity for vaccines under development. Identify and evaluate new target antigens for intracellular pathogens. Expand B and T cell epitope mapping to additional lead antigen candidates. FY 09 - Further conduct basic pathogenicity studies of selected biothreat agents. Develop and refine in vitro correlates of immunity for new antigen in relation to vaccines under development. Pursue the identification and evaluation of novel target antigens for intracellular pathogens by studying the innate and adaptive immune responses to pathogens. Optimize epitope mapping of lead antigen candidates.	4334	1276	2994
Total	**8062**	**2261**	**3339**

	FY 2007	**FY 2008**	**FY 2009**
Therapeutics	8854	4873	3628

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Viral - FY 07 - Identified host cell and viral proteins that may be susceptible to broad spectrum therapeutics. Investigated additional technologies that may integrate established and novel viral therapeutic modalities into suitable candidate therapies in humans. FY 08 - Delineate the host cell response to viral infection to enhance the current understanding of viral pathogenesis, in support of therapeutic development against orthopox, filovirus, and other category A and B viral threat agents of interest. Focus on host cell responses common to infection with multiple viral threats. FY 09 - Delineate the mechanisms of pathogenesis of conventional threats to support the progression of therapeutics to advanced development. Compare the host response of well characterized threats with that of poorly characterized category A and B threats to identify new therapeutic targets.	799	595	435

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TB1**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Therapeutics, Toxin - FY 07 - Refined therapeutic animal models, to include in vivo model instrumentation, and its interface with the developed screening protocol for lead toxin therapeutics studies. Demonstrated clinical correlates for targeted endpoints that have been developed for in vivo models. Optimized aerosol models of disease to support toxin therapeutic development. Studied the pathogenesis associated with aerosol exposure to ricin toxin. Initiated development of a mouse model for inhalational exposure to Staphylococcal enterotoxin B (SEB) using microinstillation technology. Conducted advanced structural analysis of botulinum neurotoxin (BoNT) serotypes, focusing on catalytic sites and substrate binding. FY 08 - Continue to develop a mouse model for inhalational exposure to SEB using microinstillation technology. Initiate studies to investigate the process of intracellular targeting of BoNT, with application to the development of an intracellular assay system for evaluating potential therapeutics. Investigate the restoration of synaptic activity following neuroparalysis due to BoNT intoxication. Utilize in silico modeling techniques and in vitro and in vivo assays to provide structural and molecular data to facilitate the design and development of therapeutic countermeasures against BoNT, SEB, and ricin toxin. FY 09 - Improve in silico, in vitro, and in vivo modeling systems that will assist in defining responses to threat agent toxins. Complete development of a mouse model for inhalational exposure to SEB using microinstillation technology. Characterize the process of intracellular targeting of BoNT, and initiate intracellular assay model development. Define the cellular factors responsible for the BoNT translocation inside cells. Determine the structural requirements of potential restorative therapeutics for neuroparalysis following BoNT intoxication.	5272	3386	2540

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	TB1

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Bacterial - FY 07 - Completed development of a mouse model to study anthrax toxin function. Identified virulence factors and biochemical pathways as potential targets for therapeutic countermeasures. FY 08 - Delineate host cell response to bacterial pathogens to identify new therapeutic targets for broad spectrum therapeutics. Demonstrate and confirm the role for selected common pathways and factors in bacterial virulence. FY 09 - Characterize new potential targets for therapeutic countermeasures, focusing on those identified for poorly characterized threats.	2783	892	653
Total	**8854**	**4873**	**3628**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	432	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	432	0
Total	**0**	**432**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA1 - Basic Research**

PE NUMBER AND TITLE: **0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**

PROJECT: **TB1**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TB2 MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93501	100935	54738	51114	50205	52457	52506	Cont	Cont
TB3 MEDICAL BIOLOGICAL DEFENSE (ATD)	87067	95527	252331	227287	128222	121096	112771	Cont	Cont

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TC1**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TC1	MEDICAL CHEMICAL DEFENSE (BASIC RESEARCH)	9731	12336	12379	13003	12343	12873	13051	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TC1 MEDICAL CHEMICAL DEFENSE (BASIC RESEARCH): This project emphasizes understanding of the basic action mechanisms of nerve, blister (vesicating), blood, and respiratory agents. Basic studies are performed to delineate biological mechanisms and bodily sites of action of identified and emerging chemical threats to generate required information for initial design and synthesis of medical countermeasures. In addition, these studies are further designed to maintain and extend a science base. Categories for this project include science and technology program areas in medical chemical defense capability areas (Pretreatments, Diagnostics, and Therapeutics).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Diagnostics	140	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TC1**

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
Diagnostic Technologies - FY 07 - Accelerated basic research experiments aimed at developing detection methods in clinical samples for metabolites, adducts and/or relevant biomarkers resulting from chemical warfare agent (CWA) exposure. Evaluated the hypothesis that analysis of hair samples can be used to verify exposure to CWA. Applied results of basic research to develop a sample extraction technique and test method to detect the presence of chemical warfare analytes from hair samples in FY 08, supported by TB2 investment.	140	0	0
Total	**140**	**0**	**0**

	FY 2007	**FY 2008**	**FY 2009**
Therapeutics	9591	12186	12379

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	**0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)**	**TC1**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Respiratory and Systemic - FY 07 - Utilized exposure/effects models to further delineate the mechanisms of injury following chemical warfare agent exposure. Pursued additional technologies that address both the direct pulmonary injury and systemic effects of chemical warfare agents, with a focus on identifying common sites for therapy at the tissue, cellular, and sub-cellular levels of injury. Initiated research into the molecular basis of injury (pulmonary) in small (rat) and large (swine) animal models. Isolated and cultured non-commercial human lung tissue to improve upon existing human tissue models. FY 08 - Develop additional in vitro and in vivo model systems to identify new therapeutic targets, based on findings from mechanism of injury studies and focusing on common injury pathways. Investigate long term effects of pulmonary injury in large and small animal models, collecting toxicological, physiological, and biochemical data. FY 09 - Expand efforts to elucidate common injury pathways due to multiple agents and routes of exposure, to maximize application to the development of broad-based therapeutics. Establish definitive correlation between simulants and live agent effects at the molecular level.	3055	4723	4952

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA1 - Basic Research

PE NUMBER AND TITLE: 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

PROJECT: TC1

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Cutaneous and Ocular -	2582	2446	2422
FY 07 - Developed animal models for cutaneous, percutaneous and ocular exposure. Optimized in vitro tissue assays with application to identifying potential therapeutic compounds. Conducted studies to correlate gene expression and histopathology of sulfur mustard exposure. Investigated the genotoxicity of agent exposure in ocular cells. Initiated toxicogenomic studies to characterize the phases of wound healing. Identified the location of dermal and sub-dermal reservoirs of chemical agents.			
FY 08 - Optimize animal models for cutaneous, percutaneous and ocular exposure. Explore novel cellular biochemical pathways as potential targets for therapeutic intervention. Maximize strategies to extend "latency" period between exposure and certain injury. Expand the study of genotoxicity of agent exposure to cutaneous cells.			
FY 09 - Extrapolate the results of genotoxicity studies to the development of cancerous conditions using the appropriate in vivo models. Investigate the effects of solvent vehicles on percutaneous transmission to normalize past, present, and future research endeavors. Investigate new tissue engineering technologies to reduce reliance on grafts.			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA1 - Basic Research

PE NUMBER AND TITLE: 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

PROJECT: TC1

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Neurologic - FY 07 - Improved molecular modeling capabilities, coupled with X-ray crystallographic analysis and site directed mutagenesis, for rational drug design of new neurologic therapeutics. Optimized in vitro and in vivo laboratory techniques that may be applied to develop neuroprotectants, anticonvulsants, and broad spectrum reactivators to reduce or prevent injury from nerve agents. Studied known mechanisms of cell death to identify potential therapeutic targets. Developed strategies for medical intervention to prevent seizures and minimize related neuronal injury in animal models. Evaluated therapeutic delivery systems targeting the central nervous system. FY 08 - Exploit data from structure activity relationship (SAR) studies to delineate commonality between agents and oximes. Delineate general mechanism of action for oxime reactivation as required to support FDA submissions for improved reactivators under the animal rule. FY 09 - Research mechanisms of action of nerve agents and therapeutic interventions using whole animal models, with a focus on data required to support FDA submissions under the animal rule. Initiate research into the development of therapeutic alternatives to atropine, with reduced impact on visual performance.	1173	1286	1291
Therapeutics, Medical Toxicology - Non Traditional Agents (NTAs) and Other Agents - FY 07 - Conducted exploratory and comparative studies of emerging non-traditional chemical nerve agents. Focused on structure, function, and mechanism of action. FY 08 - Collect mechanistic and kinetic data derived from chemical agent exposure studies. Initiate exploratory studies to determine the mode/mechanism of action of NTAs. Develop appropriate animal model systems for non-traditional modes of toxicity. FY 09 - Demonstrate the biological equivalency of NTA toxicity mechanisms across relevant species.	2781	3731	3714
Total	**9591**	**12186**	**12379**

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA1 - Basic Research	0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	TC1

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	150	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	150	0
Total	**0**	**150**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TC2 MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	29057	36627	36034	34726	33021	37927	38257	Cont	Cont
TC3 MEDICAL CHEMICAL DEFENSE (ATD)	15740	28726	26567	28961	30493	31539	31836	Cont	Cont

BUDGET ACTIVITY 2
APPLIED RESEARCH

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	252343	266999	203731	187744	176347	186331	187026	Continuing	Continuing
CB2	CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	128194	87984	110984	99931	91149	93975	94292	Continuing	Continuing
CI2	CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH)	0	39480	0	0	0	0	0	0	39480
TB2	MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93501	100935	54738	51114	50205	52457	52506	Continuing	Continuing
TC2	MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	29057	36627	36034	34726	33021	37927	38257	Continuing	Continuing
TR2	MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH)	1591	1973	1975	1973	1972	1972	1971	Continuing	Continuing

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA2 - Applied Research

PE NUMBER AND TITLE
0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

A. Mission Description and Budget Item Justification: The use of chemical and biological weapon systems in future conflicts is an increasing threat. Funding under this PE sustains a robust program, which reduces the danger of a chemical and/or biological (CB) attack and enables U.S. forces to survive and continue operations in a CB environment. The medical program focuses on development of vaccines, pretreatments, therapeutic drugs, and on casualty diagnosis, patient decontamination, and medical management. In the physical sciences area, the emphasis is on continuing improvements in CB defense materiel, including contamination avoidance, decontamination, and protection systems. This program also provides for applied research in the areas of real-time sensing and immediate biological countermeasures. This PE also provides concept and technology demonstrations of new system concepts that will shape the development for environmental monitoring, medical surveillance, and data mining/fusion/analysis subsystems. The work in this PE is consistent with the Chemical Biological Defense Program Research, Development, and Acquisition (RDA) Plan. Efforts under this PE transition to or provide risk reduction for Advanced Technology Development (PE: 0603384BP), Advanced Component Development and Prototypes (PE: 0603884BP) and System Development and Demonstration (PE: 0604384BP). Where appropriate, scientific discovery and advances are shared within the broader DoD Research, Development, Test and Engineering (RDT&E) Program. This project includes non-system specific development directed toward specific military needs and therefore is correctly placed in Budget Activity 2.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		258862	305327	216705
FY09 President's Budget (FY 2009 PB)		252343	266999	203731
Total Adjustments		-6519	-38328	-12974
a. Congressional General Reductions		0	-77808	0
b. Congressional Increases		0	39480	0
c. Reprogrammings		-4006	0	0
d. SBIR/STTR Transfer		-2514	0	0
e. Other Adjustments		0	0	-12974

Change Summary Explanation:

Funding: FY08 - Congressional increases to enhance projects within the science and technology base (+$39,480K CI2). Congressional general reductions and other adjustments (-$26,760K CB2; -$50,777K TB2; -$254K TC2; -$17K TR2).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CB2	CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	128194	87984	110984	99931	91149	93975	94292	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CB2 CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH): The chemical and biological (CB) defense science and technology (S&T) program is devoted to the discovery, evaluation, and exploitation of technology. This project provides physical applied research to develop future, multi-disciplinary, multi-functional capabilities across critical operational areas: sense, shape, shield and sustain. These projects support the seamless addition of state-of-the-art-technologies, both evolutionary as well as revolutionary, into an integrated collection of systems across the spectrum of capabilities requisite to support CB missions. To achieve this, the activities are organized into four capability areas: detection, information systems technology, protection/hazard mitigation (decontamination), and threat agent science. This project focuses on horizontal integration of CB defensive technologies across the Joint Services.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Threat Agent Science	35214	15267	24115

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Threat Agent Sciences, Science Information Support - FY 07 - Completed OSD policy development efforts. Supported the Joint Community for policy development in support of CB Defense Operations. Completed data collection and generation to support policy development.	850	0	0
Threat Agent Sciences, Agent Characterization and Simulant Development - FY 07 - Continued research into Non traditional Agents (NTA) chemistry, characterizing synthetic pathways and NTA products, and developed NTA simulants. Continued simulant and methodology development projects to address requirements in programs of record, as aligned by the Test and Evaluation (T&E) community. Initiated simulant correlation studies to define operational envelopes in which simulants may be used for Developmental Tests and Operational Tests (DT/OT). FY 08 - Continue research into NTA chemistry, characterizing synthetic pathways and NTA products, and developing NTA simulants. Characterize novel & emerging BWAs and CWAs based on structure, physiochemical properties, and interactions. Design and demonstrate simulant and methodology development for testing protective equipment for the T&E community. Continue simulant correlation studies to define operational envelopes in that simulants may be used for DT/OT. Characterize simulant use and application. Establish analytical approaches and criteria for simulant selection, verification and validation, and correlation to agent performance. Initiate development of NTA simulants for limited set of physicochemical properties. Examine BWA & CWA masking technologies. FY 09 - Continue research into NTA chemistry, characterizing synthetic pathways and NTA products, and developing NTA simulants. Incorporate newly prioritized agents as identified by the intelligence community and operational users. Complete simulant and methodology development for protective equipment testing in collaboration with the T&E community. Continue simulant correlation studies to define operational envelopes in that simulants may be used for DT/OT. Incorporate computational chemistry research into simulant design and selection and methodologies for use in DT/OT. Continue development of NTA simulants matching material interaction properties and simulants for novel applications of traditional agents. Characterize masked agents.	4777	2037	5652

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Threat Agent Sciences, Low Level Toxicology, Low Level Chemical Warfare Agent Exposure Effects and Countermeasures (DTO CB51) - FY 07 - Completed extended inhalation studies that define extended time, low-level exposures to nerve agents GF and VX. Delivered scientifically-based acute exposure standards to the traditional chemical warfare agents for integration into operational risk management tools. Delivered refined human health risk assessment for HD inhalation exposures suitable for incorporation into Operational Risk Management processes.	5189	0	0
Threat Agent Sciences, Low Level Toxicology - Methodology Development - FY 07/08/09 - Initiate and complete development of technically demanded exposure and analytic methods for selected very low volatile chemical threat agents, such as non-traditional agents (NTAs) in support of DTO CB51 and DTO CB69.	1334	774	956
Threat Agent Sciences, Operational Toxicology - Chemical Warfare Agent Operational Exposure Hazard Assessment Research, NTA and Contact Toxicity (DTO CB69) - FY 07 - Initiated and completed research to establish the operational risk standards for military personnel potentially exposed to non-traditional chemical warfare agents as well as selected traditional threat agents. FY 08 - Using foundation studies, initiate under Low Level Toxicology, expanded and targeted studies that will directly lead to a human health risk assessment exposure standard for medical applications. For non-medical applications, studies will support efforts to establish detection and decontamination limits for technology development. FY 09 - Complete DTO CB69.	6657	2522	5057
Threat Agent Sciences, Operational Toxicology - Toxicokinetic and Toxicodynamic Modeling of Biological Agents - FY 07/08/09 - Initiate and complete development of empirically based mathematical models to characterize population dynamics of bacterial germination and migration within the body (toxicokinetics), and addressed infection of targeted tissue under natural and altered physiological states (toxicodynamics).	667	333	478

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Threat Agent Sciences, Agent Fate - Lab/Large-Scale Wind Tunnel Studies - FY 07 - Initiated studies of thickened Chemical Warfare Agents (CWAs). Refined protocols for laboratory wind tunnels and collected data on thickened CWAs evaporation. FY 08 - Implement protocols for laboratory wind tunnels and collect additional data on thickened CWAs evaporation and low volatility chemicals. FY 09 - Using protocols previously developed for laboratory wind tunnels, complete data collection for evaporation studies on thickened CWAs and low volatility chemicals for relevant substrates and nanotechnology developments.	3307	1698	2047
Threat Agent Sciences, Agent Fate - Fundamental Laboratory Measurements - FY 07 - Initiated kinetic studies of the fate of thickened CWAs on operationally relevant surfaces. FY 08 - Continue kinetic studies of the fate of thickened CWAs on operationally relevant surfaces to investigate newly identified phenomena. FY 09 - Continue kinetic studies of the fate of thickened CWAs on operationally relevant surfaces to investigate newly identified phenomena. Integrate characterization of new phenomena into models to be transitioned to the Joint Effects Model (JEM).	1333	699	819
Threat Agent Sciences, Agent Fate - Predictive Modeling - FY 07 - Developed evaporation models of thickened CWA using data from lab-scale wind tunnel data and field trials. Transitioned data to the Joint Effects Model (JEM). FY 08/09 - Complete the development of evaporation models of thickened CWAs on operationally relevant materials based data from lab-scale wind tunnel data and field trials. Continue the transition of data to the JEM.	2400	1411	1474

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **CB2**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Threat Agent Sciences, Agent Fate - Environmental Fate of Non-traditional Agents (NTA) (DTO CB68) - FY 07 - Initiated research to develop data sets of persistence and residual NTA concentration on operationally relevant surfaces (concrete, asphalt, painted surfaces, sand, soil, etc.). Characterized reactivity of the NTAs with surfaces, as well as surface penetration and the fate of NTAs over time. Methodology development is a primary thrust of this first year of this effort. FY 08 - Continue research to develop data sets of persistence and residual NTA concentration on operationally relevant surfaces (concrete, asphalt, painted surfaces, sand, soil, etc.). Characterize reactivity of the NTAs with surfaces, as well as surface penetration and the fate of NTAs over time. FY 09 - Continue research to develop data sets of persistence and residual NTA concentration on operationally relevant surfaces (concrete, asphalt, painted surfaces, sand, soil, etc.) and expand studies to include newly prioritized agents. Characterize reactivity of the NTAs with surfaces, as well as surface penetration and the fate of NTAs over time. Complete DTO and leverage the resulting data for use with future technology development.	3500	1303	2150
Threat Agent Sciences, Computational Chemistry - Quantitative Structure Activity Relationship (QSAR) - FY 07 - Transitioned Commercial off-the-shelf (COTS) QSAR toolsets to the CBDP. Identified and refined applicable QSAR developed by academia and industry, e.g., in pesticide studies, for use in the CBDP to describe interactions between conventional CWA and surfaces/materials of operational interest. FY 08 - Continue to identify and refine applicable QSAR developed by academia and industry, e.g., in pesticide studies, for use in the CBDP to describe interactions between conventional CWA and surfaces/materials of operational interest. Complete QSAR identification and final report.	1333	1123	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Threat Agent Sciences, Computational Chemistry - Quantum-Chemical Modeling (QCM) of CWA Interactions - FY 07 - Initiated Quantum-Chemical modeling effort to compute the interaction of CWA simulants and real CWAs on oxide surfaces and other surfaces/materials of operational interest. FY 08 - Continue Quantum-Chemical modeling effort to compute the interaction of CWA simulants and real CWAs on oxide surfaces and other surfaces/materials of operational interest. Benchmark and validate the capabilities to predict specific interactions of operational interest. FY 09 - Transition capabilities to Agent Characterization and Simulant Development to provide simulant design and selection methodology.	1200	1417	1701
Threat Agent Sciences, Computational Chemistry - QCM Tool Development - FY 07 - Initiated QCM dataset to develop QSAR between NTAs and surfaces/materials of operational interest. Established expertise and developed a baseline for well-characterized substrates before moving towards human toxicology QSAR toolsets. FY 08 - Continue development of QCM dataset to capture QSAR differences between NTAs and surfaces/materials of operational interest. FY 09 - Complete QCM dataset implementation to establish QSAR between NTAs and surfaces/materials of operational interest. Utilize expertise and baseline against well-characterized substrates and move toward human toxicology QSAR toolsets. Integrate computational chemistry capabilities into experimental planning and data utilization work.	2667	1950	3781
Total	**35214**	**15267**	**24115**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: CB2

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	25803	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Zumwalt Program for Countermeasures to Biological and Chemical Threats - FY 07 - Improved model development and sensor systems for the detection and identification of chemical and biological hazardous materials.	1288	0	0
Low-Cost Protective Chem-Bio Shelters - FY 07 - Refined evaluation of down-selected technologies for target applications.	2575	0	0
Theater Level Modeling of Chemical, Biological, Radiological, Operational Effects (CBROE) at the Level of Individual Soldier - FY 07 - Refined development algorithms and code-based tools to leverage the benefits of CBROE modeling methods into theater-level warfare models.	991	0	0
Chemical Biological Defense Program Initiative Fund - FY 07 - Solicited proposals from degree-granting universities, nonprofit organizations, or commercial concerns to include small businesses, in support of the CBDP to fund chemical and biological defense science and technology projects across a wide-range of military operations. Funded five projects that addressed toxin identification as a diagnostic tool, immunomodulators to enhance vaccine responses, vaccines optimization, and animal models for biological agent countermeasure development.	9902	0	0
Nanowire Mesh Fabrics for Chem/Bio Defense - FY 07 - Refined assessment of optimized materials against simulants and chemical warfare agents.	991	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Escape Hood - FY 07 - Developed the first draft of the 3M National Institute for Occupational Safety and Health (NIOSH) approved CBRN/Smoke Escape Hood product description, using the information from the Volatile Organic Compounds (VOC) analysis and the requirements of the NIOSH CBRN Air-Purifying Escape Respirators and Self-Contained Escape Respirators standard.	1783	0	0
Fault Protected Drives for Laser Diodes for Defense Use - FY 07 - Improved the reliability and lifetime of UV laser diodes. Improved the basic qualities of UV sources that enabled the production of prototype chemical and biological agent detection systems for protecting both our soldiers and civilian populations.	991	0	0
Specific Gas Detector - FY 07 - Developed a protocol to routinely produce and characterize various optimum catalytic oxides and oxide combinations for chemical properties and detection specificity. Identified thermodynamically optimum sensor structures onto which optimum catalytic oxides may be applied, and adapted at least one of these sensing structures to the optimum thermodynamic and electronic signal conditioning topology for specific gas species detection.	991	0	0
Personal Protection Against Infectious Agents - FY 07 - Determined the biological significance of experimental modifications to filtration media incorporated into respiratory masks for the purpose of altering viral penetration or viability. Evaluated the effect of antimicrobial agents on NIOSH-approved filtering face-piece respirators to help reduce the user's exposure to airborne viruses.	1783	0	0
Chemical Warfare Agent Fate Model Verification and Validation Phase 2 - FY 07 - Utilized the data generated from the Agent Fate DTO and the upcoming core Agent Fate Program for the purpose of developing, verifying, and validating a first principles model of chemical agent surface evaporation, absorption, and desorption on porous media.	991	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Chemical/Biological Infrared Detection System - FY 07 - Defined and developed the sampling sub-systems for biological (aerosolized) warfare agents that will be interfaced with optical identification approaches. The proposed identification approach utilizes Fourier Transform Infrared Spectroscopy as the agent identifier, where the main advantages of this approach are that they are 1) reagentless, 2) operate in complex air environments, 3) provide fast detection, 4) high sensitivity, and 5) high selectivity for bacterial spores with minimal false alarms.	1090	0	0
ND Center for Environmental Networked Embedded Sensor Technology (CENEST) - FY 07 - Developed and demonstrated an embedded network for detecting, tracking, and remediating toxic chem-bio agents released into ground, water, and/or air.	2427	0	0
Total	**25803**	**0**	**0**

	FY 2007	**FY 2008**	**FY 2009**
Information Systems Technology	23561	20115	26650

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Information Systems Technology, CBDP Decision Capability - FY 07 - Continued building the analytical framework. Continued to identify gaps in capability to conduct rapid program analysis and conducted feasibility assessments for tool(s) development. Continued development of representative prototype models for each of the capability areas. Identified critical enhancements based upon the early prototype of the multivariate decision support tool. Initiated decision support data inscription technology research. Continued development of Nuclear Biological Chemical Casualty and Resource Estimation Support Tool (NBC CREST). Initiated medical modeling area of research. FY 08 - Complete user-driven requirements analysis and develop prototype CBRN Investment Planning and Analysis Tool. Validate and verify NBC CREST 5.0, a set of human response models for CBRN agent exposure, based on NATO's Allied Medical Publication 8 (AMedP-8), for utilization by Joint Program Manager, Information Systems (JPM-IS). Select and implement a respiratory tract model and develop a prototype particle size distribution (PSD) health effects model. Initiate development of secondary infection models for disease spread based on small-world networks and an extension of the Susceptible-Exposed-Infectious-Removed (SEIR) epidemiological model to account for heterogeneous mixing among sub-populations in order to provide a well-founded model for casualty estimates in JEM involving infectious/contagious diseases, both bioagent-induced and naturally occurring (Predicting Effects Due to Infectious/Contagious Diseases for JEM). Continue building the analytical framework and identify gaps in capability to conduct rapid program analysis and conduct feasibility assessments for tool(s) development. Continue development of representative prototype models for each of the capability areas. Continue decision support data inscription technology and initiate distributed modeling research.	2686	5421	12706

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Continue research of modeling in the medical area. Transition NBC CREST to JOEF. Complete the implementation of the respiratory tract model and development of the prototype PSD health effects model. Continue development of secondary infection models for disease spread based on small-world networks and an extension of the SEIR epidemiological model to account for heterogeneous mixing among sub-populations in order to provide a well-founded model for casualty estimates in JEM involving infectious/contagious diseases, both bioagent-induced and naturally occurring (Predicting Effects Due to Infectious/Contagious Diseases for JEM). Continue building the analytical framework and identifying gaps in capability to conduct rapid program analysis and conduct feasibility assessments for tool(s) development. Continue development of representative prototype models for each of the capability areas. Initiate development of a web-based system for storage and access of CB M&S and IT development data and knowledge. Continue decision support data inscription technology and distributed modeling research.	2686	5421	12706
Information Systems Technology, Sensor Data Fusion - FY 07 - Selected the most appropriate tools for outdoor Source Term Estimation (STE). Tested first-generation outdoor STE and Sensor Placement Tool (SPT) algorithms against existent field data. Initiated building interior STE effort. Initiated Hazard Refinement (HR) algorithm development based on selected STE algorithm. Collected high-resolution field trial data for Verification and Validation (V&V) of outdoor STE, HR and SPT algorithms. Began development of initial biological background model to reduce sensor false alarms in a realistic environmental background. FY 08 - Process high-resolution field trial data and make available via data server to test first-generation outdoor STE, HR and SPT algorithms. Complete V&V of first-generation SPT algorithm. Begin development of second-generation SPT algorithm to include optimal hazard prediction capability. Complete prototype algorithm for building interior STE and begin development of building interior HR algorithms. Continue biological background model development to reduce sensor false alarms and produce a first generation prototype.	2400	5241	4980

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Bullet Text (cont)	**FY2007**	**FY2008**	**FY2009**
FY 09 - Complete testing and V&V of first-generation outdoor STE/HR and second-generation SPT algorithms. Complete development, testing and V&V of building interior STE and HR algorithms. Initiate development of advanced STE, HR and SPT tools for use in complex environments (e.g., variable terrain, urban, water.) Complete biological background model development to reduce sensor false alarms and incorporate a first generation model into virtual environment software. Initiate development of a tool that continuously refines and updates the contamination footprint through rapid assimilation of limited and disparate information into meteorological, transport and dispersion, and virtual environment models.	2400	5241	4980
Information Systems Technology, Battle Space Management - FY 07 - Continued Sensor Data Fusion (SDF) and source term location technologies. Developed the exchange and multi-level fusion of actionable information with real world Command and Control (C2) systems in DoD, Coalition and Homeland Security and Homeland Defense (HLS/HLD) domains. Supported JWARN Component Interface Device (JCID) development by modifying our existing Extensible Markup Language (XML) thin server for chemical sensors to meet JCID requirements and demonstrated its operation for JWARN. FY 08 - Continue SDF and source term location technologies for eventual integration with the Joint Effects Model (JEM) and the Joint Operational Effects Federation (JOEF). Demonstrate the exchange and multi-level fusion of actionable information with real world C2 systems in DoD, Coalition and HLS/HLD domains to be transitioned to JWARN under BA3 Advanced Technology Development in FY 09. Transition modified XML thin server for chemical sensors to meet JCID requirements to JWARN. FY 09 - Integrate SDF and source term location technologies into JEM and JOEF programs. Investigate and begin development of next generation technologies and net-centric enterprise integration capabilities. Explore Nano, Bio, Information Technology and Cognitive Science (NBIC) solutions in support of the Information Systems Technology.	6050	2836	2990

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Information Systems Technology, Chemical and Biological Hazard Environment Prediction - FY 07 - Continued development of data assimilation techniques to improve forecasts of near-surface characteristics important for hazard prediction. Continued development of models for high altitude, urban, littoral and coastal environments, and indoor scenarios to be used by the Joint Effects Model (JEM). Initiated development of variable resolution database containing highly refined estimates of "typical" atmospheric conditions for any given location and time. Began modeling of key physics for large scale events for the high altitude intercept module of JEM. Initiated validation of wind tunnel and FAST3D-CT with Oklahoma City Scale Model (OKC) field trial data. Published FY 07 validation report. Evaluated mesoscale model forecasts study using available observations for improved coastal and urban dispersion predictions. FY 08 - Complete development of data assimilation techniques to improve forecasts of near-surface characteristics important for hazard prediction. Complete development of models for high altitude, urban, littoral and coastal environments, and indoor scenarios to be used by JEM. Continue development of variable resolution database containing highly refined estimates of "typical" atmospheric conditions for any given location and time. Continue modeling of key physics for large scale events for the high altitude intercept module of JEM and provide validation procedures for urban contaminant transport models. Complete validation of wind tunnel and FAST3D-CT with urban field trial data and publish FY 08 validation report. Initiate development of advanced numerical weather prediction parameterizations and ensemble techniques. Deliver initial legacy source models, Industrial Facilities (IFAC), Industrial Transportation (ITRANS), and Chemical Biological Facilities (CBFAC) to JEM. FY 09 - Expand and improve data assimilation techniques to develop a multi-scale four-dimensional model. Continue development of advanced numerical weather prediction capabilities. Initiate optimization of methods to significantly improve performance of transport and dispersion hazard models for JEM. Develop advanced modeling for chemical, biological, and industrial source models (IFAC, ITRANS, and CBFAC).	4579	2836	1988

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Information Systems Technology, Chemical and Biological Warfare Effects on Operations - FY 07 - Continued integration with theater-level models and began initial testing with US Transportation Command (TRANSCOM) and other selected Combatant Commands (COCOMs) and investigated aggregation methodology for the CBRN in Tactical and Theatre Level Simulation Model. Investigated and developed building interior modeling capability. Initiated development of an Agent Fate model for eventual transition to the Joint Effects Model (JEM). Completed the Simulated Training and Analysis for Fixed Facilities/Sites (STAFFS) and contamination model linkages to be delivered under Advanced Technology Development (BA3). Completed the Chemical-Improvised Explosive Device (C-IED) study to be used for further developments and research focused on the Joint Operational Effects Federation (JOEF) and the CBRN Data Backbone efforts. Identified ongoing optimized sensor employment tool and initiated refinement for delivery to the Joint Warning and Reporting Network (JWARN) and JOEF. FY 08 - Integrate methodologies for CB effect on theater level models and test in Joint Forces Command (JFCOM) experiment to transition under BA3. Continue development of building interior modeling to transition to JOEF under BA3. Continue development of Agent Fate model and initiate transition to JEM under BA3. Conduct studies on CB effects for mobile forces and shipboard to be transitioned to JOEF in FY 09. Conduct studies on consequence management (CM) information system tools for DoD, including foreign CM and domestic CM and deliver a prototype CM system for JOEF. Deliver initial optimized sensor employment tool to JWARN and JOEF. Initiate studies and identify methodology development for CBRN decision support tools. FY 09 - Deliver methodology for CB effects on mobile forces and shipboard models to JOEF. Refine design and expand prototype system for CM and continue development of Incident Management/CM inclusions in consequence systems. Refine and expand methodology for CBRN decision support tools.	7846	3781	3986
Total	**23561**	**20115**	**26650**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: CB2

	FY 2007	FY 2008	FY 2009
Decontamination	7221	5623	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Decontamination, Solution Chemistry - FY 07 - Completed chamber testing on chlorine dioxide-based candidates and transitioned to the Joint Portable Decontamination System (JPDS). Initiated research on technologies to develop hydrogen peroxide at their point-of-use. FY 08 - Complete research and publish findings on technologies to develop hydrogen peroxide at their point-of-use.	1685	2020	0
Decontamination, Solid Phase - FY 07 - Completed development of an improved filtration system for hydrofluoro ethers solvent cleaning systems and transitioned to the JSSED/JMDS program as a product improvement. Initiated new research to develop reactive sorbent nano-active suspensions and sprayable powders for Joint Service Transportable Decontamination System (JSTDS) - Small Scale (SS) including modifications of the technologies for decontamination in extreme weather conditions. FY 08 - Complete efforts to develop reactive sorbent nano-active suspensions and sprayable powders for JSTDS and consolidate efforts under Protection capability area in FY 2009.	1747	940	0
Decontamination, Alternative Process - FY 07 - Completed research on gaseous decontamination system to modify system to handle extreme weather conditions. Initiated research to demonstrate alternative decontamination processes using gas, kinetic, energetic, and/or novel approaches. FY 08 - Continue to investigate novel approaches to develop new decontamination processes and consolidate effort under Protection capability area in FY 2009.	1919	1643	0

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Decontamination, Process Fundamentals - FY 07 - Completed research into methodology for the metal catalyzed alcoholysis of neutral organophosphates and organophosphates, including chemical G- and V-agents under neutral conditions and ambient temperature. Continued research efforts to develop an aerosol-based decontamination application and determine the efficacy effects using aerosolized activated hydrogen peroxide. Continued development of a decontamination assurance spray that was initiated as part of Small Business Innovative Research (SBIR), and initiated research to determine the effect of droplet sized decontaminant on the efficacy of aerosolized peroxy-based decontaminants. FY 08 - Complete research efforts to develop an aerosol-based decontamination application and determine the efficacy effects using aerosolized activated hydrogen peroxide. Complete research to determine the effect of droplet sized decontaminant on the efficacy of aerosolized peroxy-based decontaminants.	1870	1020	0
Total	**7221**	**5623**	**0**

	FY 2007	FY 2008	FY 2009
Detection	23127	27263	32043

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Point Detection, Integrated CB -	6660	4600	7299

FY 07 - Continued feasibility assessment of first generation breadboard based on millimeter wave spectroscopy for biological detection. Completed Raman spectroscopy for the detection/identification of biological materials. Completed investigations in solid state visible and UV receivers to replace photomultiplier tube for improved size, weight, power, reliability, and cost. Continued microelectronic machine sized solid state Fourier Transformed Infrared (FTIR) point sensor system. Initiated feasibility studies on assays for biological materials based on multiphoton, multi-wavelength processes. Initiated development of novel use of laser technology to separate biological materials for enhanced detection of biological warfare agents in water. Initiated development of novel laser sources and evaluation of discrimination capability and optical design aspects for BW aerosol detection with these sources. Initiated feasibility studies on the use of novel nanowire-array sensors for enhanced sensitivity and selectivity in the detection of biological warfare materials.

FY 08 - Complete feasibility assessment of first generation breadboard based on millimeter wave spectroscopy for biological detection. Complete microelectronic machine sized solid state FTIR point sensor system. Continue feasibility studies on assays for biological materials based on multiphoton, multi-wavelength processes. Continue development of novel use of laser technology to separate biological materials for enhanced detection of biological warfare agents in water. Continue development of novel laser sources and evaluation of discrimination capability and optical design aspects for BW aerosol detection with these sources. Continue feasibility studies on the use of novel nanowire-array sensors for enhanced sensitivity and selectivity in the detection of biological warfare materials. Initiate feasibility study into nanoscale detection systems.

FY 09 - Complete feasibility studies on assays for biological materials based on multiphoton, multi-wavelength processes. Complete development of novel use of laser technology to separate biological materials for enhanced detection of biological warfare agents in water. Complete development of novel laser sources and evaluation of discrimination capability and optical design aspects for BW aerosol detection with these sources. Complete feasibility studies on the use of novel nanowire-array sensors for enhanced sensitivity and selectivity in the detection of biological warfare materials. Continue feasibility study into nanoscale detection systems.

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Detection, Biological and Chemical Stand-off Technology - FY 07 - Continued the development of models to predict passive standoff technology responses to aerosols. Continued the study on the detection modalities to detect sentinel species from biological chemical warfare materials and processes. Continued the studies to investigate the optimal performance parameters for hyperspectral technology to detect biological materials. Continued studies to optimize/convert detection algorithms to imaging technology. Initiated validation and modeling studies to increase the level of discrimination of biological materials in the infrared electromagnetic spectral regions based upon DISC/DIAL and polarization spectra techniques. FY 08 - Complete models to predict passive standoff technology responses to aerosols. Continue the study on the detection modalities to detect sentinel species from biological warfare materials and processes. Complete studies to investigate the optimal performance parameters for hyperspectral technology to detect biological materials. Complete studies to optimize/convert detection algorithms to imaging technology. Complete and transition validation and modeling studies on the level of discrimination of biological materials in the IR electromagnetic spectral regions based upon adsorption, scattering, and polarization spectra techniques to the Joint Biological Standoff Detection System (JBSDS) Increment 2.	4170	3945	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Detection of CB Contamination on Surfaces - FY 07 - Continued the development of technology to meet the needs to detect contamination on surfaces in a post decontamination application. Initiated feasibility studies on post-decontamination verification using standoff detection methodology other than Raman based Laser Interrogation of Surface for Agents (LISA). FY 08 - Continue the development of technology to meet the needs to detect contamination on surfaces in a post decontamination application. Complete efforts using off-gassing techniques and Raman based LISA. Complete feasibility studies on post-decontamination verification using standoff detection methodology. FY 09 - Continue the development of technology to meet the needs to detect contamination on surfaces in a post decontamination application. Evaluate and assess technology for down-selection from non-Raman optical standoff techniques vs. Raman based LISA vs off-gassing techniques for brassboard design.	3995	4800	7000
Point Detection, Biological Identification - FY 07 - Initiated development of portable technology to completely sequence entire pathogen genomes based upon the sequencing thru synthesis concept. Leveraged technology from the National Institutes of Health efforts to reduce cost at their genomic centers. FY 08 - Continue development of portable technology to completely sequence entire pathogen genomes based upon the sequencing thru synthesis concept. Complete breadboard design and initiate build of prototype system and transition to BA3. FY 09 - Complete development and demonstrate portable technology to completely sequence entire pathogen genomes. Initiate new techbase concept development of nano-scale biological agent identification and sensing technologies.	4103	8200	9744

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Point Detection, Chemical - FY 07 - Initiated transition of technology from Defense Advanced Research Projects Agency (DARPA) on the development of a micro gas analyzer (MGA) based on Micro Electro-Mechanical Systems (MEMS) technology. Focused on real-time (less than 5 sec) detection/identification of sub miosis sensitivity levels (parts per trillion) and the expansion of the number of detectable materials to include the high priority Toxic Industrial Chemicals (TICs). FY 08 - Complete transition of MGA technology from DARPA. Initiate development of MGA technology for integration into a possible next generation chemical warfare agent detector. FY 09 - Continue development of MGA technology as the replacement technology for next generation chemical warfare agent detector.	4199	5718	8000
Total	**23127**	**27263**	**32043**

	FY 2007	**FY 2008**	**FY 2009**
Protection	13268	18661	28176

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Protection, Percutaneous Protection, Reduced Physiological Burden - FY 07 - Initiated work to develop a processable interpenetrating polymer network comprising of a soft breathable passive network interspersed with a conducting polymer network whose permeability properties can be electrically controlled. Developed elastic, conformable CB protective fabrics with selectively permeable properties for advanced warfighting ensembles. Optimized polymers and blends for application in elastomeric permselective membranes, characterized their permeation characteristics, and evaluated their physical properties. Produced fabric laminates for laboratory evaluation. Technologies support future protective ensembles. Restructured efforts for enhanced protection into the development of an integrated CB protective fabric that incorporates elements of previous efforts on enhanced percutaneous protection (aerosol Non-Traditional Agents (NTA), biological agents, liquid NTAs, and Toxic Industrial Chemicals (TICs)) and self-detoxifying materials into a single integrated effort. For FY 2008, this effort will be titled "Individual Protection, Integrated Protective Fabric" and combines Integrated Protective Fabrics Enhanced Protection and Reduced Burden.	900	0	0
Individual Protection, Percutaneous Protection, Enhanced Protection (Aerosol NTAs and Bio) - FY 07 - Produced and evaluated an optimized second-generation prototype garment employing both aerosol barrier materials and advanced closures. Developed one square meter non-woven polymer membranes material, incorporated into a prototype fabric system and assessed performance. Restructured efforts for enhanced protection into the development of an integrated CB protective fabric that incorporated elements of previous efforts on enhanced percutaneous protection (aerosol NTA, biological agents, liquid NTAs, and TICs) and self-detoxifying materials into a single integrated effort. For FY 2008, this effort will be titled "Individual Protection, Integrated Protective Fabric" and combines Integrated Protective Fabrics Enhanced Protection and Reduced Burden.	1287	0	0

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Individual Protection, Percutaneous Protection, Enhanced Protection (Liquid NTAs and TICs) - FY 07 - Based on FY06 evaluations, optimized novel fiber/fabrics and conducted fabric characterization and simulant permeation testing. Conducted preliminary physical and chemical testing of candidate materials for glove and boot applications. Restructured efforts for enhanced protection into the development of an integrated CB protective fabric that incorporates elements of previous efforts on enhanced percutaneous protection (aerosol NTA, biological agents, liquid NTAs, and TICs) and self-detoxifying materials into a single integrated effort. For FY 08, this effort will be titled "Individual Protection, Integrated Protective Fabric" and combines Integrated Protective Fabrics Enhanced Protection and Reduced Burden.	1475	0	0
Individual Protection, Integrated Protective Fabric - FY 08 - Complete work on identifying and assessing nanocatalytic and nano-particle reactive materials with detoxifying and anti-microbial properties and down-selecting candidate materials. Continue development of test methodologies. Continue the development of elastic, conformable CB protective fabrics with selectively permeable properties. Continue development of processable interpenetrating polymer networks whose permeability properties can be electrically controlled. Initiate work on fabric residual life indicators. Initiate selection and development of novel sorbents leap-ahead improvements over activated carbon technologies. Initiate development and selection of ultralight and tactile barrier materials for gloves and boots. Continue fabrication and testing of prototype integrated fabrics to determine protection, mechanical properties, and heat transfer characteristics. Continue use of computational methods for assessment and refinement of prototypes. Initiate ensemble design conceptual work based on lessons gathered in the human performance project.	0	4600	5800

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DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: CB2

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Complete development of test methodologies. Continue development of elastic, conformable CB protective fabrics with selectively permeable properties. Continue development of processable interpenetrating polymer networks whose permeability properties can be electrically controlled. Continue work on fabric residual life indicators that can be automatically integrated. Continue development of novel sorbents leap-ahead improvements over activated carbon technologies. Complete development work on ultra light and tactile barrier materials for gloves and boots. Continue fabrication and testing of prototype integrated fabrics to determine protection, mechanical properties, and heat transfer characteristics. Continue use of computational methods for assessment and refinement of prototypes. Continue ensemble design conceptual work based on lessons gathered in the human performance project. Initiate fabrication of prototype ensembles for evaluation and demonstration. Resulting technologies/knowledge will transition to an integrated fabric development project in support of the Future Force Warrior Demonstration of the Soldier-as-a-System Ground Program and Joint Chemical Ensemble (JCE) in FY 10.	0	4600	5800
Individual Protection, Human Performance - FY 08 - Continue the comprehensive study to reduce physiological burden on the human performance parameters for various warfighter subgroups in the performance of their mission when CB protective systems are employed. Identify trade space between physiological and psychological comfort with regards to warfighter effectiveness. Initiate work to develop an overall comfort and performance model for CB protective equipment. Continue human subject studies on effects of breathing rates and resistance during high work rates and develop a human response model. FY 09 - Complete the comprehensive study to reduce physiological burden on the human performance parameters for various warfighter subgroups in the performance of their mission when CB protective systems are employed. Publish findings on trade space between physiological and psychological comfort with regards to warfighter effectiveness. Continue work to develop an overall comfort and performance model for CB protective equipment. Complete human subject studies on the effects of breathing rates and resistance during high work rates. Transition results into the comfort and performance model. Additionally, use results to develop a draft standard for Air Purifying Respirator (APR) qualification.	0	2902	2851

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Individual Protection, Self-Decontaminating Processes - FY 09 - Continue efforts from FY 08 Decontamination Alternative Processes and Solid Phase to develop self decontaminating processes using gas, kinetic, energetic, and/or novel approaches.	0	0	6135
Respiratory Protection, Enhanced CBRN/NTA/TIC Protection - FY 07 - Initiated Individual Protection, Respiratory/Ocular Protection projects. Initiated the investigation of intelligent seal enhancement materials and technologies that will provide improvements in the field protection factor performance and comfort of a respirator. Defined the key development parameters associated with respiratory protective systems and analyzed advanced concept options based on these parameters by establishing geometric relationships with operational performance. Continued to develop a dual-cavity respirator with increased levels of respiratory protection that provide a real-time indication of mask fit. Initiated project to develop the next generation filter for individual protection with objective of decreasing weight and breathing resistance, reducing the profile, and increasing protection against TICs. Continued to develop metal-organic frameworks as tuneable sorbents for advance air purification technologies in protective masks. Initiated development of a process to grow alumina nanofiber on a silica matrix to optimize size and density of nanofibers.	1826	4910	5850

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 08 - Initiate the integration of the protective mask designs with developmental helmet systems to provide seamless compatibility of CB protection with ballistic protection and integration of communication and optical systems and incorporate into designs under BA3 efforts. Continue the investigation of intelligent seal enhancement materials and technologies that will provide improvements in the field protection factor performance and comfort of a respirator. Continue to define the key development parameters associated with respiratory protective systems and incorporate data and lessons from the human performance project. Continue to develop a dual-cavity respirator with increased levels of respiratory protection that provide a real-time indication of mask fit. Continue project to develop the next generation filter for individual protection. Continue to develop metal-organic frameworks as tuneable sorbents for advanced air purification technologies in protective masks. Initiate development of nanofiber-based filters with high efficiency, reduced pressure drop and reduction in weight and cube. Continue development of a process to grow alumina nanofiber on a silica matrix to optimize size and density of nanofibers. Initiate effort to develop a sorptive and reactive capacity residual life indicator for mask filters. Initiate reactive hybrid approaches for individual protection filtration.	1826	4910	5850
FY 09 - Complete integration of the protective mask designs with developmental helmet systems to provide seamless compatibility of CB protection with ballistic protection and integration of communication and optical systems and incorporate into designs under BA3 efforts. Complete the investigation of intelligent seal enhancement materials and technologies that will provide improvements in the field protection factor performance and comfort of a respirator. Continue to define the key development parameters associated with respiratory protective systems and incorporate data and lessons from the human performance project. Complete work on the dual-cavity respirator with increased levels of respiratory protection that provide a real-time indication of mask fit and integrate concept into the final design. Continue project to develop the next generation filter for individual protection. Complete development of metal-organic frameworks as tuneable sorbents for advance air purification technologies in protective masks. Complete the down-selection of ceramic and polymer nanofiber-based filters. Continue reactive hybrid approaches for individual protection filtration. Develop and fabricate initial prototypes and evaluate performance.			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Protection, Advanced Air Purification (AAP) System Model (DTO CB61) - FY 07 - Developed several potential system configuration designs. Completed work on a trade study tool for the optimization, sensitivity analysis, and assessment of AAP systems. Defined standard AAP test methods and procedures. Supported AAP demonstration programs (design review, requirements review, test plan) and incorporated demonstration data into the AAP database. Optimized the demonstration to best meet the intended application's requirements. Closed a critical data gap by linking full-scale simulant results to lab scale simulant and agent results. Characterized chemical performance of the demonstrator at untested conditions. Characterized scaling properties and integration sensitivities of demonstrator. Verified agent performance at full-scale and provided data to AAP model required to estimate agent performance. Completed DTO and transitioned the Air Purification Evaluation Tool to Overarching Collective Protection (COLPRO) Model.	500	0	0
Protection, Improved Single-Pass Filters - FY 07 - Investigated adding ethylene oxide, nitrogen dioxide and carbon monoxide functionalities to CP filters. Transitioned results of investigations on polishing sorbent technology Pressure Swing Adsorption (PSA), Temperature Swing Adsorption (TSA) and Pressure/Temperature Swing Adsorption (P/TSA) to JPM COLPRO. Completed sorbent work on enhanced performance of single-pass filters and regenerative systems and transitioned data to DTO CB61. Resulting technologies/knowledge transitioned to an integrated fabric development project in support of the Ground Soldier System for Future Combat Systems. Initiated the development of a highly efficient particulate filter that uses charged sub-micron water droplets and transitioned effort to Novel Air Purification Technologies.	1185	0	0

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Protection, Novel Air Purification Technologies - FY 08 - Initiate a project to develop energetic, reactive, media-less, air purification technologies that reduce size, weight, and lifecycle costs of removing Chemical and Biological agents and Toxic Industrial Chemicals (TICs) from both make-up and recirculation air in buildings, shelters or platforms. Initiate development of an acoustic fractionator that removes particulates down to the submicron level using standing sound waves. Initiate development of a hybrid plasma filter that provides both vapor particulate removal and destruction capabilities. Initiate development of a new air purification technology based on selective ionization and contaminant extraction. Initiate development of a novel, low pressure drop, High Efficiency Particulate Arrestance (HEPA) filter, which provides increased dust capacity and extended filter life through the use of irregularly shaped high surface area submicron fibers. Continue development of a highly efficient particulate filter that uses charged sub-micron water droplets from efforts under Improved Single-Pass Filters. FY 09 - Continue to develop energetic, reactive, media-less, air purification technologies that reduce size, weight, and lifecycle costs of removing Chemical and Biological agents and TICs from both make-up and recirculation air in buildings, shelters, or platforms. Continue development of an acoustic fractionator that removes particulates down to the submicron level using standing sound waves. Continue development of a hybrid plasma filter that provides both vapor particulate removal and destruction capabilities. Continue development of a new air purification technology based on selective ionization and contaminant extraction. Continue development of a novel, low pressure drop, HEPA filter, which provides increased dust capacity and extended filter life through the use of irregularly shaped high surface area submicron fibers. Complete demonstration of a highly efficient media less particulate filter that uses charged sub-micron water droplets and down-select among technological approaches for further development.	0	3100	3900
Protection, Regenerative and Reactive Air Purification - FY 07 - Optimized Temperature Swing Adsorption (TSA) and Electrical Swing Adsorption (ESA) operating parameters, adsorber design and test. Demonstrated air purification system based on selective ionization and contaminant extraction technology. Continued development of Reactive Air Purification technologies and transition to COLPRO System Integration in FY 2008.	2460	0	0

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DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: CB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Protection, Shelter Systems and Contamination Control Area (CCA)/Airlock/Toxic Free Area (TFA) (CCA/A/TFA) - FY 07 - Identified novel technologies for application in the CCA/A/TFA and developed initial CATFA processing system design and transitioned to COLPRO System Integration in FY 2008.	1770	0	0
Protection, Shelter Materials, Coatings and Materials Treatments, Reactive or Self-Decontaminating - FY 07 - Performed laboratory demonstration of coatings that will form a gas impermeable film for expedient encapsulation and CB hardening of existing structures. Performed vapor challenge with integrated shelter system components. Performed casting of barrier films upon hard & soft substrates and performed simulant permeability testing of microcrystalline and nanocrystalline cellulose barrier films and transitioned to COLPRO System Integration in FY 2008.	1865	0	0
Protection, COLPRO System Integration - FY 08 - This effort transitions technologies from previous efforts of Regenerative and Reactive Air Purification, Shelter Systems and CCA/A/TFA, and Shelter Materials, Coatings and Materials Treatments, Reactive or Self-Decontaminating. Continue project to investigate alternate system solutions and technologies for COLPRO. Technologies may include, but will not be limited to, micro fine detoxifying aerosol fogs to facilitate entry and mitigate cross contamination into the COLPRO system, internal self-detoxifying surfaces for walls and ductwork, expedient retrofit kits, self-detoxifying and expedient strippable coatings, rapid isolation and purge schemes, and novel and innovative air flow and recirculation schemes. Expand study of system and alternatives and initiate efforts addressing specific technological gaps for COLPRO development. FY 09 - Continue project to investigate alternate system solutions and technologies for COLPRO. Technologies may include, but will not be limited to, micro fine detoxifying aerosol fogs to facilitate entry and mitigate cross contamination into the COLPRO system, internal self-detoxifying surfaces for walls and ductwork, expedient retrofit kits, self-detoxifying and expedient strippable coatings, rapid isolation and purge schemes, and novel and innovative air flow and recirculation schemes. Complete the study of system alternatives and initiate efforts addressing specific technological gaps for COLPRO development.	0	3149	3640
Total	**13268**	**18661**	**28176**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **CB2**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	1055	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	1055	0
Total	**0**	**1055**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
CB3 CHEMICAL BIOLOGICAL DEFENSE (ATD)	103420	20499	19242	21745	14112	14178	13695	Cont	Cont
TT3 TECHBASE TECHNOLOGY TRANSITION	15616	7817	8241	8389	8253	9343	9445	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CI2**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CI2	CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH)	0	39480	0	0	0	0	0	0	39480

A. Mission Description and Budget Item Justification:

Project CI2 CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH):

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	0	38911	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CBDP Initiative Fund Applied Research - FY 08 - Solicit proposals from degree-granting universities, nonprofit organizations, or commercial concerns to include small businesses, in support of the CBDP to fund chemical and biological defense science and technology projects across a wide-range of military operations. Upon technical evaluation and selection of proposals, provide a report detailing the number of projects funded and areas of research.	0	7885	0
Rapid Forensic Evaluation of Microbes in Biodefense.	0	986	0
Chem/Bio IR Detection System.	0	1577	0
Rapid Detection of Bacterial Pathogens.	0	1577	0

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	CI2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Zumwalt National Program for Countermeasures to Bio Chem Threats - FY 08 - Continue research to improve model development and sensor systems for the detection and identification of chemical and biological hazardous materials.	0	985	0
Point-of-Care Diagnostic System - FY 08 - Develop a gel-drop, microarray device as a biological agent identification and diagnostic system. This system will provide an enhanced capability to rapidly detect, locate, identify, and confirm the presence or absence of any standard or non-standard NBC hazard.	0	986	0
Virus Mutation and Virus Transfer from Humans to Animals - FY 08 - Conduct research on virus mutation and human to animal transfer.	0	2957	0
HyperAcute Vaccine Development - FY 08 - Research and develop a new vaccine technology for use against viral biological warfare agents.	0	1459	0
Antibody-based Therapeutic against Smallpox.	0	986	0
Novel Viral Biowarfare Agent Identification and Treatment (NOVBAIT) - FY 08 - Research a new approach for the identification and treatment of viral diseases caused by exposure to biowarfare agents.	0	3154	0
Mixed Oxidants for Chemical and biological Decontamination - FY 08 - Develop a rapidly effective, mild oxidants for military applications.	0	3942	0
Self-Decontaminating Polymer System for Chem and Bio Warfare - FY 08 - Develop a self-decontaminating fabric materials containing polymer-based coating systems impregnated with reactive materials for CBWA destruction, which can be activated on demand.	0	5519	0
Multifunctional Particles for Defeating Chem and Bio Warfare Agents (CBWA) - FY 08 - Conduct research to improve the absorbent materials used in clothing designed to protect against chemical and biological agents.	0	986	0

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**CI2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Research on a Molecular Approach to Hazardous Materials Decontamination.	0	1182	0
Biosurety Development and Management Program - FY 08 - Conduct research to develop a program to help secure laboratories working with biological agents.	0	788	0
Countermeasures to Chemical/Biological Control-Rapid Response - FY 08 - Research support of biodefense and emerging infectious disease.	0	3942	0
Total	**0**	**38911**	**0**

	FY 2007	**FY 2008**	**FY 2009**
SBIR/STTR	0	569	0

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
SBIR - FY 08 - Small Business Innovative Research.	0	569	0
Total	**0**	**569**	**0**

C. Other Program Funding Summary: N/A

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DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TB2**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TB2	MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93501	100935	54738	51114	50205	52457	52506	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TB2 MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH): This project area funds applied research developing vaccines, therapeutic drugs, and diagnostic capabilities which provide an effective medical defense against validated biological threat agents including bacteria, toxins, and viruses. Innovative biotechnology approaches will be incorporated to advance medical systems designed to rapidly identify, diagnose, prevent, and treat disease due to exposure to biological threat agents. Categories for this project area include core science and technology program areas in medical biological defense capability areas (Pretreatments, Diagnostics, Therapeutics) and directed research areas such as the Defense Technology Objectives (DTO), the Chemical and Biological Defense Initiative (CBDI) fund and the Transformational Medical Technologies Initiative (TMTI). The TMTI was launched in FY06 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. It augments the core science and technology area by expanding the novel programs currently funded under the core Therapeutics program and introducing new technologies for developmental focus. The TMTI is a novel experiment to develop drugs that are broad spectrum in nature by using non-traditional and high risk approaches to accelerate the development and licensure of new medicines. Applied research efforts supported under this initiative are focused on the evaluation of broadspectrum therapeutic candidates with activity against intracellular pathogen and hemorrhagic fever virus infection, and rapid resequencing technologies. Teaming the core program and TMTI provides a complementary strategy (single agent versus broad spectrum, conventional versus emerging threats and established model systems versus expanded integration of novel technology, respectively) towards the development of effective medical countermeasures against biothreat agents.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	7331	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TB2**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Multi-purpose Biodefense Immuno Array - FY 07 - Developed protein microarrays to measure immune responses to hemorrhagic virus, two pox viruses and bacillus anthracis proteomes. The arrays will provide new knowledge to aid in the development of new vaccines, therapeutics and diagnostics.	1090	0	0
Botulinum Neurotoxin Research (Only for Research on fluorescence resonance energy transfer assays and antagonists) - FY 07 - Developed a new assay designed to detect Botulinum (A-G) in the environment and on exposed animals, humans, and culture cells.	2377	0	0
Alternative Delivery Methods for Recombinant Protein Vaccines - FY 07 - Developed countermeasures against bioterrorist attack by evaluating advanced vaccine delivery platforms that can be deployed rapidly and that allow self-vaccination.	1882	0	0
FY 07 - Asymmetrical Protocols for Biological Defense Enhancement.	991	0	0
FY 07 - National Center for Integrated Civilian-Military Medical Response and Homeland Defense (only for DoD military activities).	991	0	0
Total	**7331**	**0**	**0**

	FY 2007	FY 2008	FY 2009
Transformational Medical Technologies Initiative	48537	61564	17430

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Multiagent (Broad Spectrum) Medical Countermeasures - FY 07 - Initiated evaluation of novel compounds for anti-bacterial effects against intracellular bacterial pathogens in preparation for Investigational New Drug (IND) submission. Continued pre-IND studies for antisense RNA therapeutics against hemorrhagic fever virus pathogens. Evaluated novel inhibitors for effectiveness against hemorrhagic fever viruses and intracellular bacterial pathogens. Initiated evaluation of genetic methods for identifying broad spectrum host pathway therapeutic targets. Initiated evaluation of specific compounds designed to inhibit key pathogen and/or host target molecules. FY 08 - Pursue drug discovery and development efforts for antimicrobial compounds, antibody technologies, host directed therapeutics, and adjunctive therapies to augment innate immunity or attenuate pathogenesis or sepsis cascades. Continue the evaluation of novel compounds for anti-bacterial effects against intracellular bacterial pathogens in support of IND submission. Evaluate and validate studies of antisense RNA therapeutic candidate drugs against hemorrhagic fever virus pathogens in preparation and support of IND studies. Continue the evaluation of novel inhibitors of hemorrhagic fever viruses and intracellular bacterial pathogens. Continue the evaluation and development of genetic methods for identifying broad spectrum host pathway therapeutic targets. Initiate studies designed to develop and characterize novel immunoadjuvant compounds. Expand the evaluation of specific compounds designed to inhibit key pathogen and/or host target molecules. Initiate development of flexible platform technologies for therapeutic discovery, development, and manufacturing that are rapidly adaptable to newly identified threats. Efforts are designed to support eventual Food and Drug Administration (FDA) licensure of new non-licensed anti-microbial compounds, or new indications for licensed products for use in the treatment of biological warfare casualties.	48537	61564	17430

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **TB2**

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Accelerate drug development efforts for lead antimicrobial compounds, antibody technologies, host directed therapeutics, and adjunctive therapies to augment innate immunity or attenuate pathogenesis or sepsis cascades. Continue to evaluate novel compounds for anti-bacterial effects against intracellular bacterial pathogens. Further evaluate and validate studies of antisense RNA therapeutic candidate drugs against hemorrhagic fever virus pathogens in preparation and support of IND studies. Maintain efforts to evaluate novel inhibitors of hemorrhagic fever viruses and intracellular bacterial pathogens. Develop genetic methods for identifying broad spectrum host pathway therapeutic targets and begin the evaluation of new approaches to inhibit these therapeutic targets. Evaluate promising immunoadjuvant compounds in combination with lead therapeutic candidates. Continue to expand the evaluation of specific compounds designed to inhibit key pathogen and/or host target molecules. Pursue promising platform technology development.	48537	61564	17430
Total	**48537**	**61564**	**17430**

	FY 2007	FY 2008	FY 2009
Diagnostics	9142	9102	7605

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Diagnostic Technologies -	6416	7502	7605

FY 07 - Used animal models exposed to biothreat agents to identify the optimal matrices/tissues for biological pathogen identification and determined testing windows of diagnostic opportunity using Service developed assays. Expanded design of multiplexed assays to include immunoassays. Optimized confirmatory tests for ricin and botulinum toxins. Continued research directed at increasing sample concentration and extending pathogen viability prior to testing. Augmented database for a DARPA transitioned broad range pathogen detection system capable of potentially identifying genetically engineered strains. Utilized proteomics data to design immunologic assays for biological pathogen detection. Maintained technological assessment of components of next generation diagnostic devices. Developed a decision matrix to effectively assess next generation diagnostic devices. Investigated technologies capable of integrating nucleic acid and immunodiagnostic testing to support the JBAIDS next generation diagnostic capability. Pursued rapid sequencing methods to enhance diagnostic capabilities of existing Polymerase Chain Reaction (PCR)-based assays. Initiated development of real time PCR assays to identify genes responsible for antibiotic resistance in biothreat agents. Continued to use recombinant DNA technologies to enhance immunologic reagent production.

FY 08 - Apply decision matrix to developmental testing on next generation diagnostic devices with an emphasis on technologies capable of integrating sample preparation and nucleic acid and immunodiagnostic testing. Initiate a study of laboratory based research targeting the diagnostic implications of toxins in the body and their relevant analytical parameters. For additional agents, use animal models exposed to BWAs to identify the optimal matrices/tissues for biological pathogen identification and determine test windows of diagnostic opportunity. Incorporate multiplexed immunoassays onto existing platforms. Test recombinant DNA reagents on existing immunodiagnostic platforms. Complete a study directed at increasing sample concentration and extending sample viability prior to testing. Complete initial build/validation of a database for a DARPA transitioned broad range pathogen detection system capable of potentially identifying genetically engineered strains. Adapt existing PCR assays to a rapid sequencing platform. Continue to develop real time PCR assays to identify genes responsible for antibiotic resistance in biothreat agents. Validate immunologic assays designed from proteomics data.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TB2

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Continue to apply decision matrix to developmental testing on next generation diagnostic devices with emphasis on technologies capable of integrating sample processing, nucleic acid and immunodiagnostic testing. Based on results, assess/expand study using animal models exposed to biothreat agents in order to identify the optimal matrices/tissues for biological pathogen identification and test windows of diagnostic opportunity using Service developed assays. Promote use of recombinant DNA reagent production and incorporate onto existing systems. Develop improved test assays utilizing new technologies and approaches that enhance diagnosis of early exposure to BWAs. Complete a study of laboratory based research targeting the diagnostic implications of toxins in the body.	6416	7502	7605
Diagnostics, Methodology to Facilitate Development of Biological Warfare Threat Agent Detection and Medical Diagnostic Systems (DTO CB56) - FY 07 - Pursued elevation of previously transitioned assays to test and evaluation with priority for assays selected for JBAIDS Block I. Completed DTO CB56.	1326	0	0
Diagnostics, Rapid Detection, Threat Assessment and Attribution of Genetically Engineered Biothreat Organisms Using Microarray-Based Resequencing Technologies (DTO CB64) - (Transitioned from Emerging Threats) - FY 07 - Demonstrated greater than threefold scale-up of high-throughput experimental protocols and systems for rapid high-throughput microarray-based resequencing. Resequenced 10 B. anthracis and 10 Y. pestis group genomes; released data to other relevant DoD projects. Expanded biothreat agent collection. Evaluated microarray feature size reduction/increased density on two platforms. Developed resequencing and genotyping arrays for 10 Arenaviruses and 5 Filoviridae viruses. FY 08 - Demonstrate threefold scale-up of experimental protocols and systems. Resequence 30 B. anthracis and 30 Y. pestis group genomes, releasing data to other relevant DoD projects. Expand strain collection, focusing on agents most relevant to warfighters. Evaluate further microarray feature improvements on two microarray platforms. Develop resequencing and genotyping arrays for 15 Bunyaviridae and Togaviradae viruses. Transfer data to the Critical Reagents Program. Complete DTO CB64.	1400	1600	0
Total	**9142**	**9102**	**7605**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TB2

	FY 2007	FY 2008	FY 2009
Emerging Threats	2479	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Emerging Threats, Genetically Engineered Threats - FY 07 - Performed research to support the development of countermeasures for genetically engineered threats that support the Therapeutics program.	2479	0	0
Total	**2479**	**0**	**0**

	FY 2007	FY 2008	FY 2009
Pretreatments	12714	10282	11869

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Pretreatments, Multiagent Vaccines, Western and Eastern Equine Encephalitis (WEE/EEE) Vaccine Constructs for a Combined Equine Encephalitis Vaccine (DTO CB58) -	1262	500	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **TB2**

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 07 - Initiated the evaluation of inactivated, site-directed mutagenized, and/or attenuated viral vaccines. Performed studies in animals for efficacy of multiagent viral vaccine candidates. Assessed a combined Venezuela Equine Encephalitis (VEE), EEE, and WEE, vaccine by identifying and characterizing WEE and EEE vaccine constructs that would be appropriate to combine into a single vaccine with a VEE inactivated-attenuated vaccine candidate, or with alternative VEE vaccine candidates made in the DNA- or replicon-based vaccine platforms. Conducted antigen interference studies for the combined VEE/WEE/EEE vaccine in the definitive animal model. Accelerated the construction and evaluation of VEE/WEE/EEE vaccine candidate constructs in various delivery platforms in preparation for down-selection of vaccine candidate platforms. FY 08 - Complete the evaluation of inactivated, site-directed mutagenized, and/or attenuated viral vaccines. Perform dose ranging studies in non-human primates (NHPs) for efficacy of multiagent viral vaccine candidates. Optimize a combined VEE, EEE, and WEE vaccine. Conclude antigen interference studies for the combined VEE/WEE/EEE vaccine in the definitive animal model. DTO CB58 ends in FY 2008.	1262	500	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Pretreatments, Multiagent Vaccines, Multi-agent (molecular) Vaccines for Bio-Warfare Agents (DTO CB65) - FY 07 - Expressed select bio-threat agent target antigens and assessed immune response and protective efficacy in animal models alone and in combination with anthrax and plague elements. Developed the use of Virus-Like Particles (VLPs) for multiagent vaccine development. Characterized the underlying protective response and evaluated for possible interference between vaccine components and the immune response. Further explored alternative genetic vaccine delivery strategies and adjuvant formulations. Conducted a comparative analysis of genomic and recombinant vaccine candidates for efficacy. Assessed multiepitope DNA vaccine constructs. Initiated development of a multivalent vaccine delivery platform based on Bacillus cereus spore display. FY 08 - Assess immune response and efficacy of multivalent vaccines which include anthrax and plague elements. Define protective responses and evaluate possible interference between vaccine components and the immune response in multiagent formulations. Continue to explore alternative genetic vaccine delivery strategies and adjuvant formulations for the development of immunity against intracellular bacterial pathogens. Conduct efficacy testing of genomic and recombinant vaccine candidates. Optimize multiepitope DNA vaccine constructs. Further evaluate a multivalent spore display vaccine platform. FY 09 - Optimize multiagent vaccines which include anthrax and plague components in animal models. Characterize the underlying protective response and evaluate for possible interference between vaccine components and the immune response. Optimize alternative genetic vaccine delivery strategies and novel adjuvant formulations for the development of vaccines against intracellular bacterial pathogens. Finalize efficacy testing of genomic and recombinant vaccine candidates. Complete testing of genomic and recombinant vaccine candidates, particularly multiepitope DNA vaccine constructs. Test spore-based vaccines in animal models. Complete DTO CB65 in FY 09.	3400	3000	4000

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Pretreatments, Multiagent Vaccines - (Formerly under Animal Models and Resuscitative Intervention) - FY 07 - Formulated and assessed candidate anthrax/plague/toxin and anthrax/plague/melioidosis multi-agent vaccines in animal models. Determined efficacy/immune response and optimization studies of new antigen vaccine formulations considering alternative adjuvants, routes of administration, and dosage schedules. Evaluated novel delivery systems for enhanced vaccine delivery and efficacy in support of the rapid development of multiagent vaccines. Investigated whether CpG oligonucleotides provide enhancement as vaccine adjuvants. Explored aspects of the innate immune response for possible adjuvant effects applicable to vaccine development. FY 08 - Conduct further animal studies for development of candidate anthrax/plague/toxin and anthrax/plague/melioidosis multi-agent vaccine. Perform studies to determine in vitro correlates of immunity for select candidate vaccine projects. Pursue optimization studies of new antigen vaccine formulations considering alternative adjuvants, routes of administration, and dosage schedules. Review candidate vaccines for down-selection to primary candidates. FY 09 - Further assess candidate multi-agent vaccines in animal models, and consider the inclusion of alternative agents. Explore novel platforms and vaccine formulations. Pursue advanced genetic vaccine delivery strategies for selected vaccines and evaluate efficacy in animal models.	2390	1731	1342

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Pretreatments, Vaccine Research Support -	3594	2444	6527
FY 07 - Evaluated immune response to enhanced next generation anthrax and plague vaccine candidates. Began evaluating the protective efficacy of intact catalytic and translocation domains of botulinum neurotoxins (BoNT) as vaccines. Evaluated cellular immune responses to selected filovirus vaccine candidates. Concluded animal model development for Ebola Sudan strain.			
FY 08 - Validate additional intracellular bacterial pathogen target antigens in mice. Test the immune response and efficacy of intact functional domains of BoNT as vaccines. Evaluate the immune response to and efficacy of enhanced next generation anthrax and/or plague vaccine candidates in animal models. Test the efficacy of killed but metabolically active vaccine against Brucellosis. Further define and evaluate in vitro correlates of immunity for specific threat agents (eg., Tularemia, plague, and anthrax). Pursue development of filovirus immunoassays and examine contributions of the cellular immune response. Evaluate the immune response to a pan-filovirus vaccine formulation incorporating virus like particles in animals.			
FY 09 - Further characterize immune correlates of protection elicited by a pan-filovirus vaccine in animal models. Optimize filovirus immunoassays and evaluate their ability to predict protection. Explore additional intracellular pathogen target antigens using animal model systems including the use of alternative vaccine delivery platforms. Further evaluate the protective efficacy of intact functional domains of BoNT in small animal models. Extend the characterization of next generation anthrax and/or plague vaccine candidates to additional small animal models. Pursue the use of immunomodulatory peptides or dendritic cell targeting peptides to enhance vaccine efficacy in animal models.			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Pretreatments, Vaccine Technology Development - (formerly under Resuscitative Intervention) - FY 07 - Evaluated a Bacillus generic molecular vaccine in animal models. Continued development of gene-based poxvirus vaccines and determined immune response and efficacy in animal models. Continued the exploration of candidate vaccine efficacy in conjunction with Toll-like receptors (TLR)-agonist delivery. Determined cross-reactive epitopes/antigens which may confer immunity against selected bio-threat agents. Pursued efforts in vaccine development to include the evaluation of novel immunization platforms and therapeutic immunization strategies for post-exposure treatment. FY 08 - Optimize gene-based poxvirus vaccines and determine immune response and efficacy in non-human primate models. Test the ability of TLR-agonist to enhance vaccine efficacy in animal models. Initiate evaluation of cross-reactive antigens which may confer immunity against selected bio-threat agents in animal models. Assess immune response to epitopes of selected bio-threat target antigens. Pursue the use of immunomodulatory peptides or dendritic cell targeting peptides to enhance vaccine efficacy in animal models. FY 09 - Vaccine Technology Development efforts transition to Vaccine Research Support in FY 09.	2068	2607	0
Total	**12714**	**10282**	**11869**

	FY 2007	FY 2008	FY 2009
Therapeutics	13298	18750	17834

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Therapy for Smallpox and Other Pathogenic Orthopox Viruses (DTO CB54) - FY 07 - Conducted advanced efficacy studies of the oral prodrug of cidofovir as a therapy for smallpox, to support preparation of a new drug application (NDA) package for the FDA. Performed FDA required studies to support transition of ST-246, as an oral therapeutic for orthopox virus infection, to advanced development. Additional studies to support the transition of oral therapeutics to advanced development will be supported by the Viral Therapeutics program (TB3) in 2008. Completed DTO CB54.	1800	0	0
Therapeutics, Therapy for Ebola and Marburg Virus Infections (DTO CB67) - FY 07 - Initiated evaluation of therapeutic technologies developed in DTO CB63 against Ebola virus and Marburg virus in vitro and in animal models. Technologies include antisense nucleotides, recombinant human monoclonal antibodies, small interfering RNAs (siRNAs), small molecules, and therapeutic vaccines. Improved existing animal models for filoviral hemorrhagic fever. Initiated preliminary comparative efficacy studies to identify best performing strategies. FY 08 - Optimize dose and regimen for therapeutic technologies in relevant animal models of Ebola virus and Marburg virus. Evaluate lead candidates for specific viral therapeutic requirements including pharmacokinetics and pharmacodynamics. FY 09 - Complete proof-of-concept studies for lead candidate technologies as they transition to development.	2251	1372	811

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Viral - FY 07 - Maintained a multi-pronged approach to discovery and development of antiviral technologies against conventional threat agents in vitro and in vivo. Incorporated in silico screening into the drug discovery process. Assessed lead candidates for specific viral therapeutic requirements such as dose, route, pharmacokinetics, and pharmacodynamics. Investigated the use of metal nanoparticles as antiviral therapeutics. Explored immunomodulatory and host-response interventions as adjuvants to antiviral therapeutics. FY 08 - Optimize key dosing, administration, and pharmacological characteristics of leading antivirals in non-human primate models. Utilize, in silico, in vitro, and in vivo models to consider novel and currently available antiviral technologies as therapeutics against conventional viral threat agents. Screen metal based nanomaterials for their ability to inhibit isolated viral enzymes. Develop immunomodulatory and host response interventions as adjuvants to antiviral therapeutics. Develop small molecule screening program(s) for therapeutic candidates against CDC Category A & B viral pathogens. FY 09 - Determine dose dependent inhibition of viral expression by nanomaterial based therapeutics in an in vitro model system. As therapeutics effective against well characterized threats progress to advanced development, conduct proof-of-concept studies aimed at identifying therapeutic candidates for poorly characterized CDC category A and B threats. Screen multiple compound libraries for small molecule inhibitors of category A & B viral pathogens.	2340	588	430

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TB2**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
Therapeutics, Bacterial - FY 07 - Refined conceptual development and executed in vivo testing of novel broad-based innate immunomodulator therapeutics approaches against conventional threats and poorly characterized threats. Considered specific licensed and investigational antibacterial technologies for use against these agents. Initiated development of a nanobody based immunotherapeutic against plague. Developed a screening assay to identify small molecule therapeutic candidates that mimic bacteriophage activity. Completed proof-of-concept evaluation of antimicrobial peptides as therapeutics against category A and B bacterial threat agents. FY 08 - Conduct proof-of-concept evaluation of a nanobody based immunotherapeutic against plague. Evaluate small molecules with bacteriophage-like activity against plague. Expand development of antimicrobial peptides as anti-bacterial therapeutics with activity against specific threat agents, focusing on treatment for the already symptomatic anthrax patient. FY 09 - Complete initial evaluation of a nanobody based immunotherapeutic against plague, and extend application to other gram negative bacteria if successful. Screen small molecules with bacteriophage-like activity against plague in vitro, and extend application of assay to other gram negative bacteria. Balance efforts to evaluate potential single agent bacterial therapeutics with those having broad spectrum activity. Identify and screen inhibitors of bacterial phosphatases for protective effects in cellular and animal models.	2841	6168	6000

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TB2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Toxin - FY 07 - Selected lead monoclonal antibodies with therapeutic potential by employing in vitro and in vivo assay systems. Increased efforts to identify new Staphylococcal Enterotoxin B (SEB) inhibitors. Examined therapeutic potential of drug candidates with activity against ricin, SEB, and Botulinum Neurotoxin (BoNT) in vitro and in vivo. FY 08 - Design and develop monoclonal antibodies with improved binding activity utilizing data generated from structural analysis of the BoNT receptor site. Identify potential inhibitors from compound repositories and peptide libraries using computer modeling and co-crystal analysis. Evaluate small molecule, monoclonal antibody and single chain antibodies against SEB. FY 09 - Evaluate next generation monoclonal antibodies for in vitro and in vivo efficacy against BoNT. Characterize lead compounds for potency and specificity via protease inhibition studies, cell-based assays, and in vivo bioassays. Initiate development of non-toxic mutants of BoNT as therapeutics with the potential to restore synaptic activity following neuroparalysis due to intoxication. Develop a cell based high throughput screening system for BoNT therapeutics derived from mouse embryonic stem cells. Evaluate immunomodulatory compounds for pre and post-exposure therapy for SEB intoxication.	4066	10622	10593
Total	**13298**	**18750**	**17834**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	1237	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **TB2**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	1237	0
Total	**0**	**1237**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TB3 MEDICAL BIOLOGICAL DEFENSE (ATD)	87067	95527	252331	227287	128222	121096	112771	Cont	Cont

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TC2**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TC2	MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	29057	36627	36034	34726	33021	37927	38257	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TC2 MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH): This project funds medical chemical defense applied research and emphasizes the treatment and prevention of chemical casualties as well as the investigation of new medical countermeasures to include prophylaxes, pretreatments, antidotes, skin decontaminants and therapeutic drugs to protect U.S. forces against known and emerging chemical warfare threat agents. Capabilities are maintained for reformulation, formulation and scale-up of candidate compounds using current Good Laboratory Practices (cGLP).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	991	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Mustard Gas Antidote Research Consortium (STIMAL) - FY 07 - Developed an antidote to mustard gas (HD) exposure.	991	0	0
Total	**991**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TC2

	FY 2007	FY 2008	FY 2009
Diagnostics	2432	1248	1400

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Diagnostic Technologies -	1432	1248	1400
FY 07 - Accelerated applied research experiments aimed at improving detection methods in clinical samples for metabolites, adducts and/or relevant biomarkers resulting from chemical warfare agent (CWA) exposure. Continued to develop alternate sample collection/extraction technology(s) such as solid phase micro-extraction as a rapid screening method to verify exposure to CWA; completed fiber selection for nerve agents and evaluation of head space versus direct immersion for nerve agents. Pursued adaptation of the DoD developed whole blood cholinesterase assay for organophosphate exposure to automation/high throughput; examined changes in marker profiles after exposure to low level amounts of nerve agents and organophosphate pesticides and conducted feasibility studies for incorporating this method in a hand-held platform. Characterized relationship between dose, route-of-exposure, time-concentration of measured biomarker for the fluoride detection assay to detect VX nerve agent.			
FY 08 - Continue development of alternate sample collection/extraction technology(s) such as solid phase micro-extraction as a rapid screening method to verify exposure to CWA; complete reproducibility studies for hydrolysis compounds and optimize fibers for select agents. Initiate development of a beta-lyase urinary metabolite assay to detect chemical agent exposure. Develop a sample extraction technique and test method to detect the presence of chemical warfare analytes from hair samples. Assess the feasibility of transitioning established lab-based procedures such as fluoride reactivation to field portable technology.			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TC2**

Bullet Text (cont)	**FY2007**	**FY2008**	**FY2009**
FY 09 - Complete/make recommendations for alternate sample collection/extraction technology(s) such as solid phase micro-extraction as a rapid screening method to verify exposure to CWA. In animal models, evaluate the combined sample extraction and analysis procedure pre-and post CWA exposure to assess the feasibility of detecting chemical warfare analytes in hair samples. Incorporate promising immunodiagnostic and molecular technologies for hand-held CWA diagnostic platforms developed under the SBIR program into the core program for further development. Technologies include DNA aptamers, molecularly imprinted polymers (MIPS), lateral flow immunoassay and high affinity antibodies in conjunction with electrochemical and or fluorometric amplification/detection.	1432	1248	1400
Diagnostics, Animal Models - FY 07 - Continued to conduct animal studies for detecting biomarkers of CWA exposure in biological samples; completed studies exploring the longevity of biomarkers. Conducted metabolic profile (metabonomic) studies by examining blood from guinea pigs exposed to agent and assessed the potential of this method as a diagnostic technique. Efforts transitioned to Diagnostic Technologies (TC3) in FY 08.	1000	0	0
Total	**2432**	**1248**	**1400**

	FY 2007	**FY 2008**	**FY 2009**
Pretreatments	6497	8112	8384

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA2 - Applied Research**

PE NUMBER AND TITLE: **0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**

PROJECT: **TC2**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Pretreatments, Nerve Agent, Bioscavengers - FY 07 - Investigated recombinant methods and expression systems for larger scale production and purification of recombinant and catalytic bioscavenger proteins. Performed initial evaluation studies of catalytic bioscavenger molecules in genetic knock-out mice. Developed knock-out murine models for evaluation of recombinant and catalytic bioscavenger molecules. Concluded studies of the 3-D structure of human bioscavenger proteins. Continued development of peptide drugs as potential bioscavenger molecules. Identified new native/recombinant catalytic bioscavengers molecules. Defined methods to improve/modify the catalytic efficiency of selected bioscavenger molecules. Evaluated more efficient delivery formulations. Refined methods to significantly reduce or eliminate the inherent immunogenicity of recombinant bioscavenger molecules. FY 08 - Evaluate recombinant methods and expression systems for larger scale production and purification of recombinant and catalytic bioscavenger proteins. Conduct studies of catalytic bioscavenger molecules in genetic knock-out mice. Continue to develop peptide drugs as potential bioscavenger molecules in animal models for safety and efficacy. Explore novel native/recombinant catalytic bioscavenger molecules. Utilize novel methods to improve/modify the catalytic efficiency of selected bioscavenger molecules. Assess new, more efficient delivery formulations. FY 09 - Refine recombinant methods and expression systems for larger scale production and purification of recombinant and catalytic bioscavenger proteins. Investigate catalytic bioscavenger molecules in genetic knock-out mice. Optimize dose and route of administration of peptide drugs as potential bioscavenger molecules. Assess efficacy of novel catalytic bioscavenger molecules. Evaluate bioscavenger molecules with increased catalytic efficiency. Test new, more efficient delivery formulations in animal models.	6497	8112	8384
Total	**6497**	**8112**	**8384**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TC2

	FY 2007	FY 2008	FY 2009
Therapeutics	19137	26857	26250

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Respiratory and Systemic - FY 07 - Identified relevant endpoints for in vivo models. Screened compounds as therapeutic countermeasures against single and multiple agent exposures. FY 08 - Complete protocol and in vivo model optimization. Utilize human tissue model of inhalational exposure to screen therapeutics to protect against lung injury. Evaluate and down-select candidate compounds focusing on countermeasures effective against multiple agent exposures. FY 09 - Continue focus on broad based therapeutics effective against multiple agents and routes of exposures.	3411	4039	3937

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TC2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Cutaneous and Ocular - FY 07 - Completed efforts to develop in vitro tissue assays and designed screening protocols to down-select candidate compounds. Initiated protocols and screened novel compounds, as well as FDA approved drugs, as therapeutics to counteract the effects of cutaneous and ocular exposure to chemical agents using in vitro and in vivo techniques. Characterized the depth of cutaneous vesicant injury. Compared the effectiveness of novel technologies to replace the M291 skin decontamination kit (SDK), focusing on products to decontaminate wounds and around the eyes. Characterized the treatment effect of compounds on neovascularization in ocular tissue, using small animal models and focusing on both gross and molecular injury and healing as a function of time. FY 08 - Maintain screening efforts to evaluate new and FDA approved compounds, and down-select those shown to be efficacious using in vitro and in vivo techniques. Determine the best candidate technologies for preventing and reversing damage to the eye following vesicant agent exposure. FY 09 - Evaluate safety, efficacy, dosing and relevant pharmacokinetic and pharmacodynamic profiles of candidate countermeasures, and practicality of use in the modern combat environment. Evaluate cell based therapeutic technologies.	2711	1905	1940

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA2 - Applied Research

PE NUMBER AND TITLE: 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

PROJECT: TC2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Neurologic - FY 07 - Explored potential broad spectrum reactivators to nerve agent challenge. Synthesized prospective candidate reactivators and conducted reactivation studies to determine efficacy and toxicity in vitro/in vivo. Optimized therapy for effective treatment of seizures under all potential field conditions (immediate or delayed treatment). Screened putative neuroprotectants that have demonstrated effectiveness in neuronal rescue, particularly Food and Drug Administration (FDA)-approved products which may have additional neuroprotective activity. Applied screening protocols to novel compounds. FY 08 - Expand the search for improved reactivators. Evaluate bioscavengers as post-exposure therapeutics against nerve agents. Further evaluate FDA approved products demonstrating neuroprotective activity for in vivo efficacy against nerve agent exposure. FY 09 - Identify and develop broad-spectrum improved reactivators based on the mechanism of action of reactivation. Initiate testing of centrally acting acetylcholinesterase reactivators for efficacy using in vitro and in vivo models (small animal models). Down-select novel and FDA approved anticonvulsants, neuroprotectants, anti-epileptics, and receptor agonists and antagonists for neuroprotective activity against nerve agents. Define and optimize the utility of therapeutic bioscavengers.	8139	8861	9232
Therapeutics, Medical Toxicology - Non Traditional Agents (NTAs) and Other Agents - FY 07 - Investigated the potential for transient or sustained systemic toxicity resulting from exposure to NTAs and selected chemical warfare agents. Identified potential mechanisms of toxicity. FY 08 - Extend the fidelity of predictive and computational tools by expanding the scope of validation studies to include multiple classes of NTAs. FY 09 - Quantify the nature, scope, and time course of exposure/effects using biochemical, toxicological, physiological, and modeling methods as required for therapeutic and clinical strategy design.	3831	2235	2225

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DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	TC2

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Non Traditional Agents (NTAs) - FY 08 - Evaluate the efficacy of currently available therapeutics for treatment resulting from exposure to NTAs and selected chemical warfare agents. Focus on therapies for respiratory injury following inhalational exposure and non-cholinergic mediated neurological injury, using small animal models. Investigate the efficacy of the bioscavengers as post-exposure therapy. FY 09 - Evaluate pre-existing and new commercially available compounds for respiratory and neurological injury in small animal models and begin transition to large animal models (e.g. non-human primate). Initiate testing of novel compounds as therapies in small animal models. Define and optimize the utility of therapeutic bioscavengers against NTAs.	0	9817	8916
Therapeutics, Animal Models - FY 07 - Improved advanced non-human primate testing for chemical warfare agent exposure. Evaluated alternate models to meet FDA rules in a cost-effective manner. Transitioned to other thrust areas in FY 08.	1045	0	0
Total	**19137**	**26857**	**26250**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	410	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	410	0
Total	**0**	**410**	**0**

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TC2**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TC3 MEDICAL CHEMICAL DEFENSE (ATD)	15740	28726	26567	28961	30493	31539	31836	Cont	Cont

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TR2**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TR2	MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH)	1591	1973	1975	1973	1972	1972	1971	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TR2 MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH): This area funds applied research to develop medical countermeasures against radiological and nuclear threats. Innovative technical approaches will be used to develop products to mitigate the health consequences resulting from exposures to both external ionizing radiation and internalized alpha- and beta-particles, including gamma-emitting radionucleotides. The availability of radioprotectants and post-irradiation therapeutic agents will enhance survivability of warfighters and serve to significantly minimize the development of acute radiation syndromes and subsequent development of cancer.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Radiological Medical Countermeasures	1591	1945	1975

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TR2**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Radiation Medical Countermeasures - FY 07 - Continued radioprotective efficacy studies and explored additional new compounds for radioprotective efficacy studies. Assessed the more promising candidates to determine the radiological treatment dose efficacy for radioprotection and developed protocols for evaluation in a rodent model system. Assessed cytokine expression in rodents for most promising candidates against acute radiation syndromes. FY 08 - Evaluate three to four drug candidates for radioprotective efficacy as radioprotectants, radioprotectant prophylaxis, and/or post-irradiation therapeutic agents. Using promising candidates, initiate preliminary studies for preclinical efficacy of combined agents, if any, which confer protective or palliative effects against radionuclides with minimal toxic side effects. FY 09 - Down-select at least one promising drug candidate that has radioprotective efficacy. Determine the preclinical efficacy of combined agents that confer protective or palliative effects against radionuclides with minimal toxic side effects. Explore current Good Laboratory Practice (cGLP) test capability for selected candidate drugs against acute radiation syndromes according to the Food and Drug Administration (FDA) animal rule.	1591	1945	1975
Total	**1591**	**1945**	**1975**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	28	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA2 - Applied Research	**0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)**	**TR2**

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
SBIR - FY 08 - Small Business Innovative Research.	0	28	0
Total	**0**	**28**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TR3 MEDICAL RADIOLOGICAL DEFENSE (ATD)	1995	2169	4878	2466	986	0	0	0	12494

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BUDGET ACTIVITY 3
ADVANCED TECHNOLOGY DEVELOPMENT (ATD)

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE
0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

	COST (In Thousands)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	223838	245591	337927	311052	201671	191624	183109	Continuing	Continuing
CB3	CHEMICAL BIOLOGICAL DEFENSE (ATD)	103420	20499	19242	21745	14112	14178	13695	Continuing	Continuing
CI3	CONGRESSIONAL INTEREST ITEMS (ATD)	0	64860	0	0	0	0	0	0	64860
TB3	MEDICAL BIOLOGICAL DEFENSE (ATD)	87067	95527	252331	227287	128222	121096	112771	Continuing	Continuing
TC3	MEDICAL CHEMICAL DEFENSE (ATD)	15740	28726	26567	28961	30493	31539	31836	Continuing	Continuing
TE3	TEST & EVALUATION (ATD)	0	25993	26668	22204	19605	15468	15362	Continuing	Continuing
TR3	MEDICAL RADIOLOGICAL DEFENSE (ATD)	1995	2169	4878	2466	986	0	0	0	12494
TT3	TECHBASE TECHNOLOGY TRANSITION	15616	7817	8241	8389	8253	9343	9445	Continuing	Continuing

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE
0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

A. Mission Description and Budget Item Justification: This program element (PE) demonstrates technologies that enhance the ability of U.S. forces to deter, defend against, and survive chemical and biological (CB) warfare. This program element (PE) funds advanced technology development for Joint Service and Service-specific requirements in both medical and physical sciences CB defense areas. The medical program aims to produce drugs, vaccines, and medical devices as countermeasures for CB threat agents. Specific areas of medical investigation include: prophylaxis, pretreatment, antidotes and therapeutics, personnel and patient decontamination, and medical management of casualties. In the physical sciences area, the focus is on demonstrations of CB defense technologies, including biological detection, chemical detection, and decontamination. These demonstrations, conducted in an operational environment with active user and developer participation, integrate diverse technologies to improve DoD Chemical/Biological Warfare (CBW) defense and deterrence. These demonstrations are leveraged by the Counterproliferation Support Program and include remote Biological Detection. Research efforts are also planned to evaluate technologies for Weapons of Mass Destruction Civil Support Teams (WMD-CSTs). Work conducted under this PE transitions to and provides risk reduction for System Integration/Demonstration (PE 0603884BP/PE 0604384BP) activities. The work in this PE is consistent with the Joint Service CB Defense Research, Development, and Acquisition (RDA) Plan. This PE also provides for the conduct of advanced technology development in the areas of real-time sensing, accelerated BW operational awareness, and the restoration of operations following a BW/CW attack. This program is dedicated to conducting proof-of-principle field demonstrations, and tests of system-specific technologies to meet specific military needs.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE
0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		235760	232302	388487
FY09 President's Budget (FY 2009 PB)		223838	245591	337927
Total Adjustments		-11922	13289	-50560
a. Congressional General Reductions		0	-51571	0
b. Congressional Increases		0	64860	0
c. Reprogrammings		-9632	0	0
d. SBIR/STTR Transfer		-2290	0	0
e. Other Adjustments		0	0	-50560

Change Summary Explanation:

Funding: FY09 - Inflation adjustment (+$214K CB3; +$2,750K TB3; +291K TC3; +$291K TE3; +53K TR3; +$91K TT3). Change proposals realigning funding within the Chemical Biological Defense Program (CBDP) RDT&E program (-$2,250K TC3; -$2,000K CB3). Defense-wide directed offsets (-$50,000K TB3).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CB3	CHEMICAL BIOLOGICAL DEFENSE (ATD)	103420	20499	19242	21745	14112	14178	13695	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CB3 CHEMICAL BIOLOGICAL DEFENSE (ATD): This project demonstrates technology advancements for joint service application in the areas of chemical and biological agent detection and identification, decontamination, modeling and simulation, and individual/collective protection which will speed maturing of advanced technologies to reduce risk in system-oriented integration/demonstration efforts. This project funds science and technology to advance technology development. Beginning in FY 2007, the group heading for Modeling and Simulation/Battle Space Management was changed to Information Systems Technologies to be compatible with JPEO-CBD Joint Program Manager - Information Systems. Projects under CB3 Test and Evaluation will be reported under TE3 for FY 2008 and beyond.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	32052	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Self-Detoxifying Materials in CB Clothing - FY 07 - Refined concepts of producing multi-functional materials comprised of specially-formulated combinations of reactive nanoparticulates and activated carbon that provide CB protection thru a synergistic effect of an adsorptive/reactive technology.	1288	0	0
Portable Rapid Bacterial Warfare Detection Unit - FY 07 - Enhanced the process for real-time detection and identification of biological warfare agents (BWA) and developed a field deployable system.	1489	0	0

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DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Hand-Held Biosensor and Continuous Monitor for Biodetection - FY 07 - Increased efforts to advance optically based sensors for use as handheld technology.	1436	0	0
Chemical Biological Defense Program Initiative Fund - FY 07 - Initiated solicitation for proposals from degree-granting universities, nonprofit organizations, and commercial concerns, to include small businesses, in support of the CBDP to fund chemical and biological defense science and technology projects across a wide-range of military operations. Funded six projects that addressed standardized library of biological signatures, acoustic aerosol concentrator for high-sensitivity bioareosol detection, micro-aerodynamic lens array aerosol concentrator, revolutionary respiratory/ocular protection concepts, toxin identification as a diagnostic tool, novel bi-functional reactivators for aged acetylcholinesterase, and new inhibitors of acetylcholinesterase that block inactivation by organophosphates.	9902	0	0
Immunological Biological/Chemical Agent Detector - FY 07 - Improved development of the multiplex, micro-array system.	991	0	0
Removal of NBC Agents in Drinking Water - FY 07 - Improved development of the water purification units.	1285	0	0
Small Accelerators and Detection Systems - FY 07 - Improved the detection and neutralization of chemical and biological threats with small accelerator/detection systems.	1981	0	0
NIDS Hand-Held Biological Detectors - FY 07 - Advanced the handheld reader and a pathogen concentration system.	2872	0	0
Rapid Response Database Systems - FY 07 - Advanced development of a Research Demonstration Center and a Portable Training and Demonstration Center that will present first responders and their managers with real-time status reports of data collected from hospitals, schools, doctors, pharmacies and veterinary offices that could support a response to a bio-terrorist attack or other hazard.	1090	0	0
Reactive Coatings Enhanced to Resist Chemical and Biological Contamination - FY 07 - Identified peroxide activated reactive coatings that can be used to aid in decontaminating critical military surfaces.	991	0	0

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Carbon Nanotube Bio-Chem Detector - FY 07 - Validated and built on the previous research in developing a prototype arrayed single-walled carbon nanotube (SWNT) CWA detector mounted on common transparency film that will be optimized using simultaneous resistance and alternating current independent responses.	1090	0	0
Liquid Crystal Sensor Technology Research and Development for Force Protection - FY 07 - Developed a sensor core adapted from new technology based on liquid crystal detection of molecular interactions on nanostructured surfaces.	991	0	0
Modular Chemical and Biological Detection System - FY 07 - Identified a combination of wavelengths that yielded the best path forward to identify threats with low false alarm rates and high specificity. Conducted on surface impacted aerosolized biological species.	991	0	0
Next Generation Threat Detection - FY 07 - Dedicated to the discovery, design, development and commercialization of new analytical devices and methodologies, and to the institutionalization of these capabilities so that the current regional leadership in these areas (and the underlying science area of analytical chemistry) can be secured.	1159	0	0
Protective Self-Decontaminating Surfaces - FY 07 - Prepared the transfer of the technology developed under this project from the laboratory to field a durable, long-lasting, self-decontaminating system for the individual and collective protection of personnel and platforms from airborne CB attacks.	1486	0	0
Rapid Response Sensor Networking for Multiple DoD Applications Phase 3 - FY 07 - Research and development efforts are ongoing on three types of sensors; colorimetric (flow-injection) sensors, photo-electric (PICM) sensors, and solid state gas sensors (SSGS). Each showed innovative development and significant promise.	991	0	0
Engineered Biological Detectors for Biological Warfare - FY 07 - Prototyped and demonstrated new approaches for leveraging existing commercial technology, products and processes for military purposes.	991	0	0

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PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
FY 07 - Chemical/Biological Defense Program - Advanced Development - Remaining project executed in TT3.	37	0	0
Low Cost Chemical Agent (CA) Detection System for Mission Critical Facilities - FY 07 - Accelerated the development of low cost monitors for chemical warfare agents and toxic industrial chemicals in air and water that exhibit high reliability and effective communication protocols.	991	0	0
Total	**32052**	**0**	**0**

	FY 2007	**FY 2008**	**FY 2009**
Information Systems Technology	9435	3728	3880

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PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Information Systems Technology, CBDP Decision Capability - FY 07 - Completed verification and conducted demonstrations and exercises in targeted user communities of the CB Simulation Suite. Transition did not occur to JPM-IS due to a change in requirements. Initiated medical modeling area of research to evaluate existing models for infectious diseases. Initiated transition of NATO's Allied Medical Publication 8 (AMedP-8) chemical and biological models from Nuclear Biological Chemical Casualty and Resource Estimation Support Tool (NBC CREST) to JOEF. FY 08 - Transition Toxic Industrial Chemicals/Toxic Industrial Materials (TIC/TIM), long-term radiological effects, and AMedP-8 nuclear models and provide Verification & Validation (V&V) documentation from NBC CREST to JOEF. Develop a biological and a chemical agent human response model accounting for particle size distribution (PSD) effects; develop, implement and test additional agent response models accounting for PSD effects; deliver V&V software. Continue transition of NATO's AMedP-8 chemical and biological models from NBC CREST to JOEF. FY 09 - Verify and incorporate models for casualty estimates for infectious/contagious diseases into JEM. Validate models for predicting effects due to infectious/contagious diseases for JEM with real-world and simulation data. Complete transition of NATO's AMedP-8 chemical and biological models from NBC CREST to JOEF.	1167	880	821

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Information Systems Technology, Chemical and Biological Warfare Effects on Operations - FY 07 - Tested and verified the Simulated Training and Analysis for Fixed Facilities/Sites (STAFFS) and contamination model linkages. FY 08 - Deliver Output Analysis Tool (OAT), Chemical Hazard Estimation Method Risk Assessment tool (CHEMRAT), Chemical Convoy Operations Risk Vulnerability Estimation Tool (CORVET), and STAFFS upgrades to the Joint Operational Effects Federation (JOEF). FY 09 - Deliver CBRN methodologies for tactical and theatre levels to JOEF. Deliver building interior modeling for JOEF. Complete transition of Agent Fate model to the Joint Effects Model (JEM). Transition mobile forces and shipboard models for CB effects on military operations to JOEF. Begin validation of decision support tools for CBRN for eventual transition to JOEF.	2579	851	821

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Information Systems Technology, Chemical and Biological Hazard Environment Prediction -	2116	843	1097
FY 07 - Included additional data types, and parameterizations in the Geographic Environmental Database Information System (GEDIS) 2.1 release. Initiated initial interior building transport modeling algorithm and software development. Conducted full-scale validation of Toxic Industrial Chemicals (TIC) chemistry model and developed methodology for TIC source emission improvements. Initiated development of improved climatological, terrain, land use, and population data sets. Transitioned improved meteorological modeling capabilities based on the mesoscale model forecast study including boundary layer modeling of surface heat fluxes over land and water into existing operational models - Weather Research and Forecast (WRF) and the Mesoscale Meteorological Model, Version 5 (MM5).			
FY 08 - Continue enhancement and testing in the GEDIS 2.2 release. Complete initial interior building transport modeling algorithm and software development. Initiate improved TIC/Toxic Industrial Materials (TIM) prototype integration into JEM. Begin extension of the Stationary Wind Fit with Turbulence (SWIFT) and provide updated mass consistency wind models and advanced urban models to the Joint Effects Model (JEM). Integrate advanced numerical weather prediction techniques for coastal, complex terrain and urban environments into JEM.			
FY 09 - Transition GEDIS 2.3 to JEM. Validate and verify building interior dispersion model. Complete improved TIC/TIM prototype integration into JEM. Transition multi-scale four-dimensional data assimilation model to operational centers. Deliver complete variable resolution database containing highly refined estimates of climatological and "typical" atmospheric conditions for any given location and time to JEM. Test and evaluate the use of the existing WRF/Urban Canopy Model (UCM) forecasts to drive JEM transport and dispersion prediction. Transition fully extended SWIFT mass consistency wind model to JEM.			

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PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Information Systems Technology, Battle Space Management - FY 07 - Demonstrated increased maturity and readiness of the Inter-LAN socket connection manager for transition to the Joint Warning and Reporting Network (JWARN) program. Developed an initial prototype of a software-based, user configurable, CBRN sensor supporting the ability to dynamically configure/message and support a subset of the features/functionality of the JWARN Component Interface Device (JCID) specification (JCID on a Chip). Developed, implemented, tested and transitioned the Sensor Alert Verification for Incident Operational Response (SAVIOR) capability. Completed the transition of Integrated Information Management System (IIMS) to Joint Operational Effects Federation (JOEF) by converting selected components to web services. FY 08 - Transition Inter-LAN Socket Connection Manager and JCID on a Chip to the JWARN program. Transition SAVIOR, a false alarm reduction capability, to JPM Contamination Avoidance. FY 09 - Transition the capability to exchange and multi-level fusion of actionable information with real world Command and Control (C2) systems in DoD, Coalition and Homeland Security and Homeland Defense (HLS/HLD) domains to JWARN.	2934	861	549
Information Systems Technology, Sensor Data Fusion - FY 07 - Demonstrated a prototype outdoor Sensor Placement Tool (SPT) and outdoor Source Term Estimation (STE) software in a realistic biological background. Investigated existing software for building interior STE and Hazard Refinement (HR) applications. FY 08 - Demonstrate and transition first-generation outdoor SPT to JWARN and JOEF. Demonstrate prototype building interior STE. Demonstrate prototype of second-generation outdoor SPT algorithm to include optimal hazard prediction capability. FY 09 - Transition first generation outdoor STE/HR and second-generation SPT software to JEM, JWARN and JOEF. Transition first-generation building interior STE and HR software to JEM and JOEF.	639	293	592
Total	**9435**	**3728**	**3880**

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

	FY 2007	FY 2008	FY 2009
Technology Transition	6763	4753	2919

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Technology Transition -	6763	4753	2919
FY 07 - Continued transition of DHS Low-Cost Bio-Aerosol Detector Systems (LBADS) and Defense Advanced Research Projects Agency (DARPA) Semiconductor UV Optical Sources (SUVOS) into core CBD program thru laboratory testing to meet DoD need. Expanded efforts to leverage technologies from other government agencies and non-government agencies into the CBDP. Continued competitive assessment of mature technologies. Candidate projects included: DARPA Solid-state Eye-safe Aerosol LIDAR (SEAL), Immune Building (multiple protection technologies), and Nanofiber aerosol filtration.			
FY 08 - Complete transition of DHS LBADS to Joint Biological Tactical Detection Systems (JBTDS). Continue competitive assessment of all mature technology from outside of the CBDP for rapid technology insertion into the capability areas.			
FY 09 - Continue competitive assessment of all mature technology from outside of the CBDP for rapid technology insertion into the capability areas. Reduction of $2M for Plague Vaccine in FY 09 will reduce the number of technology transition for this year.			
Total	**6763**	**4753**	**2919**

	FY 2007	FY 2008	FY 2009
Decontamination	2407	2113	1985

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Decontamination, Solutions Chemistry - FY 07 - Completed development of reactive impregnated solvent-based wiping system and transitioned to the Joint Material Decontamination System (JMDS). Completed research on transportation, storage, and use of hydrogen peroxide for decontamination and transitioned to Joint Platform Interior Decontamination (JPID)/JMDS and Joint Service Sensitive Equipment Decontamination (JSSED). Completed research on technologies to develop hydrogen peroxide at their point of use.	653	0	0
Decontamination, Solid Phase - FY 07 - Completed testing to provide chamber scale studies to assess the impact of applicator process and procedures on solid sorbents based on nanocrystalline metal oxides to support the Joint Service Transportable Decontamination System - Large Scale (JSTDS-LS). FY 08 - Complete research efforts to develop reactive sorbent nano-active suspensions and sprayable powders and transition to JSTDS-LS.	884	1022	0
Decontamination, Alternative Processes - FY 07 - Continued research initiated in BA2 to develop a gaseous chemical and biological decontamination system combining hot air and modified vaporous hydrogen peroxide, determined efficacy effects on decontamination of chemical and biological agents, and determined candidate formulation and application combinations to support JPID/JMDS. FY 08 - Complete research to develop a gaseous chemical and biological decontamination system combining hot air and modified vaporous hydrogen peroxide, determine efficacy effects on decontamination of chemical and biological agents, and determine candidate formulation and application combinations and transition to JPID/JMDS. Initiate efforts to investigate reactive materials and nanotechnology for decontamination processes and transfer efforts under the Protection capability area. FY 09 - Continue efforts to investigate reactive materials and nanotechnology for decontamination processes and transfer efforts under the Protection capability area.	525	1091	1985

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Decontamination, Process Fundamentals - FY 07 - Developed a process to comply with regulatory requirements for Environmental Protection Agency (EPA) registration of all DoD decontaminants by identifying a method that satisfies DoD requirements for bio-efficacy testing as well as satisfying EPA registration data requirements to streamline the approval process and save test dollars.	345	0	0
Total	**2407**	**2113**	**1985**

	FY 2007	FY 2008	FY 2009
Detection	20898	6810	7494

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Detection Capabilities for Non-Traditional Agents - FY 07 - Continued the studies necessary to fill the identified gaps from the analytical studies on the impact of threat environments on the properties of neat agents focusing on biological materials followed by chemical materials. Initiated trade-studies on the impact of Hot-lightweight chemical detector (LCD) modifications to detect NTAs compared to the standard LCD. FY 08 - Complete impact studies to incorporate Hot-LCD modifications to standard LCD design and transition recommendations to the Joint Chemical Agent Detector (JCAD) program. Complete the studies necessary to fill the identified gaps from the analytical studies on the impact of threat environments on the properties of neat agents. Complete the development of agent to simulant correlations in support of T&E needs.	3873	898	0

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Detection, Lightweight Integrated CB Detection (DTO CB50) - FY 07 - Demonstrated the technology and transitioned for technology insertion into the Joint Biological Point Detection System (JBPDS) and Reconnaissance Systems as enhancements/replacement for the biological trigger systems to detect/identify chemical aerosols. Completed fabrication, and test and evaluation of brassboards. Completed DTO and transitioned to JBPDS and the Joint Biological Tactical Detection System (JBTDS).	5231	0	0
Point Detection, Biological Identification - FY 09 - Initiate prototype design and fabrication for portable whole genome sequencing of pathogens for Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM).	0	0	1494
Detection, Biological Stand-off Technology - FY 07 - Continued the development of test methodology to evaluate and assess the value of new signatures in broad regions of the electromagnetic spectrum. Assessed and evaluated the IR data from DTO CB35 and initiated prototype designs based upon this new information to enhance selectivity for interference rejection. FY 08 - Complete the development of test methodology to evaluate and assess the value of new signatures in broad regions of the electromagnetic spectrum. Complete prototype designs and initiate fabrication based upon this new information to enhance selectivity for interference rejection. FY 09 - Complete the fabrication, conduct a demonstration and transition technology to meet Joint Biological Standoff Detection System (JBSDS) Increment 2 technology based upon the new information in the IR electromagnetic spectrum from DTO CB35 to enhance selectivity for interference rejection.	7521	5912	6000
Detection, Chemical/Biological Agent Water Monitor - FY 07 - Developed a preconcentration system for chemical and biological materials to meet detection sensitivity requirements and transitioned to JCBRAWM Increment 2.	4273	0	0
Total	**20898**	**6810**	**7494**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

	FY 2007	FY 2008	FY 2009
Protection	4945	2870	2964

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Protection, Advanced Air Purification Systems Model (DTO CB61) - FY 07 - Fabricated system demonstrators. Tested and validated the advanced air purification system model, then optimized for design concepts. Completed test and validation of Advanced Air Purification System Model. Completed and transitioned advanced air purification system model to Collective Protection (COLPRO) overarching model.	1650	0	0
Protection, Self-Detoxifying Materials for CB Protective Clothing (DTO CB45) - FY 07 - Optimized garment designs. Manufactured optimized prototype garments containing optimized reactive nanoparticle-loaded fabrics. Measured chemical/aerosol breakthrough of optimized garments. Conducted field-testing and assessments. Down-selected candidates. Identified technology gaps that will be addressed under BA2 Individual Protection, Integrated Protective Fabrics in FY 2008. Completed DTO and transitioned technologies to support future protective ensembles.	680	0	0
Protection, Shelter Systems and CCA/Airlock/Toxic Free Area (CCA/A/TFA) - FY 07 - Fabricated shelters using novel materials, enhanced closures, and novel ingress/egress systems and initiated assessment. Fabricated a prototype general-purpose shelter using improved textiles such as PVC/Kevlar/Polyester fabric and conducted a systems simulant test. Fabricated CCA/A/TFA prototypes and test (simulant). Conducted shelter system technology demo/testing. Results of these test identified technology gaps that will be addressed under BA2 COLPRO System Integration in FY 2008.	971	0	0
Protection, Shelter Materials, Coatings and Materials Treatments, Reactive or Self-Decontaminating - FY 07 - Applied expedient and reactive coatings to current general-purpose tent fabric as after-treatment and test. Transitioned test results to advanced development.	475	0	0

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Protection, Improved Single-Pass Filters - FY 07 - Developed a Residual Life Indicator (RLI) prototype capable of determining the integrity, physical adsorption capacity and reaction capacity of in-service CBRN filters. Completed tracer evaluation for filter assessment of chemical reactivity capacity with chemical pulse testing and correlation development. Demonstrated subsystem hardware in current CBRN filter providing capability for determining the residual life of filter. Transitioned technology specifications to advanced development.	1169	0	0
Protection, Regenerative and Reactive Air Purification - FY 08 - Complete evaluation of the electro thermal swing adsorption (ESA) prototype. Transition ESA technology to the Joint Expeditionary Collective Protection (JECP) system.	0	950	0
Individual Protection, Respiratory/Ocular Protection - FY 08 - Integrate the protective mask designs from BA2 efforts with developmental helmet systems to provide seamless compatibility of CB protection with ballistic protection, and integration of communication and optical systems. Initiate development of initial high fidelity prototypes for early assessment of human and operational compatibility. FY 09 - Continue integration of the protective mask designs with developmental helmet systems to provide seamless compatibility of CB protection with ballistic protection, and integration of communication and optical systems. Continue to develop initial high fidelity prototypes for early assessment of human and operational compatibility during the Future Force Warrior Demonstration in FY 10.	0	1000	1483

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Protection, Integrated Ensemble Development - FY 08 - Initiate systems integration of a complete CB ensemble that incorporates emerging designs for comfort and performance to determine trade space for prototyping. Conduct market surveys and initiate prototype concepts from Integrated Protective Fabric, Respiratory/Ocular Protection, and Air Purification projects. FY 09 - Continue systems integration of a complete CB ensemble that incorporates emerging designs and prototype concepts from the FY 08 projects. Refine concepts for an integrated ensemble that will transition to the Joint Chemical Ensemble (JCE). Initiate field trials in a relevant environment.	0	920	1481
Total	**4945**	**2870**	**2964**

	FY 2007	FY 2008	FY 2009
Test and Evaluation (T&E)	26920	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Test & Evaluation, Detection - FY 07 - Continued the development of agent to simulant correlations in support of T&E needs. Continued efforts on Measurement of Natural Interferent Transients (MONITR), critical reagent program antigen variability research, range test validation system, and chemical detector testing with NTAs. Initiated optical acceptance measurements for T&E antigens. Efforts transitioned to Project TE3 in FY 2008.	7048	0	0

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Test & Evaluation, Threat Area Science - FY 07 - Developed simulant tests and evaluation methods and procedures for non-vapor threats, e.g., aerosols, rains, and other emerging threats. Efforts transitioned to Project TE3 in FY 2008.	825	0	0
Test & Evaluation, Modeling and Simulation Battle Space Management - FY 07 - Constructed prototype model, leveraged legacy models, commenced validation, verified model via test data, prepared validation reports, and acquired accreditation for the Overarching Collective Protection (COLPRO) Model. Continued methodology development and capability of the CREATIVE decontamination efficacy prediction model and the overarching contamination avoidance model. Initiated overarching model for individual protective equipment. Efforts transitioned to Project TE3 in FY 2008.	5675	0	0
Test & Evaluation, Protection - FY 07 - Continued development of standardized collective protection shelter systems test and evaluation standards, TIC/battlefield contaminant set standards for IPE and COLPRO, real-time sampling/detector system swatch for use in Chemical and Biological Agent Resistance Test System (CBARTS), standardize procedure for IPE assessment, test methodology standards and guidance for air purification technologies, IPE field operations effect standard, and IPE air flow mapping. Efforts transitioned to Project TE3 in FY 2008.	7877	0	0
Test & Evaluation, Decontamination - FY 07 - Continued decontamination hazard byproduct and residual agent test standards and achieved low-level detection of residual agent and reaction products. Initiated test and evaluation methodology and method development for decontamination facility equipment for Dugway Proving Ground (DPG). Efforts transitioned to Project TE3 in FY 2008.	5495	0	0
Total	**26920**	**0**	**0**

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CB3**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	225	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	225	0
Total	**0**	**225**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
CA4 CONTAMINATION AVOIDANCE (ACD&P)	6936	3104	6613	22846	19722	16405	20687	Cont	Cont
DE4 DECONTAMINATION SYSTEMS (ACD&P)	991	5479	4658	0	0	0	0	0	11128
IS4 INFORMATION SYSTEMS (ACD&P)	0	0	0	0	0	3558	4801	Cont	Cont
TE3 TEST & EVALUATION (ATD)	0	25993	26668	22204	19605	15468	15362	Cont	Cont
TE4 TEST & EVALUATION (ACD&P)	1944	17149	6356	5597	5447	11833	29749	Cont	Cont
TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P)	22983	15135	17327	19101	19224	19405	19815	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CI3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CI3	CONGRESSIONAL INTEREST ITEMS (ATD)	0	64860	0	0	0	0	0	0	64860

A. Mission Description and Budget Item Justification:

Project CI3 CONGRESSIONAL INTEREST ITEMS (ATD):

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	0	63987	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CBDP Initiative Fund Applied Research FY 08 - Solicit proposals from degree-granting universities, nonprofit organizations, or commercial concerns to include small businesses, in support of the CBDP to fund chemical and biological defense science and technology projects across a wide-range of military operations. Upon technical evaluation and selection of proposals, provide a report detailing the number of projects funded and areas of research.	0	7891	0
Fraunhofer USA Center for Molecular Biology - FY 08 - Deliver a combined multivalent one-shot vaccine that protects the Armed Forces and civilian communities against plague and anthrax.	0	987	0
Hand-held Nanotechnology Enabled Bio-Warfare Agent Identification System - FY 08 - Produce a light-weight, hand-held device defense-wide for identification of biological warfare agents.	0	2368	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **CI3**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Long Range Stand Off System for Detection of Biological Materials.	0	1105	0
Carbon Nanotube Chemical Detector - FY 08 - Develop a chemical agent detection device based on single-walled carbon nanotube technology.	0	987	0
Surface Enhanced Infrared Detection of Threats - FY 08 - Develop a handheld biological and chemical agent detection device based on surface enhanced infrared detection methods.	0	2604	0
Small Accelerators and Detection Systems for Homeland Defense and National Security Applications.	0	1579	0
Total Perimeter Surveillance (TPS) - FY 08 - Develop a TPS capability to identify and respond to chemical and biological attacks for Defense Wide.	0	1578	0
Photo Catalytic Oxidation (PCO) Demonstration for Water Reuse - FY 08 - Develop a prototype that will remove contaminants from drinking water through photo catalysis technology.	0	1973	0
Environmental Bioterrorism Detection Program - FY 08 - Develop a comprehensive bio-surveillance monitoring system.	0	1973	0
Mobile Rapid Response Prototype - FY 08 - Continue in the partnership of Hackensack University Medical Center with the Defense Threat Reduction Agency (DTRA), the Chemical Biological & Radiological Technology Alliance.	0	3945	0
Mobile Real-time, non-specific Viral Agent Detector.	0	1480	0
Next Generation Gas Chromatographic Mass Spectrometer for WMD Civil Support Teams.	0	789	0
NIDS Automated Bio Agent Identifier.	0	2959	0
Portable Rapid Bacterial Warfare Detection Unit - FY 08 - Research and develop portable units to detect bacteriological agents in drinking water.	0	4341	0

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CI3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Continuation of Unmanned Vehicle CBRNE Unitary Sensor Suite Development and Demonstration - FY 08 - Continue improvement and demonstration of chemical, biological, radiological, nuclear and toxic industrial material sensing technologies.	0	1578	0
UCLA High Speed and High Volume Laboratory Network for Infectious Diseases - FY 08 - Develop a "High-throughput" (meaning both high speed and high volume) laboratory and network capable of quickly analyzing and processing high quantities of biological samples, which will improve our nation's ability to respond quickly to a bio-emergency, such as a bio-terrorist attack or a flu pandemic.	0	3945	0
Myeloid Progenitor for Acute Radiation Syndrome - FY 08 - Accelerate development of CLT-008, a product offering an immediate treatment option for forward deployed military personnel who may be exposed to high doses of radiation on the battlefield.	0	2368	0
Antioxidant Micronutrient Therapeutic Countermeasures for Chemical Agents - FY 08 - Investigate animal models for efficacy of antioxidants in reducing the damage produced by chemical weapons such as sulfur mustard.	0	987	0
Anthrax Monoclonal Antibody Therapeutic and Prophylaxis Program - FY 08 - Conduct research to support safety and efficacy studies evaluating the co-administration of MDX-1303 and vaccine.	0	1579	0
Plant Vaccine Development.	0	2960	0
Advanced Emergency Medical Response Training Program.	0	1579	0
Multi-Purpose Biodefense Immunoarray.	0	987	0
Improved CBR Filters.	0	1579	0
Develop & Test Environmentally Safe Biocides for Bio-Defense - FY 08 - Develop and test new biocidal technologies for disinfection in bio-defense, environmental and marine contexts.	0	494	0

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: CI3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Regenerative Chemical Biological Filtration Systems - FY 08 - Research, develop, test and evaluate regenerative chemical biological filtration systems.	0	2466	0
Warfighter Personnel Decontamination - FY 08 - Develop decontamination products that are needed in case of chemical and biological agent attacks to military personnel and civilians.	0	789	0
Reactive Coatings Enhanced to Resist Chem/Bio Contamination.	0	1736	0
Chemical Warfare Agent Fate Model Verification and Validation Phase II.	0	987	0
Acinetobacter Baumannii Research - FY 08 - Develop therapies against pathogens of biodefense concern, including developing new medicines that allow antibiotics to overcome resistance, designing drugs that kill bacteria through novel mechanisms, and reengineering existing antibacterial drugs to defeat resistant bugs.	0	1973	0
Strategic Bioterrorism Response for Battlefield Survival - FY 08 - Develop a system, method and infrastructure, to determine if a person has been exposed to a pathogen or toxin and development of a method and device for use in a "point of care" analysis in the theater of war.	0	1421	0
Total	**0**	**63987**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	873	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	873	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA3 - Advanced Technology Development (ATD)**	**0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**	**CI3**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Total	**0**	**873**	**0**

C. Other Program Funding Summary: N/A

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TB3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TB3	MEDICAL BIOLOGICAL DEFENSE (ATD)	87067	95527	252331	227287	128222	121096	112771	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TB3 MEDICAL BIOLOGICAL DEFENSE (ATD): This project area funds preclinical development of safe and effective prophylaxes and therapies (vaccines and drugs) for pre- and post-exposures to biological threat agents. This project also supports the advanced technology development of diagnostic devices to rapidly diagnose exposure to biological agents in clinical samples. A broad range of technologies involved in the targeting and delivery of prophylactic and therapeutic medical countermeasures and diagnostic systems are evaluated in order to identify the most effective medical countermeasures against biothreats. Entry of candidate vaccines, therapeutics, and diagnostic technologies into development is facilitated by the development of technical data packages that support the Food and Drug Administration (FDA) Investigational New Drug (IND) licensure processes and DoD acquisition regulations and (as applicable) the oversight of Phase 1 clinical trials in accordance with FDA guidelines. Categories for this project area include core science and technology program areas in medical biological defense capability areas (Pretreatments, Diagnostics, Therapeutics) and directed research areas such as the Defense Technology Objectives (DTO), efforts to transition promising medical biological defense technologies from the Defense Advanced Research Projects Agency (DARPA) and the Transformational Medical Technologies Initiative (TMTI). The TMTI was launched in FY06 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. It augments the core science and technology area by expanding the novel programs currently funded under the core Therapeutics program and introducing new technologies for developmental focus. The TMTI is a novel experiment to develop drugs that are broad spectrum in nature by using non-traditional and high risk approaches to accelerate the development and licensure of new medicines. The TMTI supports advanced technology development efforts for maturing medical countermeasures effective against intracellular pathogens and hemorrhagic fever viruses. Teaming the core program and TMTI provides a complementary strategy (single agent versus broad spectrum, conventional versus emerging threats and established model systems versus expanded integration of novel technology, respectively) towards the development of effective medical countermeasures against biothreat agents.

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TB3**

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	10322	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Anthrax Monoclonal Antibody Therapeutic and Prophylaxis Program - FY 07 - Refined the use of a monoclonal antibody to attempt to improve survival for anthrax exposure.	991	0	0
Plant Vaccine Development - FY 07 - Refined the development of safe and efficacious oral multi-agent vaccines from plant-based anthrax and plaque platforms and developed an immediate therapeutic treatment against Biological Warfare (BW) agent epidemics.	3120	0	0
FY 07 - Anthrax and A. Baumanii Research.	991	0	0
FY 07 - Bioterrorism Preparedness.	1159	0	0
FY 07 - Novel Viral Biowarfare Agent ID and Treatment (NOVBAIT) - Conducted development of a novel approach to anti-viral therapeutics based on high-throughput screening of compounds against intermediates of the virus capsid assembly pathway.	2971	0	0
FY 07 - Rapid Response Therapeutic Platform for Biodefense.	1090	0	0
Total	**10322**	**0**	**0**

	FY 2007	FY 2008	FY 2009
Transformational Medical Technologies Initiative	40305	60303	217313

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TB3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Multiagent (Broad Spectrum) Medical Countermeasures -	40305	60303	217313
FY 07 - Expanded drug discovery efforts such as antisense RNA technology that target common bacterial virulence or house-keeping genes (pathogenicity islands, quorum-sensing molecules, siderophores, etc.). Evaluated additional therapeutic compounds and small molecule archives for potential drug interactions against common pathogenesis pathways identified from basic research efforts. Developed transgenic animal models and alternate animal model systems to better replicate the human-pathodeme, common virulence, and response pathways. Identified potential Investigational New Drug (IND) candidate drugs for development. Initiated candidate drug development phase. Expanded development of rapid re-sequencing applications and formation of bioinformatics database.			
FY 08 - Apply drug discovery efforts such as antisense RNA technology that target common bacterial virulence or house-keeping genes (pathogenicity islands, quorum-sensing molecules, siderophores, etc.). Pursue additional therapeutic compounds and small molecule archives for potential drug interactions against common pathogenesis pathways identified from basic research efforts. Validate transgenic animal models or alternate animal model systems to better replicate the human-pathodeme, common virulence, and response pathways. Continue to identify potential IND candidate drugs for development. Initiate pre-clinical phase. Initiate studies necessary to support an IND application and a Milestone A decision. File two applications for an IND with the Food and Drug Administration (FDA). Continue to expand development of rapid re-sequencing applications.			

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TB3

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Accelerate drug discovery efforts, incorporating new technology breakthroughs. Advance therapeutic compounds and small molecule archives for potential drug interactions against common pathogenesis pathways. Utilize transgenic animal models or alternate animal model systems to replicate the human-pathodeme, common virulence, and response pathways. Pursue test platforms for discovery, development and manufacturing technologies that allow the rapid incorporation of medical countermeasure technologies into robust and very rapid process development and manufacturing scale-up systems. Continue to accelerate platform manufacturing technologies that enable rapid regulatory approval and rapid clinical development. File two to four applications for an IND with the FDA. Initiate a Phase 1 clinical trial and studies necessary to support a Milestone B decision. Continue candidate drug development including studies to support an IND application and Milestone A decision. Apply rapid re-sequencing technology to real world samples.	40305	60303	217313
Total	**40305**	**60303**	**217313**

	FY 2007	FY 2008	FY 2009
Diagnostics	5893	7255	9152

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PROJECT: TB3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Diagnostic Technologies -	4093	7255	9152

FY 07 - Completed study examining the Commercial off-the-shelf (COTS) Block I DNA extraction kit to automated DNA sample processors, analyzed data, and provided recommendations to the Joint Biological Agent Identification and Diagnostic System (JBAIDS) Program Office on an automated DNA extraction option for Block I. Fielded the modified COTS kit with JBAIDS Block I; kit was FDA cleared. Tested optimal matrices/tissues for diagnostic testing identified using Service assays with JBAIDS Block I assays. Used this data, along with the results of expanded inclusivity and exclusivity testing, to augment the Advanced Developer's Food and Drug Administration (FDA) assay submission packages. Investigated new recombinant DNA techniques for developing immunodiagnostic agents. Validated confirmatory tests for ricin and botulinum toxins. Completed study assessing the use of whole genome amplification and a microelectronic array. Validated multiplexed assays identifying RNA viruses on existing platforms. Applied a Defense Advanced Research Projects Agency (DARPA) transitioned broad range pathogen detection system capable of potentially identifying genetically engineered bacterial strains. Utilized proteomics data to develop and test immunologic assays for bioagent detection. Performed advanced testing on components and platforms for next generation diagnostic devices with an emphasis on integration of sample processing and nucleic acid and immunodiagnostic testing.

FY 08 - Continue to test optimal matrices/tissues for diagnostic testing identified using Service assays with JBAIDS Block I assays. Use this data, along with the results of expanded inclusivity and exclusivity testing, to augment the Advanced Developer's FDA assay submission packages. Apply new recombinant DNA techniques for developing immunodiagnostic agents. Adapt real time Polymerase Chain Reaction (PCR) assays identifying genes responsible for antibiotic resistance in biothreat agents to applicable instrumentation. Assess enhanced sensitivity of surface amplification methods for microarray platforms. Critically analyze/apply the results of the decision matrix to developmental testing of next generation diagnostic devices with emphasis on technologies capable of integrating sample processing, nucleic acid and immunodiagnostic testing. Accelerate development and testing of next generation diagnostic devices with the goal of transitioning two candidates to the advanced developer in FY 09.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TB3**

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 09 - Transition two candidates for a next generation diagnostic device to the advanced developer. Continue to utilize the decision matrix to identify and evaluate new technologies more effectively diagnosing exposure to biothreat agents. Validate real time PCR assays identifying genes responsible for antibiotic resistance in biothreat agents. Perform advanced assessment on the use of recombinant DNA reagents on existing systems and improved test assays utilizing new technologies and approaches that enhance diagnosis of early exposure to biothreat agents.	4093	7255	9152
Diagnostics, Methodology to Facilitate Development of Biological Warfare Threat Agent Detection and Medical Diagnostic Systems (DTO CB56) - FY 07 - Delivered eleven new additional nucleic acid detection/diagnostic assays and/or supporting reagents to the advanced developer with priority for JBAIDS assays. Delivered four new additional antigen detection assays and supporting reagents to the advanced developer. Completed DTO CB56.	1800	0	0
Total	**5893**	**7255**	**9152**

	FY 2007	FY 2008	FY 2009
Pretreatments	11452	12702	10208

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TB3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Pretreatments, Vaccine Research Support - FY 07 - Conducted animal studies of selected vaccine candidates against bacterial threat agents. Expanded challenge studies against selected intracellular pathogen candidate vaccines. Initiated optimization of new generation intracellular pathogen vaccines, and considered alternative adjuvant formulations, routes of administration, and dosage schedules. Developed surrogate endpoints of clinical efficacy for higher animal species in ricin vaccine adjuvant studies. Pursued recombinant ricin vaccine candidate stability testing and initiated toxicity studies. Studied the vascular leak peptide in novel and current ricin vaccine candidates. Evaluated the Venezuelan Equine Encephalitis (VEE) replicon-based Marburg virus vaccine platform in non-human primate efficacy studies. Studied adenovirus-based and rhabdovirus-based immunization approaches for vaccination against filoviruses. Started down-selection phase of the various filovirus vaccine candidate platforms and evaluated alternative forms of delivery for comparative evaluation of vaccine efficacy. FY 08 - Complete non-human primate efficacy studies for toxin vaccines. Down-select filovirus vaccine candidates; continue safety and efficacy studies in non-human primates; begin duration of immunity studies; initiate stability testing. Evaluate pan-filovirus vaccines for problems of vaccine interference between components. FY 09 - Further characterize safety, toxicity and duration of immunity studies in non-human primates for filovirus vaccines; optimize dose, route and/or regimen for maximum efficacy. Assess multiagent alphavirus and filovirus vaccines for issues of vaccine interference. Conduct stability and toxicity studies for lead alphavirus vaccine candidates. Complete stability and toxicity studies for toxin vaccines; prepare cGMP production lots; begin IND preparation for Food and Drug Administration (FDA) evaluation. Analyze efficacy, duration of immunity, dosing regimens of second generation vaccine against bacterial pathogens (including anthrax, plague, tularensis).	8098	8007	7886
Pretreatments, Multiagent Vaccines, Western and Eastern Equine Encephalitis (WEE/EEE) Vaccine Constructs for a Combined Encephalitis Vaccine (DTO CB58) -	2978	2887	0

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TB3

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 07 - Finalized the evaluation of promising WEE/EEE vaccine candidates in higher animal species against EEE or WEE virus challenge. Conducted duration of immunity studies with lead candidates for each platform, comparing the individual constructs and trivalent formulations. Evaluated results of recent clinical trial study and inactivated the V3526 vaccine candidate. Developed non human primate (NHP) models of aerosol exposure to all alphaviruses. FY 08 - Complete duration of immunity studies for each platform, comparing individual constructs and trivalent formulations. Initiate studies to address the issue of interference between vaccine components and the immune response. Conclude safety and efficacy studies in animal models. Down-select alphavirus vaccine candidates. DTO CB58 will be completed in FY 2008.	2978	2887	0
Pretreatments, Multiagent Vaccines (Formerly Resuscitative Intervention) - FY 07 - Infected guinea pigs and different NHPs via aerosol with different strains of filovirus, and determined lethal dose, viral pathogenesis, and host immune response in support of the design and advanced development of a pan-filovirus vaccine. FY 08 - Evaluate safety and efficacy of anthrax/plague/toxin vaccine in large animals. Examine the effects of a CpG motif oligonucleotides (CpG ODN) adjuvant in NHPs. FY 09 - Evaluate safety and efficacy of multi-agent vaccines (e.g., anthrax/plague/melioidosis); complete studies to determine interference between vaccine components and the immune response; conduct duration of immunity studies. Down-select multiagent vaccine platforms; determine dosage and route of entry.	376	1808	2322
Total	**11452**	**12702**	**10208**

	FY 2007	FY 2008	FY 2009
Therapeutics	19095	14098	15658

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TB3**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Therapy for Ebola and Marburg Virus Infections (DTO CB67) - FY 07 - Designed studies to compare the utility of therapeutic technologies against Ebola and Marburg viruses in animal models, considering FDA requirements for licensure under the animal rule. Technologies include antisense oligonucleotides, recombinant human monoclonal antibodies, small interfering RNAs (siRNA), small molecules, and therapeutic vaccines. FY 08 - Initiate testing in relevant small and large animal models to support Investigational New Drug (IND) submission and FDA licensure under the animal rule. Down-select leading technologies based on results from animal studies, in coordination with the advanced developer. FY 09 - Continue pivotal testing to support IND submission and transition of a nucleic acid based filovirus therapeutic to the advanced developer. Initiate FDA required studies to support the preclinical development and characterization of other leading therapeutic technologies against the Ebola virus and Marburg virus.	3264	5097	5591

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PROJECT: TB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Viral - FY 07 - Tested leading antivirals in appropriate, existing animal models and worst-case scenarios such as viral challenge dose, route, and variation in viral challenge strain, considering FDA requirements for product licensure under the animal rule. Conducted studies to support FDA licensure and manufacturing with lead compounds, leading up to milestone approval and transition. Expanded the effort to develop a treatment algorithm for severe Ebola infection. FY 08 - Initiate animal studies, as lead antiviral compounds effective against conventional threats are identified, to support FDA submissions, milestone approval, and product transition to advanced development. Complete development of a treatment algorithm for severe Ebola infection. Continue studies to develop two oral therapeutics for orthopox viruses, transitioned from DTO CB54. Conduct FDA required non-human primate studies required to support FDA licensure of two oral therapeutics for orthopox virus infection. FY 09 - Begin studies to support FDA submissions, milestone approval, and product transition to advanced development. Complete FDA required non-human primate studies required to complete development of two oral therapeutics for orthopox viral infection.	4364	5360	5885
Therapeutics, Bacterial - FY 07 - Evaluated newly discovered and newly approved compounds with antibacterial activity for safety and efficacy against multiple bacterial threat agents in non-human primates and other appropriate animal models. FY 08 - Conduct advanced safety and efficacy studies in non-human primates, considering FDA requirements for licensure of new therapeutics and approved therapeutics with a new indication. Efforts will be coordinated with the advanced developer to ensure the appropriate studies are conducted. FY 09 - Initiate advanced safety and efficacy studies for a nanobody based immunotherapeutic against plague. Conduct advanced safety and efficacy studies for broad spectrum antibacterials considering FDA requirements for licensure under the animal rule. Down select antimicrobial peptide therapeutic candidates and initiate studies to support FDA submissions.	3767	2330	2478

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PROJECT: TB3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Toxin - FY 07 - Demonstrated in vivo suitable delivery systems for lead candidate compounds. Initiated evaluation of lead candidates in animal models acceptable for approval under the FDA animal rule. FY 08 - Evaluate lead compounds in support of FDA submissions, milestone approval, and future transition to advanced development. Develop therapeutic delivery systems in accordance with FDA requirements. FY 09 - Consider FDA requirements for developing botulinum neurotoxin (BoNT) therapeutics with the potential to restore synaptic activity following neuroparalysis due to intoxication, and plan initial studies to support these requirements.	5480	1311	1704
Therapeutics, Resuscitative Intervention - FY 07 - Continued screening available technologies being developed for "golden hour" treatment of combat casualties against current medical countermeasures for nerve agent pre-treatment and therapy for drug interaction effects. Modeled patient physiological response to chemical (nerve) agent in silico to establish treatment response guidelines and to assist in evaluation of drug interaction effects.	2220	0	0
Total	**19095**	**14098**	**15658**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	1169	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TB3**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	1169	0
Total	**0**	**1169**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
MB4 MEDICAL BIOLOGICAL DEFENSE (ACD&P)	25832	1600	0	121511	138459	132693	132767	Cont	Cont
MB5 MEDICAL BIOLOGICAL DEFENSE (SDD)	56304	73789	89674	57052	159391	142096	141174	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TC3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TC3	MEDICAL CHEMICAL DEFENSE (ATD)	15740	28726	26567	28961	30493	31539	31836	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TC3 MEDICAL CHEMICAL DEFENSE (ATD): This project supports the investigation of new medical countermeasures to include prophylaxes, pretreatments, antidotes, skin decontaminants and therapeutic drugs to protect U.S. forces against known and emerging chemical warfare threat agents. Capabilities are maintained for reformulation, formulation, and scale-up of candidate compounds using current good laboratory practices. Analytical stability studies, safety and efficacy screening, and preclinical toxicology studies are performed prior to full-scale development of promising pretreatment or treatment drug compounds. Entry of candidate pretreatment/prophylaxes, therapeutics, and diagnostic technologies into development is facilitated by the development of technical data packages that support the Food and Drug Administration (FDA) Investigational New Drug (IND) application and licensure processes and DoD acquisition regulations. Categories for this project include Defense Technology Objectives (DTOs), science and technology program areas in medical chemical defense capability areas (Pretreatments, Diagnostics, Therapeutics and Emerging Threats), and directed research efforts (Low Level Chemical Warfare (CW) agent exposure and Non-Traditional Agents (NTAs)).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	1337	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
FY 07 - Antioxidant Micronutrient Therapeutic Countermeasures for Chemical Agents.	1337	0	0
Total	**1337**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TC3

	FY 2007	FY 2008	FY 2009
Diagnostics	566	671	710

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Diagnostic Technologies - FY 07 - Validated improved/novel assays against standard assays published in the standard Technical Bulletin MED 296. Accelerated advanced research experiments aimed at transitioning detection methods in clinical samples for metabolites, adducts and/or other relevant biomarkers resulting from CWA exposure. Conducted further animal studies to validate assays for detecting biomarkers of CWA exposure in biological samples. Completed automation/high throughput instrument validation for the DoD-developed whole blood cholinesterase assay for organophosphate exposure; completed normal baseline and variability studies; collated marker studies; expanded efforts to adapt method to a hand-held, field deployable device allowing immediate evaluation of exposure to nerve agents, pesticides and other organophosphates. Initiated studies to incorporate an internal standard to improve the fluoride reactivation assay. Performed in vitro studies to optimize the sulfur mustard blood protein assay. FY 08 - Perform method validation studies for the improved fluoride reactivation method and initiate in vivo animal model exposure tests to characterize the assay. Continue metabolic profile (metabonomic) studies in animal exposure models by examining blood from agent exposed guinea pigs and assess feasibility as a potential diagnostic technique. Initiate method validation for optimized sulfur mustard blood protein assay. Perform GLP studies on DoD developed whole blood cholinesterase assay. FY 09 - Conclude validation of the optimized sulfur mustard blood protein assay. Initiate validation of the beta-lyase urinary metabolite assay. Conclude metabonomics study and conduct data analysis. Complete validation of procedure to assess the presence of chemical warfare analytes from hair samples.	566	671	710
Total	**566**	**671**	**710**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TC3

	FY 2007	FY 2008	FY 2009
Pretreatments	5331	7807	6732

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Pretreatments, Nerve Agent, Bioscavengers - FY 07 - Expanded recombinant and catalytic bioscavenger efficacy, immunogenicity, and stability studies. Provided supportive studies for IND submission for recombinant bioscavenger candidate (Increment 1). Evaluated in vivo expression systems for bioscavenger delivery. Continued and expanded structural studies of potential catalytic bioscavengers, including human carboxylesterase (CaE) and paraoxonase 1 (PON-1). Extended animal model evaluation, significantly reduced immunogenicity and efficacy studies of recombinant and catalytic bioscavengers. Utilized recombinant bioscavenger molecules in homologous animal model systems to evaluate stability and immunogenicity. Pursued development of Physiologically Based Pharmacokinetic (PBPK) models that predict efficacy of bioscavengers in non-human primates. FY 08 - Complete all remaining supportive studies for recombinant bioscavenger candidate (Increment 2). Continue to evaluate in vivo expression systems for bioscavenger delivery. Pursue structural studies of potential catalytic bioscavengers, including CaE and PON-1. Optimize PBPK models that predict efficacy of bioscavengers in NHPs. Conduct efficacy studies of catalytic bioscavenger molecules. FY 09 - Optimize in vivo expression systems for bioscavenger delivery. Complete structural studies of potential catalytic bioscavengers, such as CaE and PON-1. Utilize PBPK models that predict efficacy of bioscavengers in NHPs for novel catalytic bioscavenger molecules. Evaluate catalytic bioscavenger molecules for safety, efficacy, stability and immunogenicity.	5331	7807	6732
Total	**5331**	**7807**	**6732**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TC3

	FY 2007	FY 2008	FY 2009
Therapeutics	8506	19903	19125

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Therapeutics, Cutaneous and Ocular - FY 07 - Initiated pivotal animal efficacy studies for wound healing products, according to Food and Drug Administration (FDA) licensure requirements. Evaluated alternative candidate skin barrier cream formulations in comparison with fielded countermeasure Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA). FY 08 - Continue pivotal studies to support FDA licensure of wound healing products and antivesicants. Optimize dosing schemes, evaluate pharmacokinetics, and refine approaches for potential human use. Down-select new decontamination formulations and evaluate for efficacy in compliance with FDA regulations. FY 09 - Initiate NHP studies to determine long term effects of down-selected wound healing products and vesicant agents, in coordination with the advanced developer.	2729	4063	3933

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TC3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Neurologic - FY 07 - Established pharmacokinetic and pharmacodynamic parameters of treatment to determine threshold therapeutic drug levels. Refined compound synthesis and selection. Performed neurobehavioral assessment of promising candidate products in the appropriate models. FY 08 - Test novel and FDA approved neuroprotectants for neuroprotective activity against nerve agents in one or more animal models, with a focus on requirements to support FDA submissions under the animal rule. Initiate safety/side effect/dosing and pharmacokinetic evaluation of new compounds. FY 09 - Accelerate efforts to evaluate novel and FDA approved anticonvulsants, neuroprotectants, anti-epileptics, and receptor agonists and antagonists for neuroprotective activity against nerve agents in animal models, including non-human primates, according to FDA requirements, as candidates become available.	2620	11793	11242
Therapeutics, Medical Toxicology - Non-Traditional Agents (NTAs) and Other agents - FY 07 - Planned improved strategies for extrapolating NTA exposure hazards for human risk assessment utilizing existing and developing computational methods. FY 08 - Verify and validate new generation computational tools for predictive modeling. FY 09 - Develop and validate practical clinical strategies to aid in management of NTA casualties.	2000	3047	2950

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PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TC3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Therapeutics, Chemical Warfare Agent Operational Exposure Hazard Assessment Research (DTO CB69) - FY 07 - Extrapolated relevant experimental effects to determine post-exposure health problems that may impact subsequent operational readiness. Designed and executed studies to generate scientifically valid data to serve as a basis for reducing the error in health risk assessment predictions for useful military Operational Risk Management (ORM) decisions. FY 08 - Conduct toxicokinetic modeling to support animal-to-human extrapolations of toxicity and to predict toxicity with various routes and durations of exposure. FY 09 - Complete data analysis and deliver dataset to define the operational effects from chemical agent contact and inhalation exposure. Complete DTO CB69.	1157	1000	1000
Total	**8506**	**19903**	**19125**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	345	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	345	0
Total	**0**	**345**	**0**

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TC3**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
MC4 MEDICAL CHEMICAL DEFENSE (ACD&P)	31580	14425	8181	0	0	0	0	0	54186
MC5 MEDICAL CHEMICAL DEFENSE (SDD)	4832	21209	22128	16163	18722	17576	12060	Cont	Cont

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DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TE3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TE3	TEST & EVALUATION (ATD)	0	25993	26668	22204	19605	15468	15362	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TE3 TEST & EVALUATION (ATD): This funding supports the development of test and evaluation methodologies and protocols as new science and technology efforts are discovered that support developmental/operational testing. It includes the coordination of methodology development within a CBDP T&E Investment Strategy and the ongoing development of requirements for S&T infrastructure core capabilities. These new methodologies and testing capabilities include the development of simulants and stimulants. Projects under this item were previously reported in CB3 Test and Evaluation.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Test and Evaluation (T&E)	0	25688	26668

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Test and Evaluation, Detection - FY 08 - Transition critical reagent program antigen variability research to Biosafety Level (BSL)-2 and BSL-3 production facilities. Complete and transition DoD standard for background interferent references and test procedures. Complete range test validation system. Continue previous effort in optical acceptance measurement for test and evaluation antigens. FY 09 - Complete optical acceptance measurement for test and evaluation antigens. Initiate development of methodologies and capabilities for test and evaluation of technologies currently in early stages of tech-base development.	0	7666	7550

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TE3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Test and Evaluation, Threat Agent Science - FY 08 - Incorporate non-traditional agent (NTA) data to define and develop improved NTA simulants that will address test and evaluation needs. Identify requirements for and initiate development of new simulants for CB warfare agents for use in test and evaluation efforts. Conduct experiments, scale-up commercially available biopesticidial virus preparation and transition methods and reagents to Critical Reagent Program. Evaluate simulants developed to reflect masking/encapsulation technology used with CB agents. Evaluate standard protocols and analyze results from the hazard assessment and correlation studies. FY 09 - Continue development of simulants for specified NTAs to be used in test and evaluation efforts. Complete standard protocol evaluation. Continue development of masking/encapsulation simulants for CB agents.	0	3410	3891
Test and Evaluation, Information System Technology - FY 08 - Complete and deliver verified and validated overarching contamination avoidance model. Complete and deliver verified and validated overarching decontamination model. Complete and deliver verified and validated collective protection model. Develop support models for overarching individual protection model using requirements and existing models. FY 09 - Assemble support models into an overarching individual protection model architecture. Complete development and transition of overarching test and evaluation models. Initiate requirements analysis for future modeling needs.	0	3508	3825

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TE3

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Test and Evaluation, Protection - FY 08 - Complete development of collective protection shelter systems test and evaluation standards, Toxic Industrial Chemicals (TIC)/battlefield contaminant standards for Individual Protection Equipment (IPE) and Collective Protection (COLPRO). Complete standard procedures for IPE Assessment. Continue real-time sampling/detector system swatch test methodology for use in Chemical and Biological Agent Resistance Test System (CBARTS), test methodology standards and guidance for air purification technologies, IPE field operations effects standard, and IPE air flow mapping. FY 09 - Complete real-time sampling/detector system swatch test methodology for use in CBARTS, test methodology standards and guidance for air purification technologies, IPE field operations effects standard, and IPE air flow mapping.	0	9529	9992
Test and Evaluation, Decontamination - FY 08 - Complete decontamination hazard byproduct and residual agent test standards and low level detection of residual agents in reaction products and deliver standard test methods to Service laboratories and other supporting test laboratories. Complete test protocols for decontamination hazard byproduct and residual test standards and write and publish test operations procedures. FY 09 - Initiate test and evaluation methodologies and protocols for assessing reactivity of alternative reactive material technologies and processes.	0	1575	1410
Total	**0**	**25688**	**26668**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	305	0

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PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TE3**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	305	0
Total	**0**	**305**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TE4 TEST & EVALUATION (ACD&P)	1944	17149	6356	5597	5447	11833	29749	Cont	Cont
TE5 TEST & EVALUATION (SDD)	17631	45302	42141	37270	15341	14868	4799	Cont	Cont
TE7 TEST & EVALUATION (OP SYS DEV)	0	6973	7142	6860	8018	8157	8158	Cont	Cont

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BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TR3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TR3	MEDICAL RADIOLOGICAL DEFENSE (ATD)	1995	2169	4878	2466	986	0	0	0	12494

A. Mission Description and Budget Item Justification:

Project TR3 MEDICAL RADIOLOGICAL DEFENSE (ATD): This area funds advanced technology development (ATD) of medical countermeasures against radiological and nuclear threats. Program objectives focus on mitigating the health consequences from exposures to external ionizing radiation and internalized alpha- and beta-particles as well as gamma-emitting radionuclides which would represent a significant threat to US forces. Following down-selection, pertinent S&T data will be used to support Investigational New Drug (IND) applications and Food and Drug Administration (FDA) licensure processes.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Radiological Medical Countermeasures	1995	2142	4878

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TR3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Radiation Medical Countermeasures - FY 07 - Explored new promising candidate drugs found to have a radiological treatment dose efficacy expressed as dose-reduction factor (DRF) of 1.20 or greater in rodents. Initiated preclinical efficacy studies in non-human primates (NHPs) to include non-clinical toxicological and pharmacokinetic analysis, assessment of drug mechanism, and initial determination of formulation. Explored products and regimens that mitigate and/or treat radiation injury post-exposure, with emphasis on broad activity, ease of administration, and safety. Initiated study for promising radioprotectants that prevent/mitigate post-radiation exposure such as cytokines, broad spectrum antibiotics, and anti-apoptotic and/or decoporating agents. FY 08 - Evaluate three to four promising drug candidates with a DRF of 1.20 or greater in rodents. Initiate evaluation of the efficacy in non-human primates (NHP) for non-clinical toxicological, pharmacokinetic and pharmacodynamic analysis, assessment of drug mechanism of action and initial determination of formulation. Initiate evaluation of products and regimens that mitigate and/or treat post-exposure radiological injury, with emphasis on broad spectrum activity, ease of administration, and safety. Initiate evaluation for additional promising radioprotectant prophylaxis and post-exposure therapeutic agents that prevent/mitigate post-irradiation exposure such as cytokines, broad spectrum antibiotics, and anti-apoptotic and/or decoporating agents. FY 09 - Continue to evaluate at least two promising candidate drugs found to have a DRF of 1.20 or greater in rodents. Evaluate efficacy of three to four candidate products and regimens that mitigate and/or treat post-exposure radiological injury, with emphasis on broad spectrum activity (hematopoietic, respiratory and GI systems), ease of administration, and safety in NHPs. Continue to evaluate the preclinical efficacy studies in NHPs to include non-clinical toxicological, pharmacokinetic and pharmacodynamic analysis, assessment of drug mechanism of action, and drug determination of formulation according to the Food and Drug Administration (FDA) two-animal efficacy rule. Evaluate promising radioprotectants and post-exposure therapeutic agents that prevent/mitigate post-radiation exposure such as cytokines, broad spectrum antibiotics, and anti-apoptotic and/or decoporating agents.	1995	2142	4878
Total	**1995**	**2142**	**4878**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TR3

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	27	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	27	0
Total	**0**	**27**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
MR4 MEDICAL RADIOLOGICAL DEFENSE	8776	7066	8156	2478	0	0	0	0	26476

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TT3**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TT3	TECHBASE TECHNOLOGY TRANSITION	15616	7817	8241	8389	8253	9343	9445	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TT3 TECHBASE TECHNOLOGY TRANSITION: This project supports technology transition efforts. These efforts test and demonstrate technologies being developed for transition from the Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD) to the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) and other acquisition programs requiring CB defense technologies. This project, initiated in FY06, was funded by realignment of funds previously in BA6, Anti Terrorism; BA3, CB3 funds for Technology Readiness Evaluations; BA3, CP3 funds for Counter Proliferation Support Program, Advanced Concept Technology Demonstration (ACTD) Planning and Development; and BA3, CM3 Homeland Defense, Weapons of Mass Destruction Civil Support Teams (WMD-CSTs). The WMD-CST program funds Pre-Systems Acquisition in support of Consequence Management teams around the nation. The Force Protection program demonstrates and tests technology for Force Protection/Installation Protection and specifically for PM Guardian's Installation Protection Program. Both the WMD-CST and Force Protection programs are in support of Homeland Defense initiatives. The Technology Transition program supports Advanced Technology Demonstrations and planning for Advanced Concept Technology Demonstrations. The Technology Readiness Assessment program provides for assessment of mature technologies demonstrating the potential to fulfill user requirements.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Congressional Interest Items	3380	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TT3

Accomplishments/Planned Program	FY2007	FY2008	FY2009
FY 07 - Initiated Unmanned Portable C/B Detect Sensor System. This effort will develop novel CB sensors for early warning monitoring and their integration onto unmanned robotic platforms and navigation and guidance algorithms for mine clearing/IEDs/bio-hazards in GPS-denied areas using unmanned ground vehicle robots.	1585	0	0
FY 07 - Chemical/Biological Defense Program - Advanced Development.	1795	0	0
Total	**3380**	**0**	**0**

	FY 2007	FY 2008	FY 2009
Experiment & Technology Demonstrations	5844	5310	5536

Accomplishments/Planned Program	FY2007	FY2008	FY2009
FY 07 - Military Applications in Reconnaissance and Surveillance (MARS) - Continued Unattended Ground Sensors (UGS) program testing of CBRN detection technologies for use on one-man portable UGSs. Biological detection ATD initiated and transitioned to BA4 funding under Expeditionary Biological Detection ATD. Conducted MARS Manned/Unmanned Aerial Vehicle (M/UAV) program testing of CBRN detection technologies for use on small UAVs dedicated to CBRN passive defense or CBRN consequence management, reconnaissance and surveillance applications. Initiated development of the aerial CBRN test methodology. Initiated a Limited Objective Experiment (LOE) for Special Platform Interior Decontamination and Equipment Remediation (SPIDER), by testing vaporous decontamination on designated aircraft material to confirm compatibility and by developing a technical order for the decontamination of designated aircraft using the vaporous decontamination process. Initiated technical testing to confirm biological agent kill. Performed candidate technology maturation testing in preparation for FY 09 ATD candidate, SPIDER. Initiated aircraft interior biological remediation project. Initiated Automated Decontamination studies to explore new concepts for field decontamination. Started a coalition CBRN Information Interoperability study.	5844	5310	5536

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TT3

Bullet Text (cont)	FY2007	FY2008	FY2009
FY 08 - Perform candidate technology maturation testing in SPIDER in preparation for a FY 09 ATD candidate. Perform candidate technology maturation testing in preparation for a FY 09 ATD candidate, Advanced Remediation Technologies (ART). Continue technology evaluations and gap analysis for Interagency Biological Remediation Demonstration (IBRD). Initiate an evaluation of early warning technologies to improve capability to detect and react to initial CB attack and prevent a second attack. FY 09 - Analyze the capability of current- and near-term early warning technologies that may either be capable of or are required to sense CB attacks. Complete candidate technology maturation testing in preparation for a FY 2009 ATD candidate for ART. Perform candidate technology maturation testing in preparation for a FY 10 ATD candidate. Continue testing of candidate technologies for ART and CBRN capability insertion into non CBDP platforms, systems and programs of record.	5844	5310	5536
Total	**5844**	**5310**	**5536**

	FY 2007	FY 2008	FY 2009
Homeland Defense	3777	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
FY 07 - Conducted reach-back capability study to identify significant CBRNE reach-back requirements and resources of DoD components and Federal, State and local agencies for Weapons of Mass Destruction Civil Support Teams (WMD-CSTs). Completed operational testing and Homeland Defense Demonstrations for WMD-CSTs. Completed the transition of technologies tested in FY06 processes thru the JPEO-CBD Non-Standard Equipment Review Panel (NSERP) process. Initiated coordination and development of the Interagency Biological Remediation Demonstration (I-BRD). IBRD is a DoD-DHS cooperative program focused on providing a coordinated systems approach to the recovery and restoration of wide-urban areas, to include DoD infrastructures and high traffic areas following the aerosol release of a biological agent.	3777	0	0
Total	**3777**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)

PROJECT: TT3

	FY 2007	FY 2008	FY 2009
Technology Readiness Assessment	2615	2416	2705

Accomplishments/Planned Program	FY2007	FY2008	FY2009
FY 07 - Regional Biodefense Mobile Rapid Response Prototype (MRRP) - Initiated development of a mobile, forward deployable, medical capacity that will respond to bio-terrorist incidents and other mass casualty incidents resulting from WMD, natural and technological disasters.	1981	0	0
FY 07 - Continued the development of a tailored Manufacturing Readiness Assessment (MRA) process appropriate for transitioning technologies. FY 08 - Complete MRA. Conduct Technology Readiness Evaluation in support of the Interagency Biological Remediation Demonstration (I-BRD). FY 09 - Conduct Technology Readiness Evaluations in support of remediation and restoration technology demonstrations to identify technologies in support of IBRD, Installation Protection and Civil Support mission areas.	634	2416	2705
Total	**2615**	**2416**	**2705**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	91	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA3 - Advanced Technology Development (ATD)**

PE NUMBER AND TITLE: **0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)**

PROJECT: **TT3**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	91	0
Total	**0**	**91**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P)	22983	15135	17327	19101	19224	19405	19815	Cont	Cont

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BUDGET ACTIVITY 4
ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES (ACD&P)

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	99042	63958	51291	171533	182852	183894	207819	Continuing	Continuing
CA4	CONTAMINATION AVOIDANCE (ACD&P)	6936	3104	6613	22846	19722	16405	20687	Continuing	Continuing
DE4	DECONTAMINATION SYSTEMS (ACD&P)	991	5479	4658	0	0	0	0	0	11128
IS4	INFORMATION SYSTEMS (ACD&P)	0	0	0	0	0	3558	4801	Continuing	Continuing
MB4	MEDICAL BIOLOGICAL DEFENSE (ACD&P)	25832	1600	0	121511	138459	132693	132767	Continuing	Continuing
MC4	MEDICAL CHEMICAL DEFENSE (ACD&P)	31580	14425	8181	0	0	0	0	0	54186
MR4	MEDICAL RADIOLOGICAL DEFENSE	8776	7066	8156	2478	0	0	0	0	26476
TE4	TEST & EVALUATION (ACD&P)	1944	17149	6356	5597	5447	11833	29749	Continuing	Continuing
TT4	TECHBASE TECHNOLOGY TRANSITION (ACD&P)	22983	15135	17327	19101	19224	19405	19815	Continuing	Continuing

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

A. Mission Description and Budget Item Justification: Operational forces have an immediate need to survive, safely operate, and sustain operations in a Chemical and Biological (CB) agent threat environment across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high risk missions. This program element supports the Advanced Component Development and Prototypes (ACD&P) of CB defensive equipment, both medical and non-medical. DoD missions for civil support operations has recently expanded and has resulted in providing focus to develop technologies to support CB counterterrorism initiatives. Projects within BA4 have been structured to consolidate Joint and Service-unique tasks within four commodity areas: contamination avoidance, force protection (individual and collective), decontamination, and medical countermeasures. ACD&P is conducted for an array of chemical/biological/toxin detection and warning systems providing early warning, collector concentrators, generic detection, and improved reagents, and decontamination systems using solutions that will remove and/or detoxify contaminated material without damaging combat equipment, personnel or the environment. In the medical chemical/biological defense area, ACD&P is conducted for improved medical equipment, vaccines, and drugs essential to counteracting lethal and human performance degrading effects of chemical and biological agent threats. Specific items include improvements to nerve agent antidotes, anticonvulsants, biological agent diagnostics, and vaccines to protect against various Biological Warfare (BW) agents. ACD&P also supports the Product Director Test Equipment, Strategy and Support (PD TESS) providing for the development of updated test capabilities to evaluate Chemical, Biological, Radiological and Nuclear Defense systems. Also included is the Techbase Technology Transition effort which validates high-risk/high-payoff technologies that could significantly improve warfighter capabilities.

This Program Element focuses on efforts associated with advanced technology development used to demonstrate general military utility to include ACD&P in the areas of Non-Traditional Agents (NTA) and chemical/biological defense equipment and is correctly placed in Budget Activity 4.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		80407	57160	42467
FY09 President's Budget (FY 2009 PB)		99042	63951	51291
Total Adjustments		18635	6791	8824
a. Congressional General Reductions		0	-409	0
b. Congressional Increases		0	7200	0
c. Reprogrammings		19415	0	0
d. SBIR/STTR Transfer		-780	0	0
e. Other Adjustments		0	0	8824

Change Summary Explanation:

Funding: FY07 - OSD Reprogramming FY07-02PA moving program funds from BA5 to MB4 (+$18,583K) to support continued Advanced Component Development efforts for the Recombinant Botulinum Vaccine and to CA4 (+$2,000K) for the JS Chemical/Biological Agent Water Monitor. Other fund adjustments/realignments including SBIR (-$60K CA4; -$9K DE4; +$4,649K MB4; -$5,928K MC4; -$191K MR4; -$48K TE4; -$361K TT4).

FY08 - Congressional increases to enhance CBDP projects (+$2,400K DE4; +$1,600K MB4; +$3,200K TE4); Congressional general reductions and other adjustments (-$21K CA4; -$21K DE4; -$104K MC4; -$51K MR4; -$100K TE4; -$112K TT4).

FY09 - PBR Change Proposals (+$3,500K CA4; -$2,968K DE4; +$3,800K MC4; +$4,900K MR4). Inflation adjustment (-$52K CA4; -$36K DE4; -$65K MC4; -$65K MR4; -51K TE4; -$139K TT4).

Schedule: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CA4	CONTAMINATION AVOIDANCE (ACD&P)	6936	3104	6613	22846	19722	16405	20687	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CA4 CONTAMINATION AVOIDANCE (ACD&P): This Advanced Component Development and Prototypes (ACD&P) funding supports Component Advanced Development and System Integration (CAD/SI) of reconnaissance, detection, identification, and hazard prediction equipment, hardware, and software. Individual projects are: (1) Joint Biological Tactical Detection System (JBTDS), (2) Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM), and (3) Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD).

The JBTDS will be a lightweight biological agent detector that will detect, warn and isolate samples. Sample isolation will permit sample evacuation and confirmatory analysis. The detector will be networked to provide a cooperative detection capability to increase the probability of warning personnel and reduce the probability of false alarm. The JBTDS will be one man portable (i.e. < 35 lbs) and capable of being battery operated.

The JCBRAWM will provide the ability to detect, identify, and quantify chemical, biological, and radiological (CBR) contamination during three water-monitoring missions: source site selection/reconnaissance, treatment verification, and quality assurance of stored and distributed product water. The JCBRAWM program employs an evolutionary acquisition approach structured to provide four increments of capability. Increment 1 will provide the capability to detect two biological agents using immunoassays and to detect alpha and beta radiation using components of the fielded AN/PDR-77 system and accessory package. Increment 2 will provide capability to detect eight additional biological agents using a sample concentrator. Increment 2 will also detect chemical agents to the Tri-Service standard using a sample concentrator to enhance performance of the existing M272 Water Test Kit. Increment 3 will provide a new detection system to replace the M272 Water Test Kit capable of batch sampling and detection of chemical warfare agents to include non-traditional agents (NTAs) and toxic industrial chemicals (TICs). Increment 4 will provide a capability for in-line monitoring of water to detect chemical, biological, and radiological agents. Increment 4 will replace the three previous increments for most applications.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

The JSLSCAD effort will provide a piece of the System of Systems (SoS) approach to address the CB early warning mission. This effort will integrate non-CB technologies such as infrared cameras, radar, seismic, meteorological, and acoustic systems that will in turn cue the JSLSCAD, and future standoff systems, to a certain location providing a focused interrogation of a suspect cloud or event. The SoS approach will increase the range of standoff detection and decrease detection time.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)	973	3066	3140
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBTDS - FY 07 - Established Product Office and performed Pre Milestone (MS) A activities for new program start and initiated Integrated Process Teams (IPTs).	755	0	0
JBTDS - FY 07/08 - Conduct threat modeling and sensitivity analysis.	53	621	0
JBTDS - FY 07/08/09 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	165	362	305
JBTDS - FY 08/09 - Continuation of MS B activities and IPT(Integrated Product Team).	0	1553	785
JBTDS - FY 08 - Initiate Modeling & Simulation support, data fusion network demonstration, sensor density study and algorithm verification and validation.	0	530	0
JBTDS - FY 09 - Initiate system design and development.	0	0	2050
Total	**973**	**3066**	**3140**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

	FY 2007	FY 2008	FY 2009
JS CHEMICAL/BIOLOGICAL/RADIOLOGICAL AGENT WATER MONITOR	2000	0	0
RDT&E Articles (Quantity)	34	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCBRAWM - FY 07 - Procured individual systems for Inc 2 evaluation; procuring additional candidates (13 systems @ $15K each and 15 systems @ $44K each)	855	0	0
JCBRAWM - FY 07 - Evaluated individual systems for use in integrated system of systems, Inc 2.	65	0	0
JCBRAWM - FY 07 - Conducted systems engineering and requirements breakdown to support Inc 2 requirements.	135	0	0
JCBRAWM - FY 07 - Procured integrated prototypes of JCBRAWM Inc 2 systems (additional candidate procurements). (Procured 6 candidate systems @ $74.1K each)	445	0	0
JCBRAWM - FY 07 - Conducted Increment 2 technology demonstration and engineering development testing of integrated system.	300	0	0
JCBRAWM - FY 07 - Developed Increment 2 technical and doctrinal documentation.	135	0	0
JCBRAWM - FY 07 - Prepared Inc 2 documentation to support MS B.	65	0	0
Total	**2000**	**0**	**0**

	FY 2007	FY 2008	FY 2009
JS LIGHTWEIGHT STANDOFF CHEMICAL AGENT DET (JSLSCAD)	0	0	3473
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSLSCAD - FY 09 - Initiate tradeoff studies for a System of Systems (SoS) approach to support Standoff requirements.	0	0	675
JSLSCAD - FY 09 - Initiate optimization of hardware and software.	0	0	1250
JSLSCAD - FY 09 - Initiate and conduct an engineering design test to support Capability Development Document (CDD) development for the System of Systems (SoS) approach.	0	0	525
JSLSCAD - FY 09 - Initiate model analysis to support the System of Systems (SoS) approach.	0	0	550
JSLSCAD - FY 09 - Initiate strategic/tactical planning, systems engineering, and technology assessment for the System of Systems (SoS) approach.	0	0	473
Total	**0**	**0**	**3473**

	FY 2007	FY 2008	FY 2009
MDAP SUPPORT	3963	0	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
MDAP SPRT - Congressional Interest Item - FY 07 - Naval Post Graduate School Coalition and Operating Area Surveillance Targeting Systems (COASTS).	991	0	0
MDAP SPRT - Congressional Interest Item - FY 07 - Photovoltaic Power Supply for Autonomous Sensors.	991	0	0
MDAP SPRT - Congressional Interest Item - FY 07 - Wide Spectrum Bio-ID.	1981	0	0
Total	**3963**	**0**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	38	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	38	0
Total	**0**	**38**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
CA5 CONTAMINATION AVOIDANCE (SDD)	46367	31422	52064	41766	52627	63437	34620	Cont	Cont
CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	6940	0	0	0	0	0	0	0	6940
JC0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS)	105333	80788	75778	111036	110974	100648	99479	Cont	Cont
JC0101 JS CHEMICAL/BIOLOGICAL/RADIOLOGICAL AGENT WATER MONITOR (JCB	0	5016	6018	3194	0	0	0	0	14228
JC0250 JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	0	3200	0	0	0	0	19984	Cont	Cont
JC1500 NBC RECON VEHICLE (NBCRV)	10225	7764	0	0	0	0	0	0	17989
JF0100 JOINT CHEM AGENT DETECTOR (JCAD)	22588	33638	38082	37786	35126	46588	62784	Cont	Cont
M98801 AUTO CHEMICAL AGENT ALARM (ACADA), M22	14437	0	0	0	0	0	0	0	14437
MC0100 JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)	46086	31660	64333	100537	118402	158296	162600	Cont	Cont
MX0001 JOINT BIOLOGICAL TACTICAL DETECTION SYSTEM	0	0	0	0	8292	15230	25098	Cont	Cont
S10801 JS LTWT STANDOFF CW AGT DETECTOR (JSLSCAD)	13247	16332	0	0	0	0	9911	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

D. Acquisition Strategy:

JBPDS

The Joint Biological Point Detection System (JBPDS) utilizes an open systems approach to insert maturing and validated technologies as part of the overall acquisition strategy to expedite fielding of a credible force protection. Thru the course of Low Rate Initial Production (LRIP), the system will be technically and operationally tested in phases to ensure that the system is suitable and effective. The program will utilize results from testing to upgrade the system's line replaceable units (LRUs) to improve system performance, availability, and lower ownership cost. Per Director, Operational Test and Evaluation (DOT&E) Memorandum dated July 9, 2002, the program will support the development of a Whole System Live Agent Test (WSLAT) capability.

JBTDS

The JBTDS program will pursue an evolutionary approach to provide capability to the warfighter in the shortest possible time. The JBTDS program will incrementally design, develop, integrate, test, procure and field systems that improve biological aerosol detection and sampling capabilities and reduce size, weight, power consumption, and logistic footprint over current systems. COTS and NDI will be exploited to the fullest extent possible. The EBD ATD will develop the initial CONOPS for the JBTDS and clarify requirements for the CDD. Technologies evaluated in the EBD ATD MUA will be considered for rapid acquisition as an interim solution via JBTDS UNS or CPD and subsequent MS C (Increment 0). Further development of these technologies and the 2008 TRE will support JBTDS SDD phase with JBTDS CDD and subsequent MS B (Increment 1). Each future increment of capability will be defined via a separate CDD or CPD and will follow a similar path/process from MS B or C through FRP and will leverage preceding efforts to the greatest extent possible, maintaining commonality and synergy across all increments. Modeling and simulation tools will be used in order to lower program risks, reduce costs and ensure a higher confidence in selected technologies.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
CA4

JCBRAWM

JCBRAWM will provide an enhanced detection capability for waterborne CBR agents using an incremental acquisition strategy. Increment 1 will provide the first biological and radiological detection capability in water base on technologies transitioned from S&T. A combined Technology Development and System Development and Demonstration phase was approved at MS A based on the maturity of the technologies coming from S&T. The JCBRAWM system leverages commercial technologies and GOTS systems to the greatest extent possible. Developmental testing was initiated with these technologies in 3QFY07 and is expected to conclude in 4QFY07. In addition, items were procured and tested from the Critical Reagents Program (CRP) to assess the possibility of using the fielded CRP products as-is in support of Increment 1. The results from the CRP items were promising but additional development is required to optimize the items for use in water. MS C LRIP is planned for 2QFY08 with LRIP in 2QFY08. LRIP quantities will be produced using competed contract for assembly of the JCBRAWM system supported by delivery orders for certain components under existing Firm-Fixed Price ID/IQ contract. MOT&E for Increment 1 will be conducted in 3QFY08 with a FRPDR in 1QFY09. JCBRAWM Increment 2 will improve on the Increment 1 biological detection capability and the fielded M272 Water Test Kit chemical agent detection capability using technologies developing in S&T. Competitive solicitations will be used to identify technologies/vendors for multiple vendors to be evaluated. A gated approach will be used for the evaluation to determine which system(s) will continue beyond MS B in 3QFY09 for further development. MS C for Increment 2 is planned for 3QFY09. In the outyears, Increment 3 will replace the M272 Water Test Kit chemical agent detection capability with new technology and Increment 4 will provide a capability for in-line and continuous sampling for CBR contamination.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
CA4

JSLSCAD

The acquisition strategy for the JSLSCAD production phase focuses upon a dual path to procure required systems and concurrently develop and test system improvements to increase the military utility. Upon Milestone Decision Authority (MDA) approval of the JSLSCAD Full Rate Production decision, the Government will award a FFP contract for production of additional systems to fulfill the remaining Stryker NBCRV production and fielding requirements. The JSLSCAD program office will award an Indefinite Delivery/Indefinite Quantity contract to support system engineering, software development, test & evaluation, and system support efforts to increase standoff detection capabilities. This contract type will allow the program office to rapidly respond to evolving system integration requirements and emerging test results with minimal contractual lead time. This will optimize the program goal of inserting the latest software and standoff detection technology into the host platforms in the shortest possible time.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBTDS													
SW SB - Data Fusion Network capability demonstration	C/CPFF	TBD	C	0	0	NONE	74	2Q FY08	0	NONE	0	74	0
SW SB - Sensor Density Study	C/CPFF	TBD	C	0	0	NONE	456	2Q FY08	0	NONE	0	456	0
HW C - System Development	C/CPFF	TBD	C	0	0	NONE	0	NONE	2050	2Q FY09	0	2050	0
JCBRAWM													
SW SB - Purchase Prototype Systems and Consumables	SS/FFP	Various	C	0	1300	3Q FY07	0	NONE	0	NONE	0	1300	0
JSLSCAD													
HW S - System of Systems Tradeoff Studies	C/CPFF	TBD	C	0	0	NONE	0	NONE	675	1Q FY09	0	675	0
HW SB - Hardware Optimization	C/CPFF	TBD	C	0	0	NONE	0	NONE	725	2Q FY09	0	725	0
SW SB - Software Optimization	C/CPFF	TBD	C	0	0	NONE	0	NONE	525	2Q FY09	0	525	0
SW S - Model Development and Analysis	C/CPFF	TBD	C	0	0	NONE	0	NONE	350	2Q FY09	0	350	0
MDAP SPRT													
MDAP SPRT - COASTS	MIPR	Naval Post Graduate School, Monterey, CA	U	0	991	4Q FY07	0	NONE	0	NONE	0	991	0
MDAP SPRT- Photovoltaic Power Supply	MIPR	Naval Air Warfare Center, Aircraft Division, Patuxent River, MD	U	0	991	4Q FY07	0	NONE	0	NONE	0	991	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
CA4

I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MDAP SPRT - Wide Spectrum Bio-ID	SS/FP	TBD	C	0	1981	4Q FY07	0	NONE	0	NONE	0	1981	0
Subtotal I. Product Development:					5263		530		4325		0	10118	

Remarks: JCBRAWM - Multiple buys from multiple vendors based on the results of the joint JBPDS/JCBRAWM Test Readiness Evaluation (TRE).

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
CA4

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBTDS													
ES S - Pre Milestone A Activities	C/FP	Technology Service Corporation, Fairfax, VA	C	0	755	2Q FY07	0	NONE	0	NONE	0	755	0
ES S - Sensitivity Analysis	MIPR	WHS, Washington D.C.	U	0	53	2Q FY07	0	NONE	0	NONE	0	53	0
ES S - Milestone B Analysis and Document Development	C/FP	Technology Services Corp, Fairfax, VA	C	0	0	NONE	1123	2Q FY08	785	2Q FY09	0	1908	0
ES S - Modeling and Simulation Support	MIPR	ECBC, Edgewood, MD	U	0	0	NONE	180	2Q FY08	0	NONE	0	180	0
ES S - Algorithm Verification and Validation	MIPR	JPM IS, San Diego, CA	U	0	0	NONE	250	2Q FY08	0	NONE	0	250	0
Subtotal II. Support Costs:					808		1553		785		0	3146	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBTDS													
OTHT SB - Developmental Test Planning and IPT support	MIPR	Various	U	0	0	NONE	621	2Q FY08	0	NONE	0	621	0
JCBRAWM													
OTE S - Developmental Testing	MIPR	Dugway Proving Ground (DPG), UT	U	0	300	3Q FY07	0	NONE	0	NONE	0	300	0
JSLSCAD													
DTE S - Modeling and Simulation and development of improved techniques for testing	PO	TBD	U	0	0	NONE	0	NONE	200	2Q FY09	0	200	0
DTE S - Engineering Design Test	MIPR	Various	U	0	0	NONE	0	NONE	525	3Q FY09	0	525	0
Subtotal III. Test and Evaluation:					300		621		725		0	1646	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBTDS													
PM/MS S - JPM BD, APG, MD	MIPR	JPM BD, APG, MD	U	0	165	1Q FY07	362	2Q FY08	305	1Q FY09	0	832	0
JCBRAWM													
PM/MS S - Joint Service Support	MIPR	Various	U	0	200	3Q FY07	0	NONE	0	NONE	0	200	0
PM/MS S - Joint Service Support	MIPR	JPM NBC CA, APG, MD	U	0	200	1Q FY07	0	NONE	0	NONE	0	200	0
JSLSCAD													
PM/MS S - Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	0	NONE	473	1Q FY09	0	473	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	38	NONE	0	NONE	0	38	0
Subtotal IV. Management Services:					565		400		778		0	1743	

Remarks:

TOTAL PROJECT COST:		6936		3104		6613		0	16653	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBTDS																												
Market Survey	1Q	—	3Q																									
System Engineering Trade Study			3Q	4Q																								
CDD			3Q	—	—	3Q																						
MS B Doc Prep				4Q	—	—	—	4Q																				
MS B Decision									2Q																			
SDD									2Q	—	—	—	—	4Q														
Capability Production Document													1Q	—	—	4Q												
Developmental Test & Evaluation													1Q	—	—	4Q												
MS C Decision																	1Q											
Low Rate Initial Production (LRIP)																	1Q	—	3Q									
Operational Test & Evaluation																	1Q	—	—	4Q								
Full Rate Production (FRP) Decision																						2Q						
FRP																						2Q	—	—	—	—	—	4Q
First Unit Equipped (FUE)																							3Q				
JCBRAWM																												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCBRAWM (Cont)																												
Purchase Prototype Systems and Consumables			3Q	—	—	2Q																						
Increment 2 Engineering Development & Testing			3Q	—	—	—	—	—	1Q																			
Increment 2 MS B											3Q																	
Increment 2 System Development/Integration											3Q	—	2Q															
Increment 2 Developmental Testing													2Q	—	1Q													
Increment 2 Milestone C/Low Rate Initial Production																			3Q									
Increment 2 MOT&E																			3Q	4Q								
Increment 2 Milestone C/Full Rate Production Decision																						1Q						
JSLSCAD																												
System of Systems (SoS) Program									1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
SoS Tradeoff Studies									1Q																			
SoS Milestone A										2Q																		

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **CA4**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSLSCAD (Cont)																												
SoS Engineering Design Test												4Q																
SoS Milestone B															3Q													
SoS Production Qualification Test (PQT)																			3Q		2Q							
SoS Milestone C																									1Q			
SoS Multi-service Operational Test and Evaluation (MOT&E)																												4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
DE4	DECONTAMINATION SYSTEMS (ACD&P)	991	5479	4658	0	0	0	0	0	11128

A. Mission Description and Budget Item Justification:

Project DE4 DECONTAMINATION SYSTEMS (ACD&P): This ACD&P project supports the development of decontamination systems utilizing solutions that will remove and/or detoxify contaminated material without damaging combat equipment, personnel, or the environment. Decontamination systems provide a force restoration capability for units that become contaminated. Development efforts will provide systems which reduce operational impact and logistics burden, reduce sustainment costs, increase safety, and minimize environmental effects over currently fielded decontaminants.

This funding supports Human Remains Decontamination System (HRDS), Joint Platform Interior Decontamination/Joint Material Decontamination System (JPID/JMDS), the Joint Portable Decontamination System (JPDS), and the Joint Service Transportable Decontamination System (JSTDS)/Next Generation M291 Kits.

The Human Remains Decontamination System (HRDS) will provide the capability to ensure the safety of personnel handling and processing Chemical, Biological, and Radiological (CBR) Contaminated Human Remains (CHR) and the capability to repatriate CBR CHR. The HRDS is envisioned as a system with three components: one to handle the CBR CHR from the Point of Incident (POI) to the Mortuary Affairs Decontamination Collection Point (MADCP), one to decontaminate the CBR CHR and to complete the Mortuary Affairs (MA) Mission, and one to transport CHR to the Continental United States (CONUS).

The JPID/JMDS will fill the capability to decontaminate chemical and biological warfare agents from vehicle/aircraft/building interiors and the sensitive equipment within and the associated cargo. This is a new capability that currently does not exist in the DoD. The JPID is under the management of the JMDS program to use a single technology to provide sensitive equipment and platform interiors decontamination capability.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

JPDS will be used to support operational and thorough decontamination operations. The system will enhance decontamination capabilities by using the latest in technology to reduce or eliminate chemical, biological hazards in a safer and effective manner.

The Next Generation M291 Kits and Improved Skin Decon Congressional Interest efforts include toxicity, clinical and safety testing. The testing will incorporate in vivo evaluations of skin and eye irritation, and skin sensitization, and oral, dermal and inhalation toxicity. Extended time period (sub chronic) toxicity evaluations and human sensitivity and irritancy testing will also be conducted. Select design and development of Reactive Nano Particle (RNP) material and enumeration to include specific surface area, average pore volume and diameter, crystallite size, bulk and true density and identity and purity will be determined.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
HUMAN REMAINS DECON SYSTEM	0	1302	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
HRDS - FY 08 - Complete Market Research - Prepare and release solicitation and evaluate responses.	0	75	0
HRDS - FY 08 - Test and Evaluation Master Plan development.	0	74	0
HRDS - FY 08 - Conduct engineering, testing, and logistics planning and documentation to support Milestone B, Milestone C decision and fielding.	0	1153	0
Total	**0**	**1302**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

	FY 2007	FY 2008	FY 2009
JOINT MATERIAL DECON SYSTEM	0	1581	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Congressional Interest Item - FY 08 - Protective Self-Contaminating Surfaces.	0	1581	0
Total	**0**	**1581**	**0**

	FY 2007	FY 2008	FY 2009
JOINT PORTABLE DECONTAMINATION SYSTEM (JPDS)	0	593	1952
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JPDS - FY 08 - Conduct Market Survey, analyze alternative contracting strategies. FY 09 - Prepare performance specifications, statement of work, solicitations, evaluate proposals and perform contract management.	0	116	900
JPDS - FY 08/09 - Perform programmatic, engineering, testing, logistics and risk management analysis. Coordinate with supporting Services to ensure that Service unique issues are addressed. Prepare documents to support Milestone B.	0	477	779
JPDS - FY 09 - Perform logistics and engineering analyses. Conduct technology readiness assessment, analyze alternative technical and logistic support approaches to support development of contracting strategy.	0	0	273

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Total	**0**	**593**	**1952**

	FY 2007	FY 2008	FY 2009
JOINT PLATFORM INTERIOR DECONTAMINATION (JPID)	0	1147	2706
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JPID/JMDS - FY 08/09 - Initiate and continue design of the JPID/Joint Material Decontamination System (JMDS) interior decontamination prototypes.	0	1147	2706
Total	**0**	**1147**	**2706**

	FY 2007	FY 2008	FY 2009
JOINT SERVICE PERSONNEL/SKIN DECONTAMINATION SYSTEM	0	791	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSPDS - Congressional Interest Item - FY 08 - Next Generation/Improved Skin Decontamination System. Modify the NanoScale Reactive Nano Particle 212 formulation to enhance the efficacy and reactivity performance against chemical warfare agents.	0	791	0
Total	**0**	**791**	**0**

	FY 2007	FY 2008	FY 2009
JS TRANSPORTABLE DECONTAMINATION SYSTEM - SMALL SCALE (JSTDS-SS)	991	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSTDS-SS - Congressional Interest Item - FY 07 - M291 Skin Decontamination Kit. Modified the NanoScale Reactive Nano Particle 212 formulation to enhance the efficacy and reactivity performance against chemical warfare agents.	991	0	0
Total	**991**	**0**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	65	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	65	0
Total	**0**	**65**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
DE5 DECONTAMINATION SYSTEMS (SDD)	10824	5980	13165	21556	18919	16788	12692	Cont	Cont
JD0055 JOINT SERVICE PERSONNEL/SKIN DECONTAMINATION SYSTEM (JSPDS)	11542	18487	0	0	0	0	0	0	30029
JD0056 JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)	7176	22275	22299	30212	29788	29755	4957	Cont	Cont
JD0058 JOINT PORTABLE DECONTAMINATION SYSTEM (JPDS)	0	0	0	0	3967	4970	4285	Cont	Cont
JD0060 JOINT PLATFORM INTERIOR DECONTAMINATION (JPID)	0	0	0	0	0	14970	31166	Cont	Cont
JD0061 JOINT SERVICE SENSITIVE EQUIPMENT DECON (JSSED)	0	0	0	8761	8378	19740	22798	Cont	Cont
JD0062 HUMAN REMAINS DECON SYSTEM	0	0	0	992	3428	3083	4957	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	**0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**	**DE4**

D. Acquisition Strategy:

HRDS	The HRDS program consists of a commercial acquisition effort for the Contaminated Human Remains Pouch (CHRP) , the Remains Decontamination System (RDS) and a developmental effort for the Transportation Case. The CHRP and RDS are composed of components that are type classified in the military system or commercially available. These components will be procured thru existing supply channels or commercial item contracts. The Transportation Case will require developmental efforts. A competitive contract strategy will be used for integration of all three efforts.
JPID	The Joint Platform Interior Decontamination (JPID) and the Joint Service Sensitive Equipment Decontamination (JSSED) programs will be acquired as part of the overarching Joint Material Decontamination System (JMDS) evolutionary acquisition strategy that covers both the JPID and the Joint Service Sensitive Equipment Decontamination programs. This strategy will use a single technology to meet the individual sensitive equipment and platform requirements through incremental development. The JPID and JSSED contracting strategies is under the JMDS contracting strategy that will award one single base System Development and Demonstration contract (Cost Plus Incentive Fee) with Low Rate Initial Production and Full Rate Production options (Fixed Price Successive Target) in open competition for both JSSED and JPID.
JSPDS	The Joint Service Personnel/Skin Decon System (JSPDS) is a Food and Drug Admin (FDA) approved individually carried skin decontamination kit. The JSPDS provides the warfighter the ability to decontaminate the skin, after exposure to CB warfare agents, in support of immediate and thorough personnel decontamination operations. The M291 SDK provides immediate decontamination capability for skin, field protective masks, mask hoods, chemical protective gloves, and small scale weapons (under 50 cal). Reactive Skin Decontamination Lotion (RSDL) provides improved capabilities over the M291 SDK to immediately reduce CBRN hazards on skin.
JSTDS SS	The JSTDS SS program implements an evolutionary acquisition strategy using incremental development. Increment I will focus largely upon fielding hardware systems that improve upon the capability of the M17 Lightweight Decontamination System.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
DE4

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
HW C - HW C - Human Remain Decon System Market Survey and RFI	C/FPI	TBD	C	0	0	NONE	75	2Q FY08	0	NONE	0	75	0
JMDS													
Congressional Interest Item - Protective Self-Contaminating Surfaces	SS/FP	Ventana Research Corp, Tucson, AZ	C	0	0	NONE	1581	2Q FY08	0	NONE	0	1581	0
JPID													
HW C - JPID/JMDS Design	C/FPI	Teledyne Brown Engineering, Huntsville AL	C	0	0	NONE	803	2Q FY08	1891	1Q FY09	0	2694	0
Subtotal I. Product Development:					0		2459		1891		0	4350	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JPDS													
ILS S - JPDS Logistics Planning	C/FFP	TBD	C	0	0	NONE	80	2Q FY08	160	2Q FY09	0	240	0
ILS S - JPDS Logistics Planning	MIPR	Various	U	0	0	NONE	80	1Q FY08	320	1Q FY09	0	400	0
ES S - JPDS Market Survey	C/FFP	TBD	C	0	0	NONE	116	2Q FY08	0	NONE	0	116	0
Subtotal II. Support Costs:					0		276		480		0	756	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
DE4

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
Various	MIPR		U	0	0	NONE	74	2Q FY08	0	NONE	0	74	0
JPDS													
DTE S - JPDS Developmental Test Planning	C/FFP	Various	C	0	0	NONE	127	2Q FY08	500	2Q FY09	0	627	0
OTE S - JPDS Operational Test Planning	MIPR	Army Test and Evaluation Command, Alexandria VA	U	0	0	NONE	50	1Q FY08	500	1Q FY09	0	550	0
Subtotal III. Test and Evaluation:					0		251		1000		0	1251	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
PM/MS S - HRDS Program Management Support	MIPR	NSWC, Dahlgren VA	U	0	0	NONE	149	1Q FY08	0	NONE	0	149	0
PM/MS S - HRDS Program Management Support	C/FFP	Various	C	0	0	NONE	927	1Q FY08	0	NONE	0	927	0
PM/MS S - HRDS Subject Matter Expert	MIPR	CASCOM, Ft. Lee VA	U	0	0	NONE	77	2Q FY08	0	NONE	0	77	0
JPDS													
PM/MS S - JPDS Program Office Support	C/FFP	Various	C	0	0	NONE	80	2Q FY08	272	2Q FY09	0	352	0
PM/MS S - JPDS Program Office Staff/Management	MIPR	Various	U	0	0	NONE	60	1Q FY08	200	1Q FY09	0	260	0
JPID													
PM/MS S - JPID/JMDS Program management support	MIPR	ECBC, Edgewood MD	U	0	0	NONE	344	1Q FY08	815	1Q FY09	0	1159	0
JSPDS													
PM/MS S - Congressional Interest Item Improved Skin Decontamination System	SS/FP	NanoScale Corp, Manhattan, KS	C	0	0	NONE	791	2Q FY08	0	NONE	0	791	0
JSTDS SS													
Cong Interest Item M291 Skin Decon	SS/FP	NanoScale Corp, Manhattan, Kansas	C	0	991	2Q FY07	0	NONE	0	NONE	0	991	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	65	NONE	0	NONE	0	65	0
Subtotal IV. Management Services:					991		2493		1287		0	4771	

Remarks: JPDS - I

JSPDS - JSPDS - Improved Skin Decon work continued from FY07, congressional add.

TOTAL PROJECT COST:		991		5479		4658		0	11128	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
HRDS																												
Market Survey					1Q																							
Milestone B								4Q																				
Developmental Testing									1Q	—	—	4Q																
MS C Low Rate Initial Production													1Q															
HRDS Initial Operational Test														2Q	3Q													
Full Rate Production												4Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
JPDS																												
Market Survey						2Q																						
Solicitation release and review									1Q	—	3Q																	
Milestone B												4Q																
Cong Interest Item Improved Skin Decon System						2Q	—	4Q																				
JPID																												
JPID/JMDS Systems Design and Development				4Q	—	—	—	—	—	2Q																		
JPID/JMDS Developmental Test										2Q	—	—	—	2Q														

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **DE4**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JPID (Cont)																												
JPID/JMDS Milestone C LRIP														2Q	—	—	—	—	—	4Q								
JPID/JMDS MOT&E																		2Q	—	4Q								
JPID/JMDS Full Rate Production																					1Q	—	—	—	—	—	—	4Q
JSTDS SS																												
M291 Skin Decon	1Q	—	—	4Q																								

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MB4	MEDICAL BIOLOGICAL DEFENSE (ACD&P)	25832	1600	0	121511	138459	132693	132767	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MB4 MEDICAL BIOLOGICAL DEFENSE (ACD&P): This project funds the Advanced Component Development and Prototypes (ACD&P) phase of vaccines, drugs, and diagnostic medical devices that are directed against validated biological warfare (BW) agents to include bacteria, viruses, and toxins of biological origin. The results of these efforts, and those conducted during the System Development and Demonstration (SDD) phase, will be used to submit a Biologic License Application (BLA) to the Food and Drug Administration (FDA) for product licensure. Upon FDA licensure, the product will transition to full-scale licensed production. Recombinant Botulinum is developed under this program.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
NEXT GENERATION DIAGNOSTICS SYSTEM	0	1581	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Next Generation Diagnostics System - Congressional Interest Item - FY 08 - Fastman Analyzer Platform.	0	1581	0
Total	**0**	**1581**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

	FY 2007	FY 2008	FY 2009
BOTULINUM VACCINE	20583	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JVAP - FY 07 - Recombinant Botulinum Vaccine - Continued non-clinical studies.	7020	0	0
JVAP - FY 07 - Recombinant Botulinum Vaccine - Continued manufacturing process validation.	6216	0	0
JVAP - FY 07 - Recombinant Botulinum Vaccine - Initiated planning and began execution of Phase 1B clinical trial.	4200	0	0
JVAP - FY 07 - Recombinant Botulinum Vaccine - Conducted planning for Phase 2 clinical trial.	3147	0	0
Total	**20583**	**0**	**0**

	FY 2007	FY 2008	FY 2009
BIOLOGICAL VACCINES	5249	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
VACCINES - Congressional Interest Item - FY 07 - Oral Anthrax/Plague Vaccine.	5249	0	0
Total	**5249**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	19	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	19	0
Total	**0**	**19**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
JM0001 JOINT BIO AGENT IDENTIFICATION AND DIAGNOSTIC SYS (JBAIDS)	13082	4902	480	0	0	0	0	0	18464
JX0005 DOD BIOLOGICAL VACCINE PROCUREMENT	30517	48298	38222	54375	54160	59964	60495	Cont	Cont
JX0210 CRITICAL REAGENTS PROGRAM (CRP)	3325	2413	0	0	0	0	0	0	5738
MB5 MEDICAL BIOLOGICAL DEFENSE (SDD)	56304	73789	89674	57052	159391	142096	141174	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
MB4

D. Acquisition Strategy:

VAC BOT

A prime systems contractor will function as the "responsible head" and license holder and will perform all ancillary, regulatory, quality assurance, and data management as required by the FDA. The current budget supports development thru FDA licensure of a recombinant bivalent (A and B) botulinum vaccine. Other serotypes will be developed thru an evolutionary approach, as funding becomes available.

The management lead for the program shifted to JVAP at MS A. The technology development stage includes the manufacture of candidate current Good Manufacturing Practices (cGMP) lots, animal safety testing, and initial clinical trials. During this phase, the vaccine is evaluated for safety and immunogenicity in a small human trial (Phase 1).

During the System Development and Demonstration phase (SDD), the JVAP prime systems contract (PSC) will stabilize the vaccine formulation, validate the manufacturing processes and testing protocols, optimize the delivery systems and manufacture consistency lots. Phase 2 clinical trials are performed during this phase to provide additional safety data and determine dose and schedule. The Phase 3 clinical trial is also conducted during this phase to demonstrate safety in an expanded volunteer population. To evaluate efficacy, pivotal animal studies will be conducted concurrently with the Phase 3 clinical trial to satisfy FDA requirements for the "Animal Rule." The Milestone C, also the Low Rate Initial Production (LRIP) decision, will be conducted after the manufacturing process has been validated, consistency lots have been produced, and interim safety data is available from the Phase 3 clinical trial. At the Milestone C, approval is granted to produce the Initial Operational Capability (IOC) of vaccine material. A Biologics Licensure Application is submitted to the FDA with all clinical, nonclinical, and manufacturing data. The FDA grants licensure to products that are determined to be safe and efficacious.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
NGDS													
Fastman Analyzer Platform	SS/FP	TBD	C	0	0	NONE	1581	4Q FY08	0	NONE	0	1581	0
VAC BOT													
HW S - Vaccine Development - Includes Consistency Lot, Pilot Lot, and Scale-up Production	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	32522	8233	1Q FY07	0	NONE	0	NONE	0	40755	0
VACCINES													
VACCINES - Oral Anthrax/Plague Vaccines	SS/FP	TBD	C	0	5249	1Q FY08	0	NONE	0	NONE	0	5249	0
Subtotal I. Product Development:					13482		1581		0		0	47585	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
MB4

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC BOT													
TD/D S - Vaccine Development - Includes Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	5951	1029	1Q FY07	0	NONE	0	NONE	0	6980	0
Subtotal II. Support Costs:					1029		0		0		0	6980	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC BOT													
OTHT S - Vaccine Development - Includes Testing, Evaluation, and Non-Clinical/Clinical Trials	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	20906	8233	1Q FY07	0	NONE	0	NONE	0	29139	0
Subtotal III. Test and Evaluation:					8233		0		0		0	29139	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC BOT													
PM/MS S - Vaccine Development - Program Management/Program Manager Support	Allot	JPEO, Falls Church, VA	U	1148	463	4Q FY07	0	NONE	0	NONE	0	1611	0
PM/MS S - Vaccine Development - Joint Vaccine Acquisition Program Management Office	Allot	CBMS, Fort Detrick, MD	U	1329	1236	4Q FY07	0	NONE	0	NONE	0	2565	0
PM/MS S - Award Fee (Maximum 10%)	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	5149	1389	1Q FY07	0	NONE	0	NONE	0	6538	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	19	NONE	0	NONE	0	19	0
Subtotal IV. Management Services:					3088		19		0		0	10733	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	**0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**	**MB4**

TOTAL PROJECT COST:		25832		1600		0		0	94437	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MB4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
VAC BOT																												
Non-Clinical Testing	>>																								1Q			
Process Validation - Large Scale	>>																2Q											
Phase 1b Clinical Trial	1Q							4Q																				
BOT Milestone B							3Q																					

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MC4	MEDICAL CHEMICAL DEFENSE (ACD&P)	31580	14425	8181	0	0	0	0	0	54186

A. Mission Description and Budget Item Justification:

Project MC4 MEDICAL CHEMICAL DEFENSE (ACD&P): This project funds Advanced Component Development and Prototypes (ACD&P) of countermeasures for chemical agents including life support equipment, diagnostic equipment, prophylactic and therapeutic drugs, and individual/casualty decontamination compounds. A system of medical defense against chemical agents is required to provide protection, to sustain performance in a chemical environment, and to provide for self-aid/buddy-aid and medical treatment of chemical casualties. Fielding of prophylactic and therapeutic drugs requires Food and Drug Administration (FDA) approval. Multiple long-term studies are required to obtain FDA approval resulting in longer program timelines and greater program cost than other non-pharmaceutical product programs. Efficacy testing of most candidate drugs against chemical warfare (CW) agents cannot be conducted in humans; therefore, animal surrogate models must be developed. The program currently funds the: (1) Plasma-derived Bioscavenger (pBSCAV) and Bioscavenger Increment 2 (BSCAV Inc. 2), which will be used as a prophylaxis against nerve agents; and (2) Improved Nerve Agent Treatment System (INATS), which will be used as a treatment for nerve agent intoxication to include new indications for Pyridostigmine Bromide (PB) that will be integrated with current therapeutic regimens.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
BIOSCAVENGER	25618	14246	4411
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
pBSCAV - FY 07 - Completed small scale manufacturing, process development, and assay validation.	2104	0	0
pBSCAV - FY 07 - Completed Phase 1 clinical safety studies.	2572	0	0
BSCAV Increment 2 - FY 07/08 - Continued and complete small scale manufacturing, process development, assay qualification, and test/evaluate medical defense products against traditional and non-traditional agents.	9802	2032	0
BSCAV Increment 2 - FY 07/08 - Continued and complete pre-clinical safety studies.	3498	1201	0
BSCAV Increment 2 - FY 07/08 - Initiated and complete Investigational New Drug (IND) application.	853	258	0
BSCAV Increment 2 - FY 07/08/09 - Initiated, continue and complete Phase 1 clinical safety studies. FY 09 - Achieve Milestone B.	6789	7035	1238
BSCAV Increment 2 - FY 08/09 - Initiate and continue large scale manufacturing, process development, and assay validation. Transition to SDD phase.	0	3720	3173
Total	**25618**	**14246**	**4411**

	FY 2007	FY 2008	FY 2009
IMPROVED NERVE AGENT TREATMENT SYSTEM	5962	0	3770
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
INATS - FY 07 - Continued Good Laboratory Practices (GLP) pre-clinical safety studies.	2776	0	0
INATS - FY 07 - Continued IND application effort.	275	0	0
INATS - FY 07 - Continued Phase 1 clinical safety studies.	1300	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
INATS - FY 07/08/09 - Continued process development and current Good Manufacturing Practice (cGMP) requirements, and stability in autoinjector.	683	0	3770
INATS - FY 07 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	928	0	0
Total	**5962**	**0**	**3770**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	179	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	179	0
Total	**0**	**179**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT: MC4

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
MC5 MEDICAL CHEMICAL DEFENSE (SDD)	4832	21209	22128	16163	18722	17576	12060	Cont	Cont

D. Acquisition Strategy:

BSCAV

The Bioscavenger acquisition strategy consists of a developmental program with three distinct increments.

Increment 1 is butyrylcholinesterase purified from human plasma, i.e., plasma-derived Bioscavenger or pBioscavenger. The Medical Identification and Treatment Systems (MITS) Joint Product Management Office exercises management oversight, and a commercial partner serves as the system integrator during the Technology Development Phase, which includes small scale manufacturing, pre-clinical animal studies, Investigational New Drug (IND) application, and Phase 1 human clinical safety studies.

The Bioscavenger Increment 2 strategy includes a proof-of-concept study followed by an initial down-selection between two different technologies: Recombinant human butyrylcholinesterase (rHuBChE) and small synthetic molecule, awarded to two different contractors. The chosen technology, rHuBChE, will continue to a formal down-selection with the plasma-derived Bioscavenger at Milestone B prior to transition to the Systems Development and Demonstration (SDD) phase. Following Milestone B into SDD, MITS will continue to exercise management oversight with system integration support of a commercial partner to ensure manufacturing of the product is in accordance with Food and Drug Administration (FDA) regulations and guidelines. Prior to FDA licensure, the commercial partner will perform a Phase 2 human clinical safety study, definitive animal efficacy studies, and toxicology studies. The SDD phase will culminate in obtaining FDA licensure of the Bioscavenger. During the Production and Deployment phase, the MITS JPMO, in conjunction with a commercial partner, will pursue full rate and stockpile production and conduct any FDA-mandated post-marketing surveillance.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	**0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**	**MC4**

Bioscavenger Increment 3 will include products that degrade nerve agents while retaining their own identity (catalytic Bioscavenger).

INATS

Medical Identification and Treatment Systems (MITS) Joint Product Management Office will serve as the system integrator during the Technology Development Phase that includes pre-clinical animal studies and Phase 1 human clinical safety studies. After Milestone B, during the System Development and Demonstration Phase, MITS and/or a commercial partner (product dependent) will serve as the system integrator to ensure that products are manufactured in accordance with Food and Drug Administration (FDA) regulations and guidelines, appropriate Phase 2 human clinical safety and definitive animal efficacy studies are conducted, and required toxicology studies are performed. During the Production and Deployment Phase, FDA approval will be obtained and full rate and stockpile production will be pursued. Any FDA mandated post-marketing surveillance will be conducted.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
MC4

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
BSCAV													
pBSCAV - Small Scale Manufacturing	C/CPFF	DynPort Vaccine Company (DVC), Frederick, MD	C	2250	2104	1Q FY07	0	NONE	0	NONE	0	4354	0
BSCAV Inc 2 - Small Scale and Large Scale Manufacturing	C/CPIF	PharmAthene, Inc., Annapolis, MD	C	0	6283	2Q FY07	5172	2Q FY08	1334	2Q FY09	0	12789	0
INATS													
INATS - Pilot Lot & Small Scale Manufacturing	C/CPFF	Southwest Research Institute, San Antonio, TX	C	747	186	2Q FY07	0	NONE	3770	2Q FY09	0	4703	0
Subtotal I. Product Development:					8573		5172		5104		0	21846	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
MC4

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
BSCAV													
pBSCAV - Regulatory Integration, Quality Assurance, & IND Support Efforts	C/CPFF	DynPort Vaccine Company (DVC), Frederick, MD	C	1125	701	1Q FY07	0	NONE	0	NONE	0	1826	0
BSCAV Inc 2 - Regulatory Integration, IND, and NDA Support Efforts	C/CPIF	PharmAthene, Inc., Annapolis, MD	C	0	3141	2Q FY07	2137	2Q FY08	667	2Q FY09	0	5945	0
INATS													
INATS - Regulatory Integration, IND, and NDA Support Efforts	MIPR	Defense Technical Information Center, Edgewood, MD	U	487	197	2Q FY07	0	NONE	0	NONE	0	684	0
INATS - Regulatory Integration, IND, and NDA Support Efforts	C/CPFF	Southwest Research Institute, San Antonio, TX	C	307	93	2Q FY07	0	NONE	0	NONE	0	400	0
Subtotal II. Support Costs:					4132		2137		667		0	8855	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
BSCAV													
pBSCAV - Conduct Pre-Clinical and Phase 1 Clinical Safety Studies	C/CPFF	DynPort Vaccine Company (DVC), Frederick, MD	C	3000	1871	1Q FY07	0	NONE	0	NONE	0	4871	0
BSCAV Inc 2 - Conduct Pre-Clinical and Phase 1 Clinical Safety Studies	C/CPIF	PharmAthene, Inc., Annapolis, MD	C	0	8552	2Q FY07	5346	2Q FY08	1166	2Q FY09	0	15064	0
INATS													
INATS - Conduct Pre-Clinical, Non-Clinical and Phase 1 Clinical Safety Studies	MIPR	Defense Technical Information Center, Edgewood, MD	U	1389	1300	2Q FY07	0	NONE	0	NONE	0	2689	0
INATS - Conduct Pre-Clinical, Non-Clinical and Phase 1 Clinical Safety Studies	C/CPFF	Battelle Memorial Institute, Columbus, OH	C	392	1595	2Q FY07	0	NONE	0	NONE	0	1987	0
INATS - Conduct Pre-Clinical and Dose Ranging Finding Studies	MIPR	USAMRICD, Edgewood, MD	U	75	567	2Q FY07	0	NONE	0	NONE	0	642	0
INATS - Conduct Formulation and Stability Studies	C/CPFF	Southwest Research Institute, San Antonio, TX	C	819	249	2Q FY07	0	NONE	0	NONE	0	1068	0
Subtotal III. Test and Evaluation:					14134		5346		1166		0	26321	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
BSCAV													
BSCAV - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	121	124	1Q FY07	128	1Q FY08	134	1Q FY09	0	507	0
BSCAV - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	1079	1126	1Q FY07	591	1Q FY08	621	1Q FY09	0	3417	0
BSCAV - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	771	1716	4Q FY07	872	4Q FY08	267	4Q FY09	0	3626	0
BSCAV - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	0	NONE	222	4Q FY09	0	222	0
INATS													
INATS - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	123	380	1Q FY07	0	NONE	0	NONE	0	503	0
INATS - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	125	125	1Q FY07	0	NONE	0	NONE	0	250	0
INATS - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	160	342	4Q FY07	0	NONE	0	NONE	0	502	0
INATS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	928	4Q FY07	0	NONE	0	NONE	0	928	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	179	NONE	0	NONE	0	179	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal IV. Management Services:					4741		1770		1244		0	10134	

Remarks:

TOTAL PROJECT COST:					31580		14425		8181		0	67156	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BSCAV																												
pBSCAV - Small Scale Manufacturing, Process Dev, Assay Validation Efforts	1Q																											
pBSCAV - Phase 1 Clinical Safety Study	>>	—	—	4Q																								
BSCAV Inc. 2 - Small Scale Manufacturing	>>	—	—	—	—	—	—	4Q																				
BSCAV Inc. 2 - Pre-Clinical Safety Studies	>>	—	—	—	2Q																							
BSCAV Inc. 2 - IND Application			3Q	—	—	3Q																						
BSCAV Inc. 2 - Phase 1 Clinical Safety Studies				4Q	—	—	—	—	—	—	—	4Q																
BSCAV Inc. 2 - Large Scale Manufacturing, Process Development & Assay Validation					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q				
BSCAV Inc. 2 - Milestone B												4Q																
INATS																												
INATS - GLP Pre-Clinical Safety Studies	>>	—	—	—	—	—	—	3Q																				

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MC4**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INATS (Cont)																												
INATS - Process Development and cGMP Manufacturing Requirements	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q				
INATS - IND Application	>>	—	—	—	—	—	—	4Q																				
INATS - Phase 1 Clinical Safety Studies	>>	—	—	—	—	—	—	—	2Q																			
INATS - Milestone B									2Q																			

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MR4	MEDICAL RADIOLOGICAL DEFENSE	8776	7066	8156	2478	0	0	0	0	26476

A. Mission Description and Budget Item Justification:

Project MR4 MEDICAL RADIOLOGICAL DEFENSE: This project funds the advanced development of candidate therapeutic medical countermeasures to mitigate the consequences of exposure to ionizing radiation due to nuclear or radiological attacks. Exposure to ionizing radiation causes damage to blood-forming cells (hematopoietic system) and gastrointestinal system, leading to Acute Radiation Syndrome (ARS). Medical countermeasures must be approved by the Food and Drug Administration (FDA) for human use prior to fielding. Testing the efficacy of candidate drugs against normally lethal radiation exposure cannot be conducted in humans; therefore, surrogate animal models must be used to obtain FDA approval. This project allows the joint force to operate safely, over the long term, and at near normal levels of effectiveness while in a contaminated environment.

Medical Radiological Countermeasures (MRADC) efforts include multiple countermeasures required to restore casualties to pre-exposure health and to protect U.S. Forces against injury caused by exposure to radiation. MRADC shall reverse or limit radiation injury resulting in increased survival, decreased incapacity, and sustained operational effectiveness. In addition, MRADC shall be effective against a broad range of radiation sources and types and shall be useable in the battle space, including evacuation.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
MEDICAL RADIOLOGICAL COUNTERMEASURES	8776	6979	8156
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
MRADC - FY 07/08/09 - Initiated, continue and complete process development and current Good Manufacturing Practices (cGMP) manufacturing requirements. FY 07 - Achieved Milestone A.	2613	2426	3634
MRADC - FY 07/08 - Initiated and complete pre-clinical safety and toxicology studies.	2968	2817	0
MRADC - FY 07/08 - Initiated and complete Investigational New Drug (IND) application efforts.	1213	278	0
MRADC - FY 08/09 - Initiate and complete Phase 1 clinical safety studies. FY 09 - Achieve Milestone B and transition to System Development and Demonstration (SDD) phase.	0	1458	4522
MRADC - Congressional Interest Item #1 - FY 07 - Candidate therapeutic and/or prophylactic medical countermeasures.	991	0	0
MRADC - Congressional Interest Item #2 - FY 07 - Adult-derived hematopoietic progenitor cells to treat Acute Radiation Syndrome.	991	0	0
Total	**8776**	**6979**	**8156**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	87	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	87	0
Total	**0**	**87**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
MR5 MEDICAL RADIOLOGICAL DEFENSE	0	0	2944	5962	9372	5036	2382	Cont	Cont

D. Acquisition Strategy:

MRADC

Medical Identification and Treatment Systems (MITS) Joint Product Management Office will manage the development of Medical Radiation Countermeasures (MRADC) for the DoD. A contractor will serve as the product integrator throughout development and shall be responsible for conducting activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA). The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses. The Technology Development phase includes pre-clinical studies and Phase 1 human clinical safety studies. During the System Development and Demonstration (SDD) phase, large scale manufacturing, Phase 2 human clinical safety studies and definitive animal efficacy studies will be conducted. FDA approval of the countermeasure is an exit criterion for the SDD phase. During the Production and Deployment Phase, sufficient quantities of product to meet Initial Operational Capability will be purchased. Subsequent purchases will be made by the Defense Logistics Agency. Any post-marketing surveillance requested by the FDA will be conducted.

MRADC will be developed using a system-of-systems approach to address the multiple organ systems affected by radiation exposure. Individual countermeasure solutions will be developed using a single step to a full capability (FDA approval). The DoD is working very closely with the Department of Health and Human Services (DHHS), which also has an anti-radiation program. The establishment of an interagency working group provides oversight and guidance to both agency programs to ensure that their efforts are non-duplicative.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
MR4

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Process Development & cGMP Manufacturing	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	2557	2Q FY08	2093	2Q FY08	2401	2Q FY09	0	7051	0
MRADC - Congressional Interest Item #1	SS/FFP	Cellerant Therapeutics, San Carlos, CA	C	0	991	4Q FY07	0	NONE	0	NONE	0	991	0
MRADC - Congressional Interest Item #2	SS/FFP	Cellerant Therapeutics, San Carlos, CA	C	0	991	4Q FY07	0	NONE	0	NONE	0	991	0
Subtotal I. Product Development:					4539		2093		2401		0	9033	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Regulatory Integration and IND Support Efforts	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	1019	2Q FY08	1047	2Q FY08	1233	2Q FY09	0	3299	0
Subtotal II. Support Costs:					1019		1047		1233		0	3299	

Remarks:

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Pre-clinical, Toxicology & Phase 1 Clinical Safety Studies	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	2718	2Q FY08	3174	2Q FY08	3288	2Q FY09	0	9180	0
Subtotal III. Test and Evaluation:					2718		3174		3288		0	9180	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	159	1Q FY07	238	1Q FY08	330	1Q FY09	0	727	0
MRADC - Chem Bio Medical Systems	Allot	CBMS, Fort Detrick, MD	U	0	341	4Q FY07	427	4Q FY08	493	4Q FY09	0	1261	0
MRADC - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	0	NONE	411	4Q FY09	0	411	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	87	NONE	0	NONE	0	87	0
Subtotal IV. Management Services:					500		752		1234		0	2486	

Remarks:

TOTAL PROJECT COST:		8776		7066		8156		0	23998	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **MR4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MRADC																												
MRADC - Milestone A		2Q																										
MRADC - Pre-Clinical Safety and Toxicology Studies				4Q			3Q																					
MRADC - Process Development and cGMP Small Scale Manufacturing				4Q						2Q																		
MRADC - IND Application				4Q				4Q																				
MRADC - Phase 1 Clinical Safety Studies								4Q				4Q																
MRADC - Milestone B												4Q																

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TE4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TE4	TEST & EVALUATION (ACD&P)	1944	17149	6356	5597	5447	11833	29749	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TE4 TEST & EVALUATION (ACD&P): This funding supports the Joint Project Manager Nuclear, Biological, Contamination Avoidance Product Director, Test Equipment, Strategy, and Support (PD TESS) efforts. PD TESS provides test infrastructure products for testing and evaluating chemical and biological defense systems throughout the life cycle acquisition process in support of the Milestone Decision Authority, Joint Project Managers, and the Test and Evaluation (T&E) community. PD TESS test infrastructure products are aligned in five groups to include: (1) Chemical Laboratory (Sense), (2) Biological Laboratory (Sense), (3) Field Simulant (Sense), (4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain), and (5) Modeling and Simulation (Shape).

(1) Chemical Laboratory (Sense): Products for this area include a Non-Traditional Agent (NTA) Test Facility, Dynamic Test Chamber (DTC) for chemical point sensors and the renovation of a Chemical Surety Laboratory. The NTA Facility provides a new capability at the Edgewood Chemical Biological Center (ECBC) to conduct emerging, highly toxic threat materials testing. The NTA facility supports testing of decontamination, collective protection, individual protection, and contamination avoidance products. The Dynamic Test Chamber provides a new capability for testing chemical point detection systems against chemical warfare agents in various environmental conditions. The final effort provides for the upgrade of the chemical surety laboratory located at Dugway Proving Ground (DPG). This upgrade provides multiple chemical surety chambers and laboratories to house PD TESS infrastructure products. Major CBDP acquisition programs supported are: the Joint Chemical Agent Detector (JCAD); the Automatic Chemical Agent Detector Alarm (ACADA); the Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Service General Purpose Mask (JSGPM); the Joint Service Lightweight Integrated Suit Technology (JSLIST); Joint Expeditionary Collective Protection (JECP); Joint Collective Protection Equipment (JCPE); Joint Service Tactical Decontamination System (JSTDS); Joint Service Sensitive Equipment Decontamination (JSSED); Joint Warning and Reporting Network (JWARN) hardware components; the Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); the Joint Protective Air Crew Ensemble (JPACE); the JSLIST Combat Vehicle Crewman Coverall (JC3); the Joint Service Aircrew Mask (JSAM); the Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
TE4

(2) Sense Laboratory (Biological): Products for this area include a Whole System Live Agent Test (WSLAT) "Strung Out" Chamber, Whole System Live Agent Test "Full System" Chamber, and a Live Agent Biological Standoff System Chamber. The Whole System Live Agent Test "Strung Out" Chamber supports Joint Biological Point Detection component testing in biological live agent environments. The Whole System Live Agent Test "Full System" Chamber supports testing of all biological detection systems in production configuration in biological live agent environments. The final effort provides a Live Agent Biological Standoff Test chamber for biological standoff detection systems. Major CBDP acquisition programs supported are: Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Biological Point Detection System (JBPDS)/JBPDS Block II; the Joint Biological Tactical Detection System (JBTDS); and the Joint Biological Standoff Detection System (JBSDS).

(3) Field Simulant (Sense): Products for this area include a fully instrumented Simulant Test Grid and characterization of the existing Joint Ambient Breeze Tunnel (JABT) and Active Standoff Chamber (ASC) Facilities. The Test Grid Effort provides a fully instrumented 20 km by 40 km field simulant test capability that integrates cloud tracking equipment, meteorological equipment, Test Data Network, C4ISR network, and operations center. The JABT/ASC effort provides simulant cloud characterization and validates system performance. Major acquisition programs supported are: Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); the Joint Chemical Agent Detector (JCAD); the Automatic Chemical Agent Detector Alarm (ACADA) Variants; the Joint NBC Reconnaissance System (JNBCRS); the Joint Warning and Reporting Network (JWARN); the Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Biological Standoff Detection System (JBSDS); the Joint Biological Point Detection System (JBPDS); the Joint Biological Tactical Detection System (JBTDS); the Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV) Stryker; the Joint Effects Model (JEM); the Joint Operational Effects Federation (JOEF); and Joint Expeditionary Collective Protection (JECP).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
TE4

(4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain): Products for this area include a Decontamination Chamber, Individual Protection Ensemble (IPE) Test Mannequin, Man-in-Simulant Test (MIST) instrumentation, Individual Protection Equipment (IPE) Grid, Chemical, Biological Agent Resistance Test (CBART) Equipment and Collective Protection (ColPro) Instrumentation and Chamber. The Decontamination chamber provides an enhanced ability to conduct decontamination and residual agent off-gassing testing. The IPE Test Mannequin provides an articulated robotic mannequin that simulates warfighters activities and includes under ensemble agent sensing capability for evaluating IPE against chemical warfare agents. The Man-in-Simulant Test instrumentation provides a near real time simulant sensor system to monitor penetration of simulant during testing.. The Individual Protection Equipment (IPE) Grid provides test procedures to establish commonality measurements for IPE performance tests. Chemical, Biological Agent Resistance Test (CBART) equipment provides a near real time testing capability under a range of environmental conditions for individual and collective protection materials. Collective Protection instrumentation upgrades provide improved test capabilities at Dugway Proving Ground, Eglin Air Force Base, Dahlgren Naval Surface Warfare Center, and the Edgewood Chemical Biological Center for the evaluation of entire ColPro systems, subsystems and individual components. Acquisition Programs supported are: Joint Platform Interior Decontamination/Joint Material Decontamination System (JPID/JMDS); Joint Service Transportable Decontamination System (JSTDS); Joint Expeditionary Collective Protection (JECP); Joint Collective Protection Equipment (JCPE); Joint Service Lightweight Integrated Suit Technology (JSLIST); Joint Protective Air Crew Ensemble (JPACE); JSLIST Combat Vehicle Crewman Coverall (JC3); Joint Service General Purpose Mask (JSGPM); Joint Service Aircrew Mask (JSAM); Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

(5) Modeling and Simulation (Shape): Product for this area is a Synthetic Test Environment (Backgrounds & Interferents) library of real world environmental and interferent physical characteristics for Chemical/Biological systems. The environmental signatures will be integrated into models to generate synthetic environments to assess material performance under various conditions. All CBDP Acquisition Programs except medical are supported by this effort.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT: TE4

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
TEST EQUIPMENT, STRATEGY & SUPPORT	1944	13776	6356
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
PD TESS - Individual Protection Equipment (IPE) XYZ Grid - FY 07 - Continued development of IPE Grid Schema Handbooks to provide commonality of measurements for IPE performance testing. FY 08 - Complete and validate IPE Handbooks.	52	433	0
PD TESS - Non-Traditional Agent (NTA) Test System - FY 07 - Continued NTA test system design. Developed full-scale NTA simulant test fixture. FY 08 - Complete NTA test system design. Fabricate and install the NTA test system. Install full-scale simulant test fixture. FY 09 - Continue installation of NTA test system.	640	10875	1500
PD TESS - DPG Chemistry Laboratory Upgrade - FY 08 - Upgrade and initiate relocation of chemical stand-off detection test systems. FY 09 - Complete relocation of test systems. Conduct validation testing.	0	946	1454
PD TESS - Biological Standoff Facility - FY 09 - Initiate design for biological standoff test facility.	0	0	1023
PD TESS - Joint Ambient Breeze Tunnel/Active Standoff Chamber (JABT/ASC) - FY 07 - Conducted 3-D Lidar real time aerosol cloud mapping effort.	135	0	0
PD TESS - Dynamic Test Chamber (DTC) - FY 07 - Conducted near real time, low level agent detection referee instrumentation analysis. FY 08 - Verify near real time, low level agent detection referee instrumentation performance.	200	500	0
PD TESS - IPE Mannequin - FY 07 - Conducted an assessment of candidate technologies for real-time under ensemble agent sensors.	385	0	0
PD TESS - Decon Facility Upgrade - FY 07 - Initiated development of small military item decontamination test efficacy fixtures.	304	0	0

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BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT: TE4

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
PD TESS - FY 07 - Provided systems engineering support to integrate and execute Advanced Component Development & Prototype development efforts. FY 08/09 - Continue systems engineering support.	228	1022	2379
Total	**1944**	**13776**	**6356**

	FY 2007	FY 2008	FY 2009
BIOLOGICAL VACCINES	0	3161	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
VACCINES - Congressional Interest Item - FY 08 - Vacuum Sampling Pathogen Collection and Concentration	0	3161	0
Total	**0**	**3161**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	212	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	212	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TE4**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Total	**0**	**212**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TE5 TEST & EVALUATION (SDD)	17631	45302	42141	37270	15341	14868	4799	Cont	Cont
TE7 TEST & EVALUATION (OP SYS DEV)	0	6973	7142	6860	8018	8157	8158	Cont	Cont

D. Acquisition Strategy:

PD TESS

The PD TESS program provides for the development and acquisition of new and enhanced test infrastructure to support the sense, shield, shape, and sustain mission areas for the Joint Service Chemical and Biological Defense Program (CBDP). The efforts are supported through competitive contract actions, National Academies of Science studies, academia, and other Government agencies. Infrastructure solutions will leverage commercially available systems to provide state-of-the-art capabilities that address current and future CBDP test and evaluation needs.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TE4**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
HW S - NTA Test System Design/Fabricate/Install	C/FFP	ARINC Engineering, Annapolis, MD	C	3357	640	3Q FY07	10875	2Q FY08	1500	2Q FY09	0	16372	0
HW S - Bio Standoff Facility Design	C/FFP	TBD	C	0	0	NONE	0	NONE	1023	1Q FY09	0	1023	0
HW C - Dynamic Test Chamber Referee Instrumentation	MIPR	NAVSEA (JHU-APL), Washington, DC	U	0	200	4Q FY07	500	1Q FY08	0	NONE	0	700	0
SW SB - IPE Mannequin under ensemble agent sensors	C/CPFF	Battelle, Columbus, OH	C	0	385	4Q FY07	0	NONE	0	NONE	0	385	0
HW S - Decon Facility Upgrade Small Item Decon	C/CPFF	Battelle, Columbus, OH	C	0	304	4Q FY07	0	NONE	0	NONE	0	304	0
HW C - IPE Grid Handbook	MIPR	Various	U	0	52	4Q FY07	433	1Q FY08	0	NONE	0	485	0
HW S - DPG Chem Lab Upgrade	MIPR	Dugway Proving Grounds, DPG, UT	U	1970	0	NONE	946	1Q FY08	0	NONE	0	2916	0
VACCINES													
VACCINES - Congressional Interest Item - Vacuum Sampling Pathogen Collection and Concentration	SS/FP	TBD	C	0	0	NONE	3161	4Q FY08	0	NONE	0	3161	0
Subtotal I. Product Development:					1581		15915		2523		0	25346	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
TE4

II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
OTHT S - JABT 3-D Lidar Imaging Effort	MIPR	Hanscom AFB (MIT-Lincoln Labs)	U	0	135	4Q FY07	0	NONE	0	NONE	0	135	0
OTHT S - DPG Chem Lab Validation	MIPR	Dugway Proving Grounds, DPG, UT	U	0	0	NONE	0	NONE	1454	2Q FY09	0	1454	0
Subtotal III. Test and Evaluation:					135		0		1454		0	1589	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TE4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
PM/MS S - Program Management/Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	3005	228	1Q FY07	1022	1Q FY08	2379	1Q FY09	0	6634	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	212	NONE	0	NONE	0	212	0
Subtotal IV. Management Services:					228		1234		2379		0	6846	

Remarks:

TOTAL PROJECT COST:		1944		17149		6356		0	33781	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TE4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PD TESS																												
Bio Standoff Facility Design & Fabrication									1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
DPG Chem Lab Upgrades	>>	—	—	—	—	—	—	—	—	—	—	4Q																
Dynamic Test Chamber Design/Fabrication/Installation/Validation	>>	—	—	—	—	—	—	—	—	—	—	4Q																
IPE Mannequin Design/Fabrication/Installation/Validation	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q									
XYZ IPE Grid Handbook/Validation	>>	—	—	—	—	—	—	3Q																				
Upgrade Decon Facility	>>	—	—	—	—	—	—	4Q																				
NTA Test System Design/Fabrication/Installation/Validation	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q													
JABT/ASC 3-D Lidar	>>	—	—	—	—	—	—	4Q																				

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TT4	TECHBASE TECHNOLOGY TRANSITION (ACD&P)	22983	15135	17327	19101	19224	19405	19815	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P): Technology Demonstrations validate high-risk/high-payoff technologies that could significantly improve warfighter capabilities. These programs offer an opportunity to identify and efficiently move emerging technologies from laboratory experiments to acquisition programs thru risk reduction, engineering and integration. They cover integrating and assessing technology in a realistic operational environment and often assess the technology as an integrated system. They seek to demonstrate the potential for enhanced military operational capability and/or cost effectiveness. Upon conclusion of the demonstration, the user/sponsor provides a determination of the military utility and operational impact of the technology demonstrated. Successfully demonstrated technologies with proven military utility can either be left in place for extended user evaluations, accepted into advanced stages of the formal acquisition process, proceed directly into limited or full-scale production or be returned to the technical base for further development. Prior to FY07, funding was provided in Project CP4. These efforts are currently funded under this Project:

CUGR - The Chemical Biological Radiological Nuclear (CBRN) Unmanned Ground Reconnaissance Vehicle (CUGR) Advanced Concept Technology Demonstration (ACTD) will address several critical operational issues to enhance the speed, effectiveness, capabilities, and automation of surface and area CBRN contamination detection and identification. The technologies will be used to enhance the Joint NBC Reconnaissance System (JNBCRS) by using a non-surface contacting optical system that provides both surface contamination detection and identification in near real-time. Capabilities include traditional chemical agents and Toxic Industrial Chemicals (TICs). Additionally, the ACTD demonstrated a small unmanned ground platform (robot) equipped with sensor packages capable of conducting CR detection. This unmanned platform will enable the reconnaissance crew to conduct CR reconnaissance in limited maneuver areas using a robotic platform carrying CR sensors that report findings to the operator using active telemetry.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA4 - Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)

PROJECT
TT4

EBD - The need for a man-portable point-detector for aerosolized Biological Weapons (BW) is not currently being met by existing DoD biological detection systems. This leaves expeditionary forces vulnerable to attack without indication until those exposed present symptoms. BW detection systems currently fielded are large, heavy, power-intensive, and expensive to procure and support. The Marine Corps has no fielded biological detection capability due to lack of system suitability and the dedicated force structure. The Expeditionary Biological Detection (EBD) Advanced Technology Demonstration (ATD) will be initiated with a Front End Analysis (FEA) to compare existing DoD biological agent detection/identification systems against USMC tactical biological detection needs. Candidate system must be able to automatically detect aerosolized BW clouds and collect samples for presumptive and confirmatory identification. The ability to discriminate, classify or identify the threat is desired. The system must be deployable and employable by Marine expeditionary forces and must be suitable for use within existing Marine Air-Ground Task Force (MAGTF) logistics and manpower constraints. Additionally, the role of portable biological point detectors in the greater context of existing Joint biological detection systems will be considered.

ART - CB - Advanced Remediation Technologies - Chemical and Biological (ART-CB) ATD (including Auto Decon, CBIIS, I-BRD, and SPIDER) seeks to evaluate and demonstrate means to significantly improve existing military decontamination operations. The ATD will consider the entire spectrum of military decontamination processes and systems. Three thrusts are planned: Small Vehicle Thrust (Land systems); Personnel Thrust (Personnel systems); Large Equipment Thrust (Large surface vehicle and aircraft systems). Four projects are currently included in ART: Automated Detailed Equipment Decontamination (Auto Decond) (for vehicles); Coalition CBRN Information Interoperability Study (CBIIS) (information sharing); Interagency Biological Remediation Demonstration (I-BRD) (coordination of urban CBRN-incident remediation; and Special Platform Interior Decontamination and Equipment Restoration (SPIDER) (aircraft interiors). The ATD will explore and establish new methods of assessing and reducing known chemical, biological, and/or radiological contamination levels. It will consider contamination density estimation methods and detailed reduction processes for detected or assessed contamination presence. The goals are to provide a processing technique or techniques for maximized use of automated decontamination of land vehicles, reduce exposure to CBRN contamination or personnel engaged in decontamination operations; improve coalition CBRN information sharing; coordinate an interagency remediation program for urban areas/DoD infrastructures/high traffic areas; and provide a capability to reliably decontaminate aircraft interiors.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
CPSP COUNTERPROLIFERATION SUPPORT	22983	14945	17327
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Chemical Biological Radiological Nuclear (CBRN) Unmanned Ground Reconnaissance (CUGR) ACTD - FY 07 - Continued program management and planning, documentation, IPT meetings, technical liaisons and transition planning. Continued CBRN Unmanned Ground Vehicle (CUGV) systems engineering, prototyping, technical testing and integration. Transitioned CUGV to program of record. Continued Concepts-of-Operations (CONOPs) and tactics, techniques and procedures (TTPs) development, operational test planning and execution. Continued Joint Contaminated Surface Detector systems engineering and technical testing. Initiated CUGR residual support and extended user evaluation. Initiated hardware and software modifications identified during the FY06 Technical and Operational Demonstrations to meet transition plan requirements. FY 08 - Complete CONOPs and TTPs development, operational test planning and execution. Complete CUGR residual support and extended user evaluation. Complete hardware and software modifications identified during the FY06 Technical and Operational Demonstrations to meet transition plan requirements. Required improvements include camera mount and range finder hardening to increase reliability and software maturation to reduce false positive rate.	9983	9939	0

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DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Expeditionary Biological Detection (EBD) - FY 07 - Continued CONOPs and TTPs development and operational test planning. Initiated testing of biological detection technologies to evaluate capability to provide required functionality. Continued systems engineering, prototyping, technical testing and integration activities. Conducted program management and planning, documentation, Integrated Process Team (IPT) meetings, technical liaisons and transition planning. FY 08 - Complete CONOPs and TTPs development and operational test planning. Complete testing of biological detection technologies to evaluate capability to provide required functionality. Continue systems engineering, prototyping, technical testing and integration activities. Conduct program management and planning, documentation, IPT meetings, technical liaisons and transition planning.	10292	4165	0

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PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Advanced Remediation Technologies (ART) - FY 07 - Initiated coordination and development of the Interagency Biological Remediation Demonstration (I-BRD). IBRD is a DoD-DHS cooperative program focused on providing a coordinated, systems approach to the recovery and restoration of wide-urban areas, to include DoD infrastructures and high traffic areas following the aerosol release of a biological agent. FY 08 - Continue the I-BRD program in order to develop restoration plans; establish risk assessment and clearance goals; develop sampling/characterization/long term monitoring plans; develop and exercise wide-area decontamination methods; develop and demonstrate restoration system tools; and conduct table top exercises, field exercises, and workshops. Delay of SPIDER Limited Objective Experiment (LOE) activity to FY 09 necessitated by need to increase CUGR completion funding. FY 09 - SPIDER LOE - Aircraft decontamination procedures will be tested and documented through a series of stimulant-based, decontamination field and process demonstrations. Complete technical testing to confirm biological agent kill. Complete ATD demonstration testing of vaporous decontamination on designated aircraft to confirm biological agent kill. Develop a technical order for the qualification of the decontamination of designated aircraft using the vaporous hydrogen peroxide decontamination process. Continue I-BRD development of restoration plans; establish risk assessment and clearance goals; develop sampling/characterization/long term monitoring plans; develop and exercise wide-area decontamination methods; develop and demonstrate restoration system tools; and conduct table top exercises, field exercises, and workshops.	2708	841	17327
Total	**22983**	**14945**	**17327**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	190	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	190	0
Total	**0**	**190**	**0**

C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

CPSP ACTD

This project is a generic block description for future ACTD and ATDs. The CUGR ACTD executed its demonstration phase in FY06 and FY07. CUGR will transition laser detection technology into various reconnaissance vehicles that are currently in an Acquisition Program under Joint Program Executive Office (JPEO) Program Manager for Reconnaissance. The CBRN Unmanned Ground Vehicle (CUGV) will transition to the Joint CBRN Dismountable Reconnaissance System (JCDRS). The Expeditionary Biological Detection technologies will be transitioned to the Joint Program Manager (JPM) Biological Detection and the Joint Biological Tactical Detection System (JBTDS).

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CPSP ACTD													
HW C - CUGV UGV- System Design and Integration	MIPR	Army - RDECOM, ECBC, Edgewood, MD	U	0	1962	1Q FY07	1000	2Q FY08	0	NONE	0	2962	0
HW S - EBD - Initiate System Design and Integration	MIPR	Marine Corps - MCSC, Quantico, VA	U	0	3600	2Q FY07	1146	1Q FY08	0	NONE	0	4746	0
HW S - ART - SPIDER - Initiate Tech Order Development	MIPR	Army - RDECOM, ECBC Edgewood, MD	U	0	0	NONE	154	1Q FY08	957	2Q FY09	661	1772	0
HW S - ART- IBRD System Design and Integration	PO	Lawrence Livermore National Laboratory, Livermore, CA	F	0	290	2Q FY07	0	NONE	375	2Q FY09	187	852	0
HW S - ART - IRBD System Design and Integration	PO	Sandia National Laboratory, Albq., NM	F	0	0	NONE	0	NONE	375	2Q FY09	188	563	0
HW C - ART CB (Land and small aircraft systems Thrust) Initiate System Design and Integration	MIPR	Air Force - AFRL, Dayton, OH	U	0	0	NONE	0	NONE	2109	2Q FY09	2119	4228	0
Subtotal I. Product Development:					5852		2300		3816		3155	15123	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CPSP ACTD													
ILS C - CUGR CONOPS Development	MIPR	PACOM - USA Army Pacific, Fort Shafter, HA	U	0	750	2Q FY07	0	NONE	0	NONE	0	750	0
ILS C - CUGR CONOPS and doctrine development	Allot	USA Chemical School Ft Leonard Wood, MO	U	0	182	2Q FY07	0	NONE	0	NONE	0	182	0
ILS C - CUGR - JCSD Residual Support	MIPR	Army - RDECOM, ECBC, Edgewood, MD	U	0	486	1Q FY07	1150	1Q FY08	0	NONE	0	1636	0
ILS C - CUGR CUGV Residual Support	MIPR	Army - RDECOM, ECBC Edgewood, MD	U	0	0	NONE	865	1Q FY08	0	NONE	0	865	0
ILS C - EBD CONOPS Development	MIPR	Marine Corps - MCCDC, Quantico, VA	U	0	1000	2Q FY07	444	2Q FY08	0	NONE	0	1444	0
ILS C - EBD TTP and CONOPS	MIPR	Marine Corps - II MEF, Camp Lejeune, SC	U	0	1000	2Q FY07	453	2Q FY08	0	NONE	0	1453	0
ILS C - ART - SPIDER CONOPS Development	MIPR	Army - RDECOM, ECBC Edgewood, MD	U	0	0	NONE	152	2Q FY08	1323	2Q FY09	0	1475	0
lLS C - ART - IBRD TTP and CONOPS Development	MIPR	SPAWAR, San Diego, CA	U	0	286	2Q FY07	0	NONE	742	1Q FY09	371	1399	0
lLS C - ART - IBRD TTP and CONOPS Development	PO	Lawrence Livermore National Laboratory, Livermore, CA	F	0	298	2Q FY07	0	NONE	300	2Q FY09	384	982	0
lLS C - ART - IBRD TTP and CONOPS Development	MIPR	National Geospatial Intelligence Agency, VA	U	0	286	2Q FY07	0	NONE	300	2Q FY09	371	957	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

II. Support Costs - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ILS C - ART IBRD TTP and CONOPS Development	PO	Los Alamos National Laboratory, NM	F	0	0	NONE	0	NONE	908	2Q FY09	0	908	0
ILS C - ART CB (Land and small aircraft systems Thrust) CONOPS Development	MIPR	USA Chemical School, Ft. Leonard Wood, MO	U	0	0	NONE	0	NONE	1306	1Q FY09	617	1923	0
Subtotal II. Support Costs:					4288		3064		4879		1743	13974	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CPSP ACTD													
OTE C - OTE C - CUGR Operational Test for JCSD	MIPR	Army Test and Evaluation Command - Alexandria, VA	U	0	5692	2Q FY07	5526	2Q FY08	0	NONE	0	11218	0
OTE C - EBD Operational Test	MIPR	Marine Corps - MCOTEA, Quantico, VA	U	0	3600	2Q FY07	992	2Q FY08	0	NONE	0	4592	0
OTE C - ART - SPIDER Operational Test	MIPR	Air Force - AFOTEC, Kirtland AFB, NM	U	0	0	NONE	202	2Q FY08	1626	1Q FY09	365	2193	0
OTE C - ART IBRD Operational Test	PO	Lawrence Livermore National Laboratory, Livermore, CA	F	0	319	2Q FY07	0	NONE	1181	2Q FY09	590	2090	0
OTE C - ART - IBRD Operational Test	PO	Sandia National Laboratory, Albq., NM	F	0	204	2Q FY07	0	NONE	656	2Q FY09	328	1188	0
OTE C - ART - IBRD Operational Test	MIPR	National Geospatial Agency, Reston, VA	U	0	250	2Q FY07	0	NONE	788	2Q FY09	394	1432	0
OTE C - ART CB (Land and small aircraft systems Thrust) Operational Test	MIPR	Air Force - AFOTEC Kirtland AFB, NM	U	0	0	NONE	0	NONE	631	1Q FY09	2075	2706	0
Subtotal III. Test and Evaluation:					10065		6720		4882		3752	25419	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CPSP ACTD													
PM/MS S - CUGR Program Management	MIPR	Army - RDECOM, ECBC, Edgewood, MD	U	0	911	2Q FY07	1398	2Q FY08	0	NONE	0	2309	0
PM/MS S - EBD Program Management	MIPR	Marine Corps - MCSC, Quantico, VA	U	0	1092	2Q FY07	1130	2Q FY08	0	NONE	0	2222	0
PM/MS S - ART - SPIDER Program Management	MIPR	Army - RDECOM, ECBC Edgewood, MD	U	0	0	NONE	233	2Q FY08	1266	1Q FY09	540	2039	0
PM/MS S - ART - IBRD Program Management	PO	Lawrence Livermore National Laboratory, Livermore, CA	F	0	388	2Q FY07	100	2Q FY08	838	2Q FY09	469	1795	0
PM/MS S - ART CB (Land and small aircraft systems Thrust) Program Management	MIPR	Air Force - AFRL, Dayton, OH	U	0	0	NONE	0	NONE	747	1Q FY09	590	1337	0
PM/MS S - ART - IBRD Program Management	PO	Sandia National Laboratory, Albq., NM	F	0	387	2Q FY07	0	NONE	899	2Q FY09	469	1755	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	190	NONE	0	NONE	0	190	0
Subtotal IV. Management Services:					2778		3051		3750		2068	11647	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	**0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**	**TT4**

TOTAL PROJECT COST:		22983		15135		17327		10718	66163	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)**

PE NUMBER AND TITLE: **0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)**

PROJECT: **TT4**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CPSP ACTD																												
CUGR JCSD Residual Support	>>	—	—	—	—	—	—	—	—	—	—	4Q																
CUGR CUGV Residual Support	>>	—	—	—	—	—	—	—	—	—	—	4Q																
Expeditionary Biological Detection ATD	>>	—	—	—	—	—	—	—	—	—	—	4Q																
Expeditionary Biological Detection Demonstration				4Q	2Q	—																						
SPIDER ATD	1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q												
IBRD		2Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1Q											
Advanced Remediation Technologies ATD					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q								

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BUDGET ACTIVITY 5
SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD)

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

	COST (In Thousands)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	194955	251526	299373	212815	291861	274557	232787	Continuing	Continuing
CA5	CONTAMINATION AVOIDANCE (SDD)	46367	31422	52064	41766	52627	63437	34620	Continuing	Continuing
CM5	HOMELAND DEFENSE (SDD)	3961	0	2481	2974	0	0	0	0	9416
CO5	COLLECTIVE PROTECTION (SDD)	6220	13866	11386	2704	0	0	0	0	34176
DE5	DECONTAMINATION SYSTEMS (SDD)	10824	5980	13165	21556	18919	16788	12692	Continuing	Continuing
IP5	INDIVIDUAL PROTECTION (SDD)	13845	12798	20950	0	0	0	0	0	47593
IS5	INFORMATION SYSTEMS (SDD)	34971	47160	42440	27368	17489	14756	25060	Continuing	Continuing
MB5	MEDICAL BIOLOGICAL DEFENSE (SDD)	56304	73789	89674	57052	159391	142096	141174	Continuing	Continuing
MC5	MEDICAL CHEMICAL DEFENSE (SDD)	4832	21209	22128	16163	18722	17576	12060	Continuing	Continuing
MR5	MEDICAL RADIOLOGICAL DEFENSE	0	0	2944	5962	9372	5036	2382	Continuing	Continuing
TE5	TEST & EVALUATION (SDD)	17631	45302	42141	37270	15341	14868	4799	Continuing	Continuing

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

A. Mission Description and Budget Item Justification: Operational forces have an immediate need to survive, safely operate, and sustain operations in a chemical and biological agent threat environment across the continuum of global, contingency, special operations/low-intensity conflict, counter-narcotics, and other high risk missions. Operating forces have a critical need for defense against worldwide proliferation of Chemical and Biological (CB) warfare capabilities and for medical treatment of casualties in medical treatment facilities. Congress has directed centralized management of Department of Defense (DoD) CB Defense initiatives, both medical and non-medical. This program element supports the System Development and Demonstration (SDD) of CB defensive equipment, both medical and non-medical. These projects have been restructured to consolidate Joint and Service-unique tasks within four commodity areas: contamination avoidance, force protection (individual and collective), decontamination, and medical countermeasures. The consolidation will provide for development and operational testing of equipment for Joint Service as well as Service-unique requirements.

Contamination avoidance efforts under this system development program will provide U.S. forces with real-time hazard assessment capabilities. They include advanced multi-agent point and remote chemical detection systems for ground, aircraft, and shipboard applications; automated warning and reporting systems; integrated radiation detection and monitoring equipment; and enhanced battlefield reconnaissance capabilities. Force protection efforts will increase protection levels while decreasing physical and psychological burdens imposed by protective equipment. They include improved aircrew respiratory protection, lightweight integrated suit technology, and shipboard collective protection equipment.

Weapons of Mass Destruction Civil Support Team (WMD CST) efforts provide for testing and development of a Unified Command Suite (UCS) and an Analytical Laboratory Platform (ALS) for these teams.

The medical chemical defense system development program funds improved medical equipment and drugs essential to counteracting lethal and performance-degrading effects of chemical threats and medical equipment essential to meeting medical requirements on the integrated battlefield with emphasis on decreased size/weight and high mobility, yet supporting large numbers of combat casualties. Additionally, foreign medical materiel may be procured for exploitation of advanced technology and development to meet medical defense goals. This program element supports the development of prophylactic and therapeutic drugs and rapid identification and diagnostic systems.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

DoD Biological Defense mission requires the detection of validated biological threat agents to provide early warning capabilities on mobile and fixed platforms. This program element will provide theater protection through the development of point and stand-off detection systems. The detection system concept will provide detection, identification, warning, and sample collection for verification that a biological agent attack has occurred. This program element also provides for the development of biological defense medical programs. DoD Biological Defense medical mission will address: (1) protective vaccines - vaccination capability against the most probable biological threat agents; (2) identification - clinical identification of biological threat agents through medical evaluation and laboratory analysis to augment early warning capabilities.

The projects in this program element support efforts in the system development phases of the acquisition strategy and are therefore correctly placed in Budget Activity 5.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		212369	247935	242266
FY09 President's Budget (FY 2009 PB)		194955	251526	299373
Total Adjustments		-17414	3591	57107
a. Congressional General Reductions		0	-1609	0
b. Congressional Increases		0	5200	0
c. Reprogrammings		-15351	0	0
d. SBIR/STTR Transfer		-2063	0	0
e. Other Adjustments		0	0	57107

Change Summary Explanation:

Funding: FY09 - PBR Change Proposals (+$15,800K CA5; +$2,500K CM5; +$2,968K DE4; +&18,609K IP5; +$3,328K IS5; +$25,000K; -$3,800K MC5; -$4,900K MR5). Inflation adjustment (-$413K CA5; -$19K CM5; -$91K CO5; -$103K DE5; -$168K IP5; -$341K IS5; -$722K MB5; -$178K MC5; -$23K MR5; -$340K TE5).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CA5	CONTAMINATION AVOIDANCE (SDD)	46367	31422	52064	41766	52627	63437	34620	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CA5 CONTAMINATION AVOIDANCE (SDD): This funding supports System Development and Demonstration and Low Rate Initial Production (SDD/LRIP) of an array of reconnaissance, detection and identification equipment, and warning systems.

Efforts funded in this project are: (1) Joint Biological Point Detection System (JBPDS), (2) Joint Biological Stand-off Detection System (JBSDS), (3) Joint Biological Tactical Detection System (JBTDS), (4) Joint Chemical Agent Detector (JCAD), (5) Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM), (6) Joint Service Nuclear, Biological and Chemical Reconnaissance Systems I, II, III (JNBCRS I, II, III), (7) Joint Service Lightweight Stand-off Chemical Agent Detector (JSLSCAD), and (8) Major Defense Acquisition Program (MDAP) Support.

JBPDS is a joint service biological detector system for the services. The Army platforms include the JBPDS on the Biological Integrated Detection System (BIDS) and Stryker NBC Reconnaissance Vehicle. The Marine Corps will include the JBPDS in the Joint NBC Reconnaissance System. The Air Force will employ the JBPDS trailer and fixed site variant to support air bases and expeditionary and forward operating forces. The Navy has identified the Aegis class ships for installation of the JBPDS and the trailer variant at port. The JBPDS is a fully automated system that increases the number of agents that can be identified by the current BIDS P3I and IBADS, and provides first-time point biological detection capability to the Air Force and Marine Corps. Spiral development with an evolutionary component/suite upgrade acquisition approach will be used to take advantage of emerging technologies and to provide the services with enhanced detection performance at lower life cycle costs.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**CA5**

JBSDS is the first standoff early warning biological detection (BD) system for the joint services. The system will be capable of providing near real time detection of biological attacks/incidents and standoff early detection/warning (Detect to Warn) of biological warfare (BW) agents at fixed sites or when mounted on vehicles. It will be capable of providing standoff detection, ranging, tracking, discrimination (man-made vs. natural occurring aerosols) of BW aerosol clouds for advanced warning, reporting, and protection. The JBSDS will augment and integrate with existing BD systems to provide a BD network capable of near real time detection and warning theater wide to limit the effects of biological agent hazards against U.S. forces at the tactical and operational levels of war. The JBSDS can be employed in support of various areas (e.g., fixed sites, Air Ports of Debarkation/Sea Ports of Debarkation (APODs/SPODs), amphibious landing sites, etc.), or on platforms (ships, aircraft or ground vehicles). The JBSDS is employing an incremental acquisition strategy.

The JBSDS Increment II will use a spiral development cycle that builds on the capabilities demonstrated during the development of JBSDS Increment I. The JBSDS Increment II system will focus on decreasing size, weight and power requirements, improving the false alarm rate and detection sensitivity. JBSDS Increment II, Spiral 1 will focus on the development of a system that can be used at fixed site installations. JBSDS Increment II, Spiral 2 will focus on the development of a system that will operate on mobile platforms as determined by the warfighter. The JBSDS Increment II will also integrate with the global information network to provide near real time detection and warning theater wide to limit the effect of biological agent hazards against US forces at the tactical and operational levels of war.

The JBTDS will be a lightweight biological agent detector that will detect, warn and isolate samples. Isolation of a sample will permit evacuation and confirmatory analysis sample. The detector will be networked to provide a cooperative detection capability to increase the probability of warning personnel and reduce the probability of false alarm. The JBTDS will be one man portable (i.e. < 35 lbs) and capable of being battery operated.

The JCAD program employs an incremental acquisition strategy to develop a miniaturized, rugged, and portable point chemical agent detector that automatically and simultaneously detects, identifies, quantifies, and alerts in the presence of nerve, blister, and blood chemical warfare agents. Increment 1 will provide warfighter and simple platform mounted systems. Increment 2 will add low concentration detection, low volatility chemicals and expand platform utility. JCAD will be used for aircraft, shipboard, wheeled vehicles, stand alone, and individual soldier applications. JCAD will replace the Automatic Chemical Agent Detector and Alarm (ACADA), Chemical Agent Monitor (CAM), Improved Chemical Agent Monitor (ICAM), and other legacy systems currently used by the individual Services.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

The JCBRAWM will provide the ability to detect, identify, and quantify chemical, biological, and radiological (CBR) contamination during three water-monitoring missions: source site selection/reconnaissance, treatment verification, and quality assurance of stored and distributed product water. The JCBRAWM program employs an evolutionary acquisition approach structured to provide four increments of capability. Increment 1 will provide the capability to detect two biological agents using immunoassays and to detect alpha and beta radiation using components of the fielded AN/PDR-77 system and accessory package. Increment 2 will provide capability to detect eight additional biological agents using a sample concentrator. Increment 2 will also detect chemical agents to the Tri-Service standard using a sample concentrator to enhance performance of the existing M272 Water Test Kit. Increment 3 will provide a new detection system to replace the M272 Water Test Kit capable of batch sampling and detection of chemical warfare agents to include non-traditional agents (NTAs) and toxic industrial chemicals (TICs). Increment 4 will provide a capability for in-line monitoring of water to detect chemical, biological, and radiological agents. Increment 4 will replace the three previous increments for most applications.

The JNBCRS I, formerly known as the Joint Service Light-Weight Nuclear, Biological, Chemical Reconnaissance System (JSLNBCRS) was renamed in FY08 to reflect the program's expanded mission and capabilities. The JNBCRS I is a NBC detection and identification system, that will consist of a Base Vehicle (BV) equipped with hand-held, portable and mounted, current, and advanced NBC detection and identification equipment. The JNBCRS will be mounted on a Light Armored Vehicle (LAV) and will provide on-the-move reconnaissance and surveillance in support of combat, combat support, and combat service support forces. The JNBCRS I consists of both Commercial and Government off-the-shelf equipment to provide detection, presumptive identification, sample collection, marking, and immediate reporting of standard NBC hazards, to include hazardous industrial materials. It fills a mission critical need to enhance Chemical, Biological, Radiological and Nuclear (CBRN) reconnaissance platoon capabilities.

The JNBCRS II fills a mission critical need to enhance Chemical, Biological, Nuclear (CBRN) dismounted reconnaissance platoon capabilities. The JNBCRS II contains mission essential kits consisting of both Commercial and Government off-the-shelf handheld equipment to provide detection, presumptive identification, sample collection, marking, and immediate reporting of standard NBC hazards, to include hazardous industrial materials. The JNBCRS II will be integrated into the overall reconnaissance and surveillance effort, conducting reconnaissance during conventional war, combating terrorism, or mission other than war (MOTW). It provides commanders with an accurate picture of the battlefield for the purpose of contamination avoidance to avert disruption to operations and organizations.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CA5

The JNBCRS III will provide Chemical Biological Mass Spectrometer Block II (CBMS II) Bio and Joint Contaminated Surface Detector (JCSD) capability to the Stryker Product Improvement Plan and Joint Nuclear, Biological, Chemical Reconnaissance System (JNBCRS) Light Armored Vehicle (LAV). The CBMS II Bio effort will add the biological weapon detection and identification capability to the existing chemical, liquid, chemical vapor, toxic industrial chemical capabilities. Biological aerosol detection capabilities are enabled through the addition of a Bio Sample Module (BSM). The integration of liquid chemical and biological aerosol detection, within a single sensor; saves size, weight, and power on the platform. The JCSD will provide an improved mobile reconnaissance capability and on-the-move, non-contact, detection and identification of Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TIC), and other Non-Traditional Agents (NTA) using laser induced Raman Spectroscopy. Target surfaces are illuminated by laser light, and contaminants in the field of view are identified through analysis of their Raman backscatter signal against a wide library of Raman spectra.

The JSLSCAD Increment I is a lightweight, passive, standoff, chemical warfare agent (CWA) vapor detector that improves upon the capabilities of the current M21 Remote Sensing Chemical Agent Alarm (RSCAAL). It is a line-of-sight, infrared (IR) detection system that provides up to 360* coverage, while stationary or on-the-move, at distances up to two (2) kilometers. JSLSCAD provides warfighters an early warning capability to avoid contaminated battle spaces or, if avoidance is not possible, time to don full protective equipment (i.e., Mission Oriented Protective Posture (MOPP) gear). The JSLSCAD Increment I provides these capabilities while integrated within the Army Stryker Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV). Increment 2 evaluated three commercially available systems without identifying a system with significantly improved capability. As a result of the evaluation, a System of Systems (SoS) approach will be pursued to address the standoff mission. The SoS will increase standoff detection capabilities.

Major Defense Acquisition Program (MDAP) Support - The MDAP Support program will integrate System of Systems (SoS) solutions across the Armed Services for Major Defense Acquisition Programs (MDAP) having Chemical and Biological Radiological and Nuclear (CBRN) survivability requirements. The program will demonstrate modular, net-centric, plug-n-play capabilities for mounted and dismounted CBRN reconnaissance that will establish a common CBRN reconnaissance architecture across the services.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CA5

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT BIO POINT DETECTION SYSTEM (JBPDS)	1906	0	5357
RDT&E Articles (Quantity)	0	0	10

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBPDS - FY 07/FY 09 - Provided strategic, tactical planning, government system engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	906	0	600
JBPDS - FY 07 - Conducted Identifier Test Readiness Evaluation (TRE).	1000	0	0
JBPDS - FY 09 - Provides for the acquisition of ten alternative Line Replaceable Units (LRUs) (detectors and identifiers) (@ $30K each). Also provides for prime contractor system engineering, integration efforts, documentation and system checks prior to contractor DT.	0	0	1500
JBPDS - FY 09 - Conduct testing and analysis of alternative Line Replaceable Units for reduction of total ownership costs, especially operation and support costs.	0	0	3257
Total	**1906**	**0**	**5357**

	FY 2007	FY 2008	FY 2009
JOINT BIOLOGICAL STANDOFF DETECTOR SYSTEM (JBSDS)	18447	0	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CA5

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBSDS - FY 07 - Completed Integrated Logistics Support (ILS) effort to support JBSDS First Unit Equipped (FUE).	4285	0	0
JBSDS - FY 07 - Completed JBSDS MOT&E I Evaluation and prepared for MOT&E II.	4164	0	0
JBSDS - FY 07 - Initiated and completed agent/simulant correlation optimization.	1660	0	0
JBSDS - FY 07 - Initiated Fluorescence/Algorithm Improvement Study.	1800	0	0
JBSDS - FY 07 - Participated in field demonstration and conducted technology modeling and simulation effort to support Increment 2 CDD development and trade-off analysis.	607	0	0
JBSDS - FY 07 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	5931	0	0
Total	**18447**	**0**	**0**

	FY 2007	FY 2008	FY 2009
JOINT BIOLOGICAL STANDOFF DETECTOR SYSTEM INCREMENT 2	0	0	10318
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBSDS II - Conduct Fluorescence LIDAR Development and Biostandoff Algorithm Studies.	0	0	1250
JBSDS II - Conduct development and technology studies.	0	0	1100
JBSDS II - Provides for the conduct of testing, Modeling and Simulation and Data Analysis.	0	0	3768
JBSDS II - Provide Test and Evaluation Master Plan (TEMP) development and staffing.	0	0	1100
JBSDS II - Provides for Program Management and Milestone B Acquisition Documentation Development and Preparation.	0	0	3100
Total	**0**	**0**	**10318**

	FY 2007	FY 2008	FY 2009
JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)	0	0	2106
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBTDS - FY 09 - Initiate system design.	0	0	1369
JBTDS - FY 09 - Initiate system Integration.	0	0	446
JBTDS - FY 09 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	0	0	291
Total	**0**	**0**	**2106**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

	FY 2007	FY 2008	FY 2009
JOINT CHEMICAL AGENT DETECTOR (JCAD)	5443	11572	13815
RDT&E Articles (Quantity)	0	352	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCAD - FY 07 - Conducted Increment 1 MOT&E.	4980	0	0
JCAD - FY 07/08/09 - Initiated and continue Increment 2 Production Qualification Testing (PQT).	463	3542	6077
JCAD - FY 08 - Purchase and support Increment 2 systems (310 at $15K each).	0	4650	0
JCAD - FY 08 - Procure and test modified, commercially available, IPDS systems to meet Navy requirements (12 at $32K each).	0	1650	0
JCAD - FY 08/09 - Provide systems engineering support.	0	1480	2738
JCAD - FY 09 - Conduct Increment 2 system improvement contract option.	0	0	2000
JCAD - FY 09 - Plan and conduct Increment 2 Operational Assessment (OA).	0	250	3000
Total	**5443**	**11572**	**13815**

	FY 2007	FY 2008	FY 2009
JS CHEMICAL/BIOLOGICAL/RADIOLOGICAL AGENT WATER MONITOR	3322	2249	4107
RDT&E Articles (Quantity)	26	0	100

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CA5

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCBRAWM - FY 07 - Completed Increment 1 test methodology/design set-up.	500	0	0
JCBRAWM - FY 07 - Purchased Increment 1 systems (26 systems with consumables at $25K each). FY 09 - Purchase Increment 2 systems (100 systems with consumables at $20K each).	650	0	2000
JCBRAWM - FY 07 - Conducted Increment 1 Developmental and Operational Test (DT/OT).	1000	0	0
JCBRAWM - FY 07 - Conducted Increment 1 shelf life test.	350	0	0
JCBRAWM - FY 07 - Provided government systems engineering support. FY 08/09 - Continue to provide government systems engineering support.	822	758	1368
JCBRAWM - FY 08 - Conduct Increment 1 Multi-Service Operational Test and Evaluation (MOT&E).	0	1491	0
JCBRAWM - FY 09 - Correct technical deficiencies identified during Multi-Service Operational Test and Evaluation (MOT&E) and conduct follow on test to validate.	0	0	739
Total	**3322**	**2249**	**4107**

	FY 2007	FY 2008	FY 2009
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS) I	1576	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JNBCRS - FY 07 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	1576	0	0
Total	**1576**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CA5

	FY 2007	FY 2008	FY 2009
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS) II	0	5394	7060
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JNBCRS II - FY 08 - Initiate program, develop program documentation, award contract for Integrated Logistics Support (ILS), test design and P3I design.	0	2200	1250
JNBCRS II - FY 08/09 - Initiate and continue training program and ILS effort.	0	1271	2673
JNBCRS II - FY 08 - Initiate DT/OT planning and other test agency support.	0	750	0
JNBCRS II - FY 09 - Initiate and complete P3I Production Qualification Test (PQT)	0	0	2437
JNBCRS II - FY 09 - Initiate and continue Systems Engineering Support (Gov't).	0	1173	700
Total	**0**	**5394**	**7060**

	FY 2007	FY 2008	FY 2009
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS) III	0	5932	2431
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JNBCRS III - FY 08 - (CBMS II) Conduct Inter-agency agreement close out. (ORNL).	0	217	0
JNBCRS III - FY 08 - (CBMS II) Initiate and complete engineering support (Gov't).	0	444	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
JNBCRS III - FY 08 - (CBMS II) Initiate full and open competition for Chemical/Biological sensor capability.	0	1313	0
JNBCRS III - FY 08/09 - (JCSD) Initiate and continue engineering support (Gov't).	0	555	806
JNBCRS III - FY 08 - (JCSD) Continue and complete hardware maturation effort.	0	2868	0
JNBCRS III - FY 08 - (JCSD) Initiate and complete Software Analysis and documentation support.	0	535	0
JNBCRS III - FY 09 - (JCSD) Initiate and complete environmental and reliability growth testing.	0	0	1625
Total	**0**	**5932**	**2431**

	FY 2007	FY 2008	FY 2009
JS LIGHTWEIGHT STANDOFF CHEMICAL AGENT DET (JSLSCAD)	15673	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSLSCAD - FY 07 - Conducted technology tradeoff studies for the standoff detection.	1500	0	0
JSLSCAD - FY 07 - Optimized hardware for platform integration.	3900	0	0
JSLSCAD - FY 07 - Optimized software for platform integration.	3200	0	0
JSLSCAD - FY 07 - Completed Engineering Development Test.	2100	0	0
JSLSCAD - FY 07 - Completed model analysis and development of improved techniques to support testing and analysis to support National Research Council (NRC) findings and refined modeling techniques.	1500	0	0
JSLSCAD - FY 07 - Completed strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	3473	0	0
Total	**15673**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

	FY 2007	FY 2008	FY 2009
MDAP SUPPORT	0	5889	6870
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
MDAP SPRT - FY 08/09 - Continue analysis and development of SoS architecture that supports MDAP operational architectures and provides Chemical Biological Radiological Nuclear (CBRN) defense capabilities.	0	3200	2125
MDAP SPRT - FY 08/09 - Initiate and continue Developmental Test (DT) to validate and verify SoS concept prior to MDAP integration.	0	2000	3945
MDAP SPRT - FY 08/09 - Provide strategic/tactical planning, government systems engineering, financial management, technology assessment, contracting, scheduling, acquisition oversight and technical support.	0	689	800
Total	**0**	**5889**	**6870**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	386	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	386	0
Total	**0**	**386**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	6940	0	0	0	0	0	0	0	6940
JC0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS)	105333	80788	75778	111036	110974	100648	99479	Cont	Cont
JC0101 JS CHEMICAL/BIOLOGICAL/RADIOLOGICAL AGENT WATER MONITOR (JCB	0	5016	6018	3194	0	0	0	0	14228
JC0250 JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	0	3200	0	0	0	0	19984	Cont	Cont
JC1500 NBC RECON VEHICLE (NBCRV)	10225	7764	0	0	0	0	0	0	17989
JF0100 JOINT CHEM AGENT DETECTOR (JCAD)	22588	33638	38082	37786	35126	46588	62784	Cont	Cont
M98801 AUTO CHEMICAL AGENT ALARM (ACADA), M22	14437	0	0	0	0	0	0	0	14437
MC0100 JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)	46086	31660	64333	100537	118402	158296	162600	Cont	Cont
MX0001 JOINT BIOLOGICAL TACTICAL DETECTION SYSTEM	0	0	0	0	8292	15230	25098	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

C. Other Program Funding Summary (Cont):

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
S10801 JS LTWT STANDOFF CW AGT DETECTOR (JSLSCAD)	13247	16332	0	0	0	0	9911	Cont	Cont

D. Acquisition Strategy:

JBPDS

The Joint Biological Point Detection System (JBPDS) utilizes an open systems approach to insert maturing and validated technologies as part of the overall acquisition strategy to expedite fielding of a credible force protection. Thru the course of Low Rate Initial Production (LRIP), the system will be technically and operationally tested in phases to ensure that the system is suitable and effective. The program will utilize results from testing to upgrade the system's line replaceable units (LRUs) to improve system performance, availability, and lower ownership cost. Per Director, Operational Test and Evaluation (DOT&E) Memorandum dated July 9, 2002, the program will support the development of a Whole System Live Agent Test (WSLAT) capability.

JBSDS

The JBSDS will use an evolutionary acquisition strategy with phased developments for the JBSDS program supporting time-phased JORD requirements. The JBSDS will provide an operationally useful and supportable capability in as short a time as possible. Increment I JBSDS will incorporate an accelerated development cycle relying on the modification of existing GOTS and COTS technologies. A down-select of existing systems via a competitive test fly-off resulted in a selection of a single system to enter Low Rate Initial Production (LRIP) to support the Government testing program. The Increment 2 JBSDS follow-on development contract will be competitively awarded with emphasis on increasing sensitivity, range, and reliability, while reducing acquisition life cycle costs, weight, power requirements, and size. The system is to be used by all Services, thus reducing acquisition life cycle costs.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**CA5**

JBTDS

The JBTDS program will pursue an evolutionary approach to provide capability to the warfighter in the shortest possible time. The JBTDS program will incrementally design, develop, integrate, test, procure and field systems that improve biological aerosol detection and sampling capabilities and reduce size, weight, power consumption, and logistic footprint over current systems. COTS and NDI will be exploited to the fullest extent possible. The EBD ATD will develop the initial CONOPS for the JBTDS and clarify requirements for the CDD. Technologies evaluated in the EBD ATD MUA will be considered for rapid acquisition as an interim solution via JBTDS UNS or CPD and subsequent MS C (Increment 0). Further development of these technologies and the 2008 TRE will support JBTDS SDD phase with JBTDS CDD and subsequent MS B (Increment 1). Each future increment of capability will be defined via a separate CDD or CPD and will follow a similar path/process from MS B or C through FRP and will leverage preceding efforts to the greatest extent possible, maintaining commonality and synergy across all increments. Modeling and simulation tools will be used in order to lower program risks, reduce costs and ensure a higher confidence in selected technologies.

JCAD

A new Joint Chemical Agent Detector (JCAD) Acquisition Program Baseline and Single Acquisition Management Plan was approved in Sep 05. The new strategy employs an incremental acquisition approach to provide a military significant capability in the shortest time with subsequent improvements to that capability. Increment 1 will provide simultaneous and automatic detection and identification of chemical warfare agents by class (nerve, blister and blood) to the warfighter and be platform mountable. Increment 2 will add low concentration detection and expand platform utility. For Increment 1, four commercial systems were initially tested, with one selected for Low Rate Initial Production (LRIP). A Sole Source Firm Fixed Price (SS/FFP) contract was awarded in Jun 07 for LRIP. Options for Full Rate Production (FRP) will be added by modification. For Increment 2, a competitive solicitation was issued that includes FFP options for test articles, LRIP and FRP. Increment 2 will commence with an evaluation of commercial systems.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

JCBRAWM	JCBRAWM will provide an enhanced detection capability for waterborne CBR agents using an incremental acquisition strategy. Increment 1 will provide the first biological and radiological detection capability in water base on technologies transitioned from S&T. A combined Technology Development and System Development and Demonstration phase was approved at MS A based on the maturity of the technologies coming from S&T. The JCBRAWM system leverages commercial technologies and GOTS systems to the greatest extent possible. Developmental testing was initiated with these technologies in 3QFY07 and is expected to conclude in 4QFY07. In addition, items were procured and tested from the Critical Reagents Program (CRP) to assess the possibility of using the fielded CRP products as-is in support of Increment 1. The results from the CRP items were promising but additional development is required to optimize the items for use in water. MS C LRIP is planned for 2QFY08 with LRIP in 2QFY08. LRIP quantities will be produced using competed contract for assembly of the JCBRAWM system supported by delivery orders for certain components under existing Firm-Fixed Price ID/IQ contract. MOT&E for Increment 1 will be conducted in 3QFY08 with a FRPDR in 1QFY09. JCBRAWM Increment 2 will improve on the Increment 1 biological detection capability and the fielded M272 Water Test Kit chemical agent detection capability using technologies developing in S&T. Competitive solicitations will be used to identify technologies/vendors for multiple vendors to be evaluated. A gated approach will be used for the evaluation to determine which system(s) will continue beyond MS B in 3QFY09 for further development. MS C for Increment 2 is planned for 3QFY09. In the outyears, Increment 3 will replace the M272 Water Test Kit chemical agent detection capability with new technology and Increment 4 will provide a capability for in-line and continuous sampling for CBR contamination.
JNBCRS I	This joint program follows a modified Non-Developmental Item (NDI) strategy integrating Government Furnished Equipment (GFE), NDI, and systems undergoing development in parallel programs into an integrated suite of detection, analysis, and dissemination of equipment/software. A Low Rate Initial Production (LRIP) contract for the build and integration of 14 M1113 HMMWV variants was awarded on 4 March 2004. Two production representative LAVs were tested concurrently with LRIP HMMWVs during the 3QFY06. The program has been restructured based on the withdrawal of the United States Air Force (USAF) and the results of the Multi-service Test and Evaluation (MOT&E). Deficiencies will be corrected and tested in FY08 with a Full Rate Production (FRP) decision in 1QFY09.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

JNBCRS II	The JNBCRS II program uses spiral development with an evolutionary component/suite upgrade acquisition approach. FY08 funding will initiate the design and development of holistic, net-centric systems architecture to take advantage of emerging technologies and to provide the Services with enhanced full spectrum CBRN detection capability to support strategic, operational, and tactical objectives at lower life cycle costs. JNBCRS II will enhance the Situation Awareness (SA) by providing the ability to detect chemical, biological and radiological hazards across the Range of Military Operations (ROMO) and employ contamination avoidance activities to prevent disruption to operations and organizations.
JNBCRS III	The JNBCRS III program will develop and test system improvements to increase the military utility of the JNBCRS platforms. A Full & Open contract will be awarded for the CBMS II Chem/BIO sensor capability. Competitively awarding this contract will reduce the acquisition life cycle costs, weight, power requirements, and size for the Reconnaissance platform. The JCSD program will transition from the CBRN Unmanned Ground Reconnaissance (CUGR) Advanced Concept Technology Demonstration (ACTD) into Low Rate Initial Production (LRIP) in FY09.
JSLSCAD	The acquisition strategy for the JSLSCAD production phase focuses upon a dual path to procure required systems and concurrently develop and test system improvements to increase the military utility. Upon Milestone Decision Authority (MDA) approval of the JSLSCAD Full Rate Production decision, the Government will award a FFP contract for production of additional systems to fulfill the remaining Stryker NBCRV production and fielding requirements. The JSLSCAD program office will award an Indefinite Delivery/Indefinite Quantity contract to support system engineering, software development, test & evaluation, and system support efforts to increase standoff detection capabilities. This contract type will allow the program office to rapidly respond to evolving system integration requirements and emerging test results with minimal contractual lead time. This will optimize the program goal of inserting the latest software and standoff detection technology into the host platforms in the shortest possible time.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBPDS													
HW C - Purchase Alternative LRU	PO	TBD	C	0	0	NONE	0	NONE	1500	2Q FY09	0	1500	0
JBSDS													
SW SB - Algorithm Development & Study	MIPR	NAVSEA, Johns Hopkins - APL, Baltimore, MD, MIT, Boston, MA	F	1696	1800	2Q FY07	0	NONE	0	NONE	0	3496	0
SW SB - Complete ILS Effort to support JBSDS FUE	C/CPFF	SESI, Columbia, MD	C	0	4285	2Q FY07	0	NONE	0	NONE	0	4285	0
JBSDS II													
HW SB - Fluorescence LIDAR Development	MIPR	SNL, Albuquerque, NM	F	0	0	NONE	0	NONE	500	2Q FY09	0	500	0
SW SB - Algorithm Studies/Development	MIPR	JHU/APL, Baltimore, MD	C	0	0	NONE	0	NONE	750	2Q FY09	0	750	0
HW C - Producibility Study	MIPR	Various, TBD	U	0	0	NONE	0	NONE	350	2Q FY09	0	350	0
HW C - Technology Integration Study	MIPR	Various, TBD	U	0	0	NONE	0	NONE	500	2Q FY09	0	500	0
SW C - Software Development Plan	PO	Various, TBD	C	0	0	NONE	0	NONE	250	2Q FY09	0	250	0
JBTDS													
HW S - System Design	C/CPFF	TBD	C	0	0	NONE	0	NONE	1369	2Q FY09	0	1369	0
JCAD													
HW S - Purchase Commercial Detectors Inc 2	C/FFP	TBD	C	1500	0	NONE	4650	2Q FY08	0	NONE	0	6150	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HW S - System Improvement	C/FFP	TBD	C	0	0	NONE	0	NONE	2000	2Q FY09	0	2000	0
HW S - Purchase of Commercial IPDS Detector Units	C/FFP	TBD	C	0	0	NONE	384	1Q FY08	0	NONE	0	384	0
JCBRAWM													
HW C - Purchase detection tickets and sample concentrators and reader systems	SS/FFP	Various	C	0	650	2Q FY08	0	NONE	2000	2Q FY09	0	2650	0
JNBCRS III													
CBMS II - Chemical/Biological sensor capability	C/CPFF	TBD	C	0	0	NONE	1313	4Q FY08	0	NONE	0	1313	0
CBMS II - Interagency Agreement closeout	MIPR	Oak Ridge National Laboratory (ORNL), Oak Ridge, TN	U	0	0	NONE	217	1Q FY08	0	NONE	0	217	0
JCSD Hardware Maturation Effort	SS/CPFF	ITT Industries, Alexandria, VA	C	0	0	NONE	2868	1Q FY08	0	NONE	0	2868	0
JCSD Software Analysis	MIPR	ECBC, APG, MD	U	0	0	NONE	535	2Q FY08	0	NONE	0	535	0
JSLSCAD													
HW SB - Tradeoff Studies for standoff detection	MIPR	ARINC Engineering Services. LLC, Annapolis, MD	C	0	1500	4Q FY07	0	NONE	0	NONE	0	1500	0
HW S - Hardware Optimization	C/CPFF	Various	C	0	3900	2Q FY08	0	NONE	0	NONE	0	3900	0
SW SB - Software Optimization	C/CPFF	General Dynamics Armament and Technical Products, Charlotte, NC	C	0	3200	2Q FY08	0	NONE	0	NONE	0	3200	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SW S - Model Development and Analysis	C/CPIF	ITT Industries, Alexandria, VA	C	0	150	1Q FY07	0	NONE	0	NONE	0	150	0
MDAP SPRT													
SW SB - Integrate Commodity Area Hardware Systems to SoS Configuration	C/CPFF	TBD	C	0	0	NONE	3200	2Q FY08	2125	2Q FY09	0	5325	0
Subtotal I. Product Development:					15485		13167		11344		0	43192	

Remarks: JCAD - FY08 - 310 systems at $15K per system.
JCAD (IPDS) - FY08 - 12 Units @ $31K per system.

JCBRAWM - FY07 - Increment 1 - 26 systems with consumables @ $25K each.
JCBRAWM - FY09 - Increment 2 - 100 systems with consumables @ $20K each.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBSDS													
ES S - Modeling & Simulation, test support	PO	BSM, Inc, Kennett Square, PA	C	340	324	1Q FY07	0	NONE	0	NONE	0	664	0
ES S - Modeling & Simulation, test support	PO	NAVSEA, Johns Hopkins-APL, Baltimore, MD	C	1839	1529	2Q FY07	0	NONE	0	NONE	0	3368	0
JBSDS II													
ES S - Modeling and Simulation, test support	PO	BSM, Inc, Kennett Square, PA	C	0	0	NONE	0	NONE	350	1Q FY09	0	350	0
ES S - Technology Development, test support	PO	JHU-APL, Baltimore, MD	C	0	0	NONE	0	NONE	1500	2Q FY09	0	1500	0
ES S - Networking, Integration Studies	PO	MIT, Boston, MA	F	0	0	NONE	0	NONE	1000	2Q FY09	0	1000	0
JCAD													
ES S - Navy OTA support (OT Planning)	MIPR	Various	U	0	0	NONE	250	1Q FY08	0	NONE	0	250	0
ES S - Navy OTA support (IPDS)	MIPR	COMOPTEVFOR, Dahlgren, VA	U	0	0	NONE	270	1Q FY08	0	NONE	0	270	0
TD/D S - Navy Materiel Developer (IPDS)	MIPR	NSWC, Dahlgren Division, Dahlgren, VA	U	0	0	NONE	120	1Q FY08	0	NONE	0	120	0
JCBRAWM													
ILS S - Logistics Support	MIPR	RDECOM, APG, MD	U	0	200	1Q FY07	200	1Q FY08	200	1Q FY09	0	600	0
TD/D S - Technical Data Documentation	MIPR	RDECOM, APG, MD	U	0	300	1Q FY07	0	NONE	0	NONE	0	300	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

II. Support Costs - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JNBCRS I													
ES S - Provide strategic/tactical planning, government systems engineering, technology assessment, technical support.	MIPR	Various	U	0	1576	4Q FY07	0	NONE	0	NONE	0	1576	0
JNBCRS II													
ES S - Develop Program Documentation	C/FFP	TBD	C	0	0	NONE	400	3Q FY08	250	2Q FY09	0	650	0
ILS S - Initiate Training & ILS Effort	C/CPFF	TBD	C	0	0	NONE	1271	3Q FY08	2673	2Q FY09	0	3944	0
ES - Perform engineering analysis for P3I design.	C/CPFF	TBD	C	0	0	NONE	1800	3Q FY08	1000	2Q FY09	0	2800	0
JSLSCAD													
TD/D S - Evaluation of Engineering Changes	MIPR	JPM NBC CA, APG, MD	U	1250	50	1Q FY07	0	NONE	0	NONE	0	1300	870
TD/D S - ILS Analysis and Documentation	MIPR	JPM NBC CA, APG, MD	U	2820	100	1Q FY07	0	NONE	0	NONE	0	2920	2315
TD/D S - Prepared Technical Manuals and Documents	MIPR	JPM NBC CA, APG, MD	U	1470	50	1Q FY07	0	NONE	0	NONE	0	1520	650
Subtotal II. Support Costs:					4129		4311		6973		0	23132	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBPDS													
OTE S - Test Readiness Evaluation	MIPR	ECBC, APG, MD	U	0	1000	2Q FY07	0	NONE	0	NONE	0	1000	0
DTE C - Live Agent/Engineering Test	PO	Various, TBD	U	0	0	NONE	0	NONE	3257	3Q FY09	0	3257	0
JBSDS													
OTHT SB - JBSDS Operational Test and Evaluation	MIPR	OTC/AEC/AFOTEC, Location Various	U	5041	2635	2Q FY07	0	NONE	0	NONE	0	7676	0
OTHT SB - Agent Simulant Correlation	MIPR	Sandia National Laboratory, Albuquerque, NM	U	630	1336	2Q FY07	0	NONE	0	NONE	0	1966	0
JBSDS II													
DTE C - Developmental testing	MIPR	DPG, UT	U	0	0	NONE	0	NONE	500	2Q FY09	0	500	0
DTE S - TEMP development	MIPR	Various, TBD	U	0	0	NONE	0	NONE	300	2Q FY09	0	300	0
JBTDS													
OTHT SB - System Integration	MIPR	Dugway Proving Ground, UT	U	0	0	NONE	0	NONE	446	3Q FY09	0	446	0
JCAD													
DTE S - JCAD Inc 2 Developmental Test (DT)	MIPR	Various	U	20391	463	4Q FY07	3542	1Q FY08	6077	2Q FY09	0	30473	0
OTE S - Increment 2 Operational Assessment	MIPR	Various	U	0	0	NONE	0	NONE	3000	2Q FY09	0	3000	0
OTE S - Increment 1 MOT&E	MIPR	Various	U	0	4980	4Q FY07	0	NONE	0	NONE	0	4980	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
OTHT C - CWA/Interferent Lab Testing	MIPR	ECBC, APG, MD	U	0	0	NONE	391	1Q FY08	0	NONE	0	391	0
DTE S - IPDS Developmental Test	MIPR	NSWC, Dahlgren Division, Dahlgren, VA	U	0	0	NONE	300	2Q FY08	0	NONE	0	300	0
OTE S - IPDS IOT&E	MIPR	COMOPTEVFOR, Dahlgren, VA	U	0	0	NONE	185	2Q FY08	0	NONE	0	185	0
JCBRAWM													
DTE S - Developmental Testing	MIPR	Dugway Proving Ground (DPG), UT & White Sands Missile Range, NM	U	0	1000	2Q FY07	0	NONE	0	NONE	0	1000	0
OTHT C - Conduct shelf life test	MIPR	Dugway Proving Ground (DPG), UT	U	0	350	2Q FY07	0	NONE	0	NONE	0	350	0
OTE S - MOT&E	MIPR	Various	U	0	0	NONE	1491	3Q FY08	0	NONE	0	1491	0
OTE S - MOT&E Planning	MIPR	Various	U	0	200	3Q FY07	0	NONE	0	NONE	0	200	0
OTHT S - Follow-On Test & Evaluation	MIPR	Various	U	0	0	NONE	0	NONE	739	1Q FY09	0	739	0
JNBCRS II													
DTE C - Develop and implement P3I Test Program	MIPR	TBD	U	0	0	NONE	300	3Q FY08	937	2Q FY09	0	1237	0
OTE S - Develop and implement LRIP MOT&E.	MIPR	TBD	U	0	0	NONE	750	3Q FY08	1500	2Q FY09	0	2250	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JNBCRS III													
JCSD - Environmental and Reliability Growth Testing	SS/CPFF	ITT Industries, Alexandria, VA	C	0	0	NONE	0	NONE	1625	1Q FY09	0	1625	0
JSLSCAD													
OTE S - M&S & Development of Improved Techniques for Test	PO	Various	U	8506	1350	2Q FY07	0	NONE	0	NONE	0	9856	0
OTHT SB - Engineering Development Testing and Remote Sensing Systems	PO	Various	U	7209	2100	3Q FY07	0	NONE	0	NONE	0	9309	0
MDAP SPRT													
DTE S - Demonstration and Technology (DT) Testing to Validate SoS Concept	MIPR	TBD	U	0	0	NONE	2000	2Q FY08	3945	2Q FY09	0	5945	0
Subtotal III. Test and Evaluation:					15414		8959		22326		0	88476	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JBPDS													
PM/MS S - Project Management	MIPR	JPM BD, APG, MD	U	940	906	1Q FY07	0	NONE	600	1Q FY09	0	2446	0
JBSDS													
PM/MS S - JPM BD, APG, MD	MIPR	JPM BD, APG, MD	U	2677	2572	1Q FY07	0	NONE	0	NONE	0	5249	0
PM/MS S - PM/MS other services (USN, USMC, USAF)	MIPR	Various	U	368	2359	2Q FY07	0	NONE	0	NONE	0	2727	0
PM/MS S - Modeling and Simulation Analysis	MIPR	Various	U	0	607	2Q FY07	0	NONE	0	NONE	0	607	0
JPEO Management Support	Allot	JPEO, Falls Church, VA	U	0	1000	4Q FY07	0	NONE	0	NONE	0	1000	0
JBSDS II													
PM/MS S - JPM BD, APG, MD	MIPR	APG, MD	U	0	0	NONE	0	NONE	2718	1Q FY09	0	2718	0
PM/MS S - Other Services (USN, USAF, USMC)	MIPR	Various, TBD	U	0	0	NONE	0	NONE	800	2Q FY09	0	800	0
PM/MS S - Modeling and Simulation Analysis	MIPR	ECBC, APG, MD	U	0	0	NONE	0	NONE	500	2Q FY09	0	500	0
PM/MS S - Acquisition Documentation	MIPR	Various, TBD	U	0	0	NONE	0	NONE	300	2Q FY09	0	300	0
JBTDS													
PM/MS SB - Post MS B Contractor Support for System Demonstration	C/FFP	TBD	C	0	0	NONE	0	NONE	291	2Q FY09	0	291	0
JCAD													
PM/MS S - Joint Service Support	MIPR	Various	U	0	0	NONE	1480	2Q FY08	2738	2Q FY09	0	4218	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCBRAWM													
PM/MS S - Joint Service Support	MIPR	JPM NBC CA, APG, MD	U	0	350	1Q FY07	358	1Q FY08	768	1Q FY09	0	1476	0
PM/MS S - Joint Service Integrated Product Support	MIPR	Various	U	0	272	2Q FY07	200	2Q FY08	400	2Q FY09	0	872	0
JNBCRS II													
PM/MS S - Milestone Acquisition & Documentation Development	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	450	2Q FY08	500	2Q FY09	0	950	0
PM/MS S - Milestone Acquisition & Documentation Development	MIPR	Miscellaneous OGAs	U	0	0	NONE	423	2Q FY08	200	2Q FY09	0	623	0
JNBCRS III													
PM/MS S - CBMS II - Program Management and Systems Engineering Support	MIPR	JPM NBC CA , APG, MD	U	0	0	NONE	444	1Q FY08	0	NONE	0	444	0
PM/MS S - JCSD Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	555	1Q FY08	806	1Q FY09	0	1361	0
JSLSCAD													
PM/MS S - Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	7983	1963	1Q FY07	0	NONE	0	NONE	0	9946	2580
PM/MS S - Joint Service Support	MIPR	Various	U	3050	1310	1Q FY07	0	NONE	0	NONE	0	4360	0
MDAP SPRT													
PM/MS S - MDAP SPRT Cell Planning and Management Support	Allot	MDAP SPRT Cell, Falls Church, VA	U	0	0	NONE	689	1Q FY08	800	1Q FY09	0	1489	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	386	NONE	0	NONE	0	386	0
Subtotal IV. Management Services:					11339		4985		11421		0	42763	
Remarks:													
TOTAL PROJECT COST:					46367		31422		52064		0	197563	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBPDS																												
Design and Validate selected Upgrades	>>	—	—	—	—	—	—	3Q																				
Whole System Live Agent Test	>>	—	—	—	—	—	—	3Q																				
Request for Proposal/FRP	>>	—	—	4Q																								
Follow-On Operational Test and Evaluation (FOT&E)				4Q	1Q																							
MS C Full Rate Production Decision									1Q																			
Contract Award									1Q	2Q																		
Full Rate Production										2Q																		
Build II - LRU Improvements Identification and selection										2Q	—	—	—	—	—	—	1Q											
Build II - Test plan and test methodology development										2Q	—	—	—	2Q														
Build II - Test and validation of LRU improvements																			3Q	4Q								
Early Live Agent Tests										2Q	—	—	1Q															
JBSDS																												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBSDS (Cont)																												
Increment 1 JBSDS Multi-Service Operational Test & Evaluation (MOT&E)	>>	—	—	—	1Q																							
LRIP 2						2Q	3Q																					
Increment 1 JBSDS Full Rate Production							3Q	—	—	—	—	—	—	—	—	4Q												
Increment 1 JBSDS First Unit Equipped (FUE)								4Q	—	2Q																		
JBSDS II																												
Increment 2 Technology Modeling	>>	—	—	4Q																								
Increment 2 Requirements Trade-Off	>>	—	—	4Q																								
Increment 2 Science & Technology Development	1Q	—	—	—	—	—	—	—	—	—	3Q																	
Increment 2 Spiral 1 Pre Milestone B Activities					1Q	—	—	—	—	—	3Q																	
Increment 2 Spiral 1 Milestone B										3Q																		
Increment 2 Spiral 1 System Development										3Q	—	—	—	—	—	—	—	3Q										

Project CA5/Line No: 104

Exhibit R-4a (PE 0604384BP)

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBSDS II (Cont)																												
Increment 2 Spiral 2 Pre Milestone B Activities													1Q	—	—	3Q												
Increment 2 Spiral 1 Milestone C																			3Q									
Increment 2 Spiral 1 LRIP																			3Q	—	—	3Q						
Increment 2 Spiral 2 System Development																			3Q	—	—	—	—	—	—	—	3Q	
Increment 2 Spiral 1 MOT&E																								4Q	—	2Q		
Increment 2 Spiral 1 Full Rate Production																										2Q		
Increment 2 Spiral 2 Milestone C																												3Q
JBTDS																												
Market Survey	1Q	—	3Q																									
System Engineering Trade Study			3Q	4Q																								
CDD			3Q	—	—	3Q																						
MS B Doc Prep				4Q	—	—	—	4Q																				
MS B Decision									2Q																			
SDD									2Q	—	—	—	—	—	—	4Q												
Capability Production Document													1Q	—	—	4Q												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBTDS (Cont)																												
Developmental Test & Evaluation													1Q	—	—	4Q												
MS C Decision																	1Q											
Low Rate Initial Production (LRIP)																	1Q	—	3Q									
Operational Test & Evaluation																	1Q	—	—	4Q								
Full Rate Production (FRP) Decision																						2Q						
FRP																						2Q	—	—	—	—	—	4Q
First Unit Equipped (FUE)																							3Q				
JCAD																												
JCAD Inc 1 - Production Qualification Test (PQT)	1Q																											
JCAD Inc 1 - Milestone C Low Rate Initial Production (LRIP) Decision			3Q																									
JCAD Inc 1 - Multi-service Operational Test and Evaluation (MOT&E)				4Q																								
JCAD Inc 1 - Milestone C Full Rate Production (FRP) Decision						2Q																						
JCAD Inc 2 - Production Qualification Test (PQT)				4Q	—	—	—	—	—	2Q																		

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCAD (Cont)																												
JCAD Inc 2 - Gate 2 Decision (Down-select)							3Q																					
JCAD Inc 2 - Operational Assessment								4Q																				
JCAD Inc 2 - Gate 3 Decision (Down-select)									1Q																			
JCAD Inc 2 - Milestone C Low Rate Initial Production (LRIP) Decision												4Q																
JCAD Inc 2 - LRIP Contract Award												4Q																
JCAD Inc 2 - Production Verification Test (PVT)													1Q	2Q														
JCAD Inc 2 - Multi-service Operational Test and Evaluation (MOT&E)														2Q	3Q													
JCAD Inc 2 - Milestone C FRP Decision																4Q												
JCBRAWM																												
Contractor Test & Evaluation Efforts	1Q	—	—	4Q																								
Operational/Development Test Increment 1		2Q	—	—	1Q																							

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCBRAWM (Cont)																												
MS C Increment 1 Low Rate Initial Production						2Q																						
MS C Increment 1 Full Rate Production (FRP) Decision										2Q																		
JNBCRS I																												
JNBCRS I Milestone C Full Rate Production (FRP) Decision									1Q																			
JNBCRS II																												
JNBCRS II Program Initiation					1Q																							
JNBCRS II Prod Verification Test - Commercial off-the-shelf Equip											3Q	—	2Q															
JNBCRS II Milestone C - Low Rate Initial Production (LRIP)								4Q																				
JNBCRS III																												
CBMS II - Chemical/Biological Full & Open Competition								4Q	—	3Q																		
JCSD - Hardware Maturation Effort					1Q	—		4Q																				

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CA5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JNBCRS III (Cont)																												
JCSD - Environmental &Reliability Growth Testing									1Q — 3Q																			
JSLSCAD																												
Milestone C/Low Rate Initial Production (LRIP) Decision		2Q																										
LRIP Contract Award				4Q																								
Full Rate Production (FRP) Decision						2Q																						
System of Systems Approach	1Q —								1Q																			
Engineering Development Test (EDT)				4Q																								
MDAP SPRT																												
Modeling and Simulation (M&S) Analysis to Support Development	>> —		3Q																									
Trade Analysis to Identify Components	>>	2Q																										
System of Systems (SoS) Component Development		2Q —			2Q																							
Data Fusion Algorithm Development		2Q —											2Q															

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CM5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CM5	HOMELAND DEFENSE (SDD)	3961	0	2481	2974	0	0	0	0	9416

A. Mission Description and Budget Item Justification:

Project CM5 HOMELAND DEFENSE (SDD): The Weapons of Mass Destruction - Civil Support Teams program (WMD-CST) supports the acquisition and delivery of an integrated chemical, biological, and nuclear analytical detection and rapid response capability for the National Guard Bureau's (CSTs) and the United States Army Reserve (USAR) Chemical Reconnaissance and Decontamination Platoons. Capabilities include a state-of-the-art Command, Control, Communications, Computer, and Intelligence (C4I) system that enables secure communications with Federal, State, and Local authorities from a WMD incident site. The program also provides CSTs and Reconnaissance/Decontamination platoons with individual protection, detection, survey and communications monitoring capability.

The FY09 CB Installation Protection program supports the development of analytical methodologies to expand/enhance the operational capabilities of currently fielded CBRN detection, identification and protection technologies against emerging threats to include toxic industrial chemicals (TICs), chemical warfare agents (CWAs), and biological warfare agents (BWAs). Detection and identification of these substances is currently difficult and time-consuming. Current systems lack extensive libraries to support rapid identification. Identification may also involve multiple, expensive technologies. The ability to rapidly detect and identify a TIC is essential to effectively control and mitigate its effects, thus effectively protecting personnel. Program also supports the evaluation of emerging CBRN detection, identification, information management and decision support technologies to DoD response units to maintain required state of the art capabilities.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
CB INSTALLATION/FORCE PROTECTION PROGRAM	0	0	2481
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CM5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CBIPP - FY 09 - System Methodologies Development - Supports development of analytical methodologies to expand CBRN detection, identification, and protection capabilities.	0	0	750
CBIPP - FY 09 - Technology Evaluation - Supports the evaluation of CBRN detection, identification, information management, and decision support technologies.	0	0	1731
Total	**0**	**0**	**2481**

	FY 2007	FY 2008	FY 2009
WMD - CIVIL SUPPORT TEAMS	3961	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
WMD CST - Congressional Interest Item - FY 07 - Countermeasures to Biological and Chemical Control Rapid Response.	3961	0	0
Total	**3961**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CM5**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
JS0004 WMD - CIVIL SUPPORT TEAM EQUIPMENT	30746	800	0	0	0	0	0	0	31546
JS0500 CB INSTALLATION FORCE PROTECTION PROGRAM	59019	85829	88565	58789	59542	0	0	0	351744

D. Acquisition Strategy:

FORCE PROT

Special Study for System Methodology Development: Will support the development of analytical methodologies to expand/enhance the operational capabilities of currently fielded CBRN detection, identification and protection technologies against emerging threats to include TIC, CWA, and BWA threats.

Special Study for CBRN Defense Technology Evaluation: Will support the evaluation of emerging CBRN detection, identification, information management and decision support technologies to DoD response units to maintain required state-of-the-art capabilities.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CM5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
FORCE PROT													
HW S - Special Study -- System Methodology Development	C/FP	TBD	C	0	0	NONE	0	NONE	750	1Q FY09	0	750	0
HW S - Special Study -- CBRN Defense Technology Evaluation	C/FP	TBD	C	0	0	NONE	0	NONE	1731	1Q FY09	0	1731	0
WMD CST													
WMD CST - Countermeasures to Bio & Chem Control	SS/FP	University of South Florida, Tampa, FL	C	0	3961	4Q FY07	0	NONE	0	NONE	0	3961	0
Subtotal I. Product Development:					3961		0		2481		0	6442	

Remarks:

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

IV. Management Services: Not applicable

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA5 - System Development and Demonstration (SDD)**	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**CM5**

TOTAL PROJECT COST:		3961		0		2481		0	6442	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/**
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CM5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FORCE PROT																												
System Methodologies Development									1Q	—	—	4Q																
Technology Evaluation									1Q	—	—	4Q																
System Architecture Development													1Q	—	—	4Q												
Bio-Collection/Detection Evaluation													1Q	—	—	4Q												

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CO5	COLLECTIVE PROTECTION (SDD)	6220	13866	11386	2704	0	0	0	0	34176

A. Mission Description and Budget Item Justification:

Project CO5 COLLECTIVE PROTECTION (SDD): Funding supports System Demonstration and Low Rate Initial Production (SD/LRIP) of Joint Service Chemical, Biological, and Radiological (CBR) Collective Protection (CP) systems that are smaller, lighter, less costly to produce and maintain, and more logistically supportable enabling mission accomplishment in CBRN environments. CP systems can be installed on any type of platform, such as hard and soft shelters, vehicles, ships, aircraft, and buildings. CP systems provide spaces safe from the effects of CBRN contamination.

Systems funded under this project are: (1) Joint Collective Protection Equipment (JCPE), (2) Joint Expeditionary Collective Protection (JECP).

JCPE - Provided needed improvements and cost saving standardization to fielded fixed site, building, shipboard, and vehicle collective protection systems. The program focused on fixing specific problems and deficiencies with fielded collective protection system equipment designated high priority by each Service and validated by the Collective Protection Joint Project Office (ColPro JPO). Standardization of individual system components (specifically filter systems) across Joint Service mission areas reduced logistics burden while maintaining the industrial base.

JECP - Results of a Baseline Capability Assessment conducted by the Joint Requirements Office (JRO) identified expeditionary Collective Protection (CP) as the highest priority capability gap within the commodity area. JECP provides the Joint Expeditionary Forces a Collective Protection (CP) capability which is lightweight, compact, modular, and affordable. A family of systems is planned that will allow the application of CP to portable hard-side and soft-side shelters, enclosed spaces of opportunity, and in remote austere locations as a stand alone resource. JECP will be capable of protecting personnel groups of varying size, unencumbered by Individual Protective Equipment (IPE), from the effects of CB agents, Toxic Industrial Materials (TIMs), heat, dust, and sand. The employment of JECP is a strategic deterrence against enemy use of CBRN agents or TIMs, and will reduce the need for personnel and equipment decontamination.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CO5

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT COLLECTIVE PROTECTION EQUIPMENT (JCPE)	2205	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCPE - FY 07 - Completed technical data package (TDP) for FFA-400. Completed development of shipboard CP automation. Completed the design and testing of an improved Navy filter housing o-ring. Completed environmental qualification of simplified filter housing. Completed Aerodynamic deduster study to reduce the CPS logistics burden. Completed the study and analysis of the M93 gas particulate filter unit. Completed program management and IPT support. Completed development and testing of reliability improvements to the Fan Filter Assembly (FFA)-400 and M28 blowers. Completed testing of 100/200 CFM gas filters with new media to provide protection against selected Toxic Industrial Chemicals (TICs). Completed TDP for BASE-X liner.	410	0	0
JCPE - FY 07 - Completed the test and surveillance effort to better understand factors affecting service life and capacity of filters for land-based facilities. Completed design and testing of improved gaskets for M98 filter set. Completed contaminated filter change-out procedures. Completed agent testing to verify 100/200 CFM gas filter improvements. Completed technical data package for Collectively Protected Expeditionary Latrine (CPEL). Completed applicability of High Efficiency Particulate Arrestance (HEPA) filter studies to Chemical, Biological, Radiological, and Nuclear (CBRN) defense. Completed a study on the effects on CBRN filters.	1000	0	0
JCPE - FY 07 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	795	0	0
Total	**2205**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CO5

	FY 2007	FY 2008	FY 2009
JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)	4015	13695	11386
RDT&E Articles (Quantity)	0	36	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JECP - FY 08/09 - Award SDD contract for prototype development and testing including an Early Operational Assessment (EOA). Prototypes will consist of 6 tent kits, 6 structure kits at an estimated unit cost of $75K each and 6 of each stand alone system (man-portable-$5K, small-$7K, medium-$36K, and large-$150K) with an estimated total cost of $1,188K. The total cost of all prototypes is $2,088K. FY 08/09 - Integrate contractor into the joint IPT structure, build contractor WBS, participate in technical reviews Systems Requirements Review (SRR), System Functional Review (SFR) and Preliminary Design Review (PDR) and Critical Design Reviews (CDR). Develop and integrate prototypes, conduct configuration management, logistics planning, and contractor developmental testing.	0	7997	4843
JECP - FY 07/08/09 - Conduct Systems Engineering Integrated Product Team (IPT) support. Provide systems engineering acquisition documentation for MS B. Finalize system architecture, and system Work Breakdown Structure (WBS). Provide technical oversight of SDD contractor. Plan and conduct technical reviews including a SRR, SFR, PDR, and CDR. FY 09 - Provide a Subject Matter Expert (SME) to the Joint Requirements Office (JRO) for Capabilities Production Document (CPD) development. Validate and verify system configuration. Initiate New Equipment Training program for JECP FoS.	1200	1073	1028
JECP - FY 07/08/09 - Conduct Test and Evaluation (T&E) IPT support. Provide T&E acquisition documentation for MS B. Integrate the Test Threat Support Package (TTSP) into the TEMP. Conduct integrated test planning, coordination, and execution.	1231	875	1390

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
JECP - FY 07/08/09 - Initiate a supportability analysis to address logistics support elements including maintenance philosophy, manpower & personnel, supply support, Tech Data, support & test equipment, training and training support through the Integrated Logistics Support Integrated Product Team (IPT). FY 08/09 - Initiate development of a Post-Production Support Plan and a Joint Logistics Support Plan. Finalize Joint Support Strategy. Conduct a Performance Based Logistics Assessment. Conduct an Independent Logistics Assessment. Develop JECP Family of Systems documentation and support strategy for NET program.	196	250	625
JECP - FY 07 - Conducted Limited Objective Experiment (LOE) with the Joint Combat Developer, Joint Experimentation and Analysis Branch, to examine service unique tactics, techniques, and procedures. Conducted literature search, experiment planning conference, notional concept of operations, table top exercise, live experiment, and final report.	292	0	0
JECP - FY 07/08/09 - Provide program management and Acquisition Program Management Office (APMO) contractor support including financial tracking, schedule monitoring, System Design Development (SDD) contract management, and JPEO/JPM reporting requirements. FY 08 - Finalize acquisition documentation for MS B (Single Acquisition Management Plan (SAMP), Acquisition Program Baseline (APB), Test & Evaluation Master Plan (TEMP), SCG, etc.). Conduct source selection planning and support award of System Development and Demonstration contract. FY 09 - Prepare MS C documentation.	1096	1100	1100
JECP - FY 08/09 - Provide strategic tactical planning, government systems engineering, program/ financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	0	2400	2400
Total	**4015**	**13695**	**11386**

	FY 2007	**FY 2008**	**FY 2009**
SBIR/STTR	0	171	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	171	0
Total	**0**	**171**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
JN0014 COLLECTIVE PROT SYS AMPHIB BACKFIT (CPS BACKFIT)	9258	10492	5083	0	0	0	0	0	24833
JP0911 CP FIELD HOSPITALS (CPFH)	3613	3496	3342	3446	3489	4281	4698	Cont	Cont
JP1111 JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)	0	0	0	6120	7927	5126	4748	Cont	Cont
R12301 CB PROTECTIVE SHELTER (CBPS)	30462	25600	29359	32142	32537	37032	37002	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**CO5**

D. Acquisition Strategy:

JCPE	The JCPE acquisition strategy was to consolidate planned improvements to fielded collective protection systems into one Joint product improvement program for addressing deficiencies, improvements, and cost saving initiatives. System improvements, after successful prototype development and testing, were delivered via a performance specification that can then be implemented by respective Services thru an Engineering Change Proposal (ECP) process. All modified components were fabricated and tested to ensure Service compatibility. Fielding will be accomplished thru phased replacement or attrition thru the supply system. Existing procurement contracts were leveraged to expedite fielding improvement upgrades.
JECP	Strategy based on incremental development in consonance with the JRO/User developed capability documents. During the Pre-MS A Concept Refinement Phase, conduct a tailored Analysis of Alternatives (AoA) leveraging the market survey, test results and lessons learned from the FY05 ColPro Technology Readiness Evaluation (TRE). During the Technology Development Phase following MS A, technology demonstrations will be conducted to mitigate risk and identify affordable mature technologies that individually or together meet the warfighters needs. Following MS B, a Statement of Work (SOW) and Performance Specification will be used to award competitive cost plus incentive type contract(s) to build prototypes that will be subjected to robust engineering developmental testing and Operational Assessment during the System Development & Demonstration phase. Following MS C, award a contract for Low Rate Initial Production (LRIP) to support formal Developmental Testing (DT) and Multi-Service Operational Test & Evaluation (MOT&E). Following a successful Full Rate Production (FRP) decision, award a fixed price production contract with multi-year options. For each incremental capability identified by the user, a similar approach for MS B and C will be used to seamlessly integrate improved and/or new technologies into follow-on increments to achieve a full JECP capability.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCPE													
HW C - Technical data package for BASE-X Liner	MIPR	ECBC, Edgewood, MD	U	0	80	3Q FY07	0	NONE	0	NONE	0	80	0
HW C - Technical data package for FFA-400	MIPR	ECBC, Edgewood, MD	U	0	90	1Q FY07	0	NONE	0	NONE	0	90	0
HW S - Contaminated filter changeout procedures	MIPR	NSWCDD, Dahlgren, VA	U	0	100	1Q FY07	0	NONE	0	NONE	0	100	0
JECP													
HW C - Prototype Development	C/CPIF	TBD	C	0	0	NONE	7997	2Q FY08	4843	2Q FY09	0	12840	0
Subtotal I. Product Development:					270		7997		4843		0	13110	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JECP													
ES S - Systems Engineering IPT	MIPR	Various	U	0	1200	1Q FY07	1073	1Q FY08	1028	1Q FY09	0	3301	0
ILS S - Product Support IPT	MIPR	Various	U	0	196	1Q FY07	250	1Q FY08	625	1Q FY09	0	1071	0
TD/D S - Limited Objective Experiment	MIPR	Fort Leonard Wood, MO	U	0	292	1Q FY07	0	NONE	0	NONE	0	292	0
Subtotal II. Support Costs:					1688		1323		1653		0	4664	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCPE													
DTE C - Environmental Qualification of Simplified Filter Housing	MIPR	NSWCDD, Dahlgren, VA	U	40	45	1Q FY07	0	NONE	0	NONE	0	85	0
OTHT C - Test FFA-400-100 Motor/Blower Prefilter	MIPR	NSWCDD, Dahlgren, VA	U	0	16	1Q FY07	0	NONE	0	NONE	0	16	0
OTHT S - Contaminated filter changeout procedures	MIPR	NSWCDD, Dahlgren, VA	U	0	485	1Q FY07	0	NONE	0	NONE	0	485	0
OTHT C - Land-based Filter Surveillance Testing	MIPR	NSWCDD, Dahlgren, VA	U	125	250	1Q FY07	0	NONE	0	NONE	0	375	0
OTHT SB - 100/200 CFM Gas Filter - Live Agent Testing	MIPR	RDECOM, APG, MD	U	1402	65	1Q FY07	0	NONE	0	NONE	0	1467	582
DTE C - Improved gasket for M98 filter set	MIPR	NSWCDD, Dahlgren, VA	U	0	100	1Q FY07	0	NONE	0	NONE	0	100	0
JECP													
OTHT SB - Test & Evaluation IPT	MIPR	Various	U	0	1231	1Q FY07	875	1Q FY08	1390	1Q FY09	0	3496	0
Subtotal III. Test and Evaluation:					2192		875		1390		0	6024	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCPE													
PM/MS S - Overall Program Management & IPT Oversight	MIPR	NSWCDD, Dahlgren, VA	U	1938	179	1Q FY07	0	NONE	0	NONE	0	2117	1403
PM/MS S - JPEO Oversight	MIPR	JPEO-CBD, Falls Church, VA	U	0	795	4Q FY07	0	NONE	0	NONE	0	795	0
JECP													
PM/MS SB - APMO Support	MIPR	Various	U	0	1096	1Q FY07	1100	1Q FY08	1100	1Q FY09	0	3296	0
PM/MS S - JPEO-CBD Support	MIPR	JPEO CBD, Falls Church, VA	U	0	0	NONE	2400	1Q FY08	2400	1Q FY09	0	4800	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	171	NONE	0	NONE	0	171	0
Subtotal IV. Management Services:					2070		3671		3500		0	11179	

Remarks:

TOTAL PROJECT COST:		6220		13866		11386		0	34977	

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CO5

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCPE																												
Develop and Test FFA400-100 and M93 MCPE	>>			4Q																								
Agent Testing 100/200 CFM Gas Filters	>>							3Q																				
Develop and Test 100/200 CFM Gas Filters-TICs	>>						2Q																					
Develop and Test Ship CP Automation	>>				1Q																							
Environmental qualification of simplified filter housing	>>							3Q																				
TDP for CPEL	>>		3Q																									
Land-based Aged Filter Capacity	>>						2Q																					
HEPA filter studies to CBR defense	>>			4Q																								
Effects on CBRN filters due to ingestion of smoke	>>			4Q																								
Improved Navy filter housing o-ring	>>			4Q																								
Study and analysis of the M93 GPFU	>>		3Q																									
Aerodynamic deduster study to reduce the CPS logistics burden	>>			4Q																								
Improved gaskets for M98 filter set	>>			4Q																								

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: CO5

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCPE (Cont)																												
Contaminated filter changeout procedures		2Q	—	4Q																								
TDP for FFA-400	1Q	—	3Q																									
TDP for Base-X Liner			3Q	—	—	—	3Q																					
JECP																												
Limited Objective Experiment		2Q	3Q																									
Complete CDD						2Q																						
Request for Proposal (RFP)					1Q																							
MS-B Decision						2Q																						
System Development Demonstration Contract Award							3Q																					
Prototype System Development & Testing							3Q	—	—	—	—	—	—	—	4Q													
Operational Assessment (OA)														2Q														
Capability Production Document (CPD)														2Q														
MS-C Decision															3Q													
LRIP Option																4Q												
MOT&E																	1Q	—	3Q									

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **CO5**

D. Schedule Profile (cont):	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JECP (Cont)																												
FRP Decision Review																				4Q								

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
DE5	DECONTAMINATION SYSTEMS (SDD)	10824	5980	13165	21556	18919	16788	12692	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project DE5 DECONTAMINATION SYSTEMS (SDD): This project funds System Development and Demonstration (SDD) for (1) the Human Remains Decontamination System (HRDS), (2) the Joint Platform Interior Decontamination (JPID) (3) the Joint Service Personnel/Skin Decontamination System (JSPDS), (4) the Joint Service Sensitive Equipment Decontamination (JSSED) and (5) the Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS) and Large Scale (JSTDS-LS).

The Human Remains Decontamination System (HRDS) will provide the capability to ensure the safety of personnel handling and processing Chemical, Biological, and Radiological (CBR) Contaminated Human Remains (CHR) and the capability to repatriate CBR CHR. The HRDS is envisioned as a system with three components: one to handle the CBR CHR from the Point of Incident (POI) to the Mortuary Affairs Decontamination Collection Point (MADCP), one to decontaminate the CBR CHR and to complete the Mortuary Affairs (MA) Mission, and one to transport CHR to the Continental United States (CONUS).

The JSSED and JPID programs are based on the same technology and are being executed together by the Joint Material Decontamination System (JMDS) program office. These systems will fill the capability to decontaminate chemical and biological warfare agents from individual sensitive equipment, vehicle/aircraft/building interiors and the sensitive equipment within and the associated cargo. JSSED will provide the capability for individual sensitive equipment decontamination and JPID will provide the capability for platform interior decontamination. Neither of these capabilities currently exist in DoD.

The JSPDS will provide a United States Food and Drug Administration approved individually carried skin decontamination kit that will be used for immediate decontamination of skin, protective masks, hoods and gloves.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: DE5

The JSTDS Small Scale program will be transported by existing platforms in close proximity to combat operations and will be used for operational and thorough decontamination of non-sensitive military materiel, limited facility decontamination at logistics bases, airfields (and critical airfield assets), naval ships, ports, key command and control centers, and other fixed facilities that have been exposed to CBRN warfare agents/contamination.

Joint Service Transportable Decontamination System Large Scale (JSTDS-LS) program provides the capability to conduct operational and thorough decontamination of medium to large non-sensitive equipment (mobile or fixed), aircraft, facilities, terrain, seaports of debarkation (SPODs) and aerial ports of debarkation (APODs).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
HUMAN REMAINS DECON SYSTEM	0	0	2548
RDT&E Articles (Quantity)	0	0	60

Accomplishments/Planned Program	FY2007	FY2008	FY2009
HRDS - FY 09 - Prepare and release solicitation and evaluate responses.	0	0	40
HRDS - FY 09 - Procure test articles (Contaminated Human Remains Pouches (CHRPs): Remains Decontamination System (RDS): various quantity/various components (tents, roller assembly, sprayer, containers and contaminant bags)) to support Component Developmental Testing and System Integration and Reliability testing. (FY 09: 60 pouches at $1K each for $60K).	0	0	400
HRDS - FY 09 - Conduct developmental testing of CHRP.	0	0	200
HRDS - FY 09 - Conduct developmental testing and analysis of RDS components against operational requirements, where existing data is not available. Verification of component interfaces. HRDS System level testing.	0	0	700

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: DE5

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
HRDS - FY 09 - Conduct engineering, testing, and logistics planning and documentation to support Milestone B, Milestone C, Full Rate Production Decision and fielding.	0	0	1208
Total	**0**	**0**	**2548**

	FY 2007	FY 2008	FY 2009
JOINT PLATFORM INTERIOR DECONTAMINATION (JPID)	0	0	3230
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JPID/JMDS - FY 09 - Continue development of JMDS initiated under ACD&P.	0	0	3230
Total	**0**	**0**	**3230**

	FY 2007	FY 2008	FY 2009
JOINT SERVICE PERSONNEL/SKIN DECONTAMINATION SYSTEM	945	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSPDS - FY 07 - Performed follow-on cyclic temperature testing.	550	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: DE5

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
JSPDS - FY 07 - Completed program documentation updates and obtained MS C full rate production decision. Transition to support strategy identified by the Performance Based Logistics Business Case Analysis and other technical studies.	395	0	0
Total	**945**	**0**	**0**

	FY 2007	FY 2008	FY 2009
JS SENSITIVE EQUIP DECON (JSSED)	2616	5906	4442
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSSED - FY 07 - Awarded SDD contract for JSSED/JMDS.	2616	0	0
JSSED - FY 08 - Initiate development of JSSED/JMDS prototype.	0	4464	0
JSSED - FY 08/09 - Fabricate JSSED/JMDS prototype for contractor test.	0	1442	2235
JSSED - FY 09 - Initiate JSSED/JMDS Developmental Test (DT).	0	0	2207
Total	**2616**	**5906**	**4442**

	FY 2007	FY 2008	FY 2009
JS TRANSPORTABLE DECONTAMINATION SYSTEM - LARGE SCALE (JSTDS LS)	746	0	2945
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: DE5

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSTDS-LS - FY 07 - Performed market research. Developed and submitted RFI.	746	0	0
JSTDS-LS - FY 09 - Initiate Integrated Product Team (IPT) to develop JSTDS-LS.	0	0	1097
JSTDS-LS - FY 09 - Initiate design of JSTDS-LS.	0	0	766
JSTDS-LS - FY 09 - Prepare documentation for Contract Award.	0	0	1082
Total	**746**	**0**	**2945**

	FY 2007	FY 2008	FY 2009
JS TRANSPORTABLE DECONTAMINATION SYSTEM - SMALL SCALE (JSTDS-SS)	6517	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSTDS-SS - FY 07 - Performed extended live agent, toxic industrial material and material compatibility testing on the JSTDS-SS decontaminant to determine if objective capabilities can be met with existing decontaminant.	1209	0	0
JSTDS-SS - FY 07 - Updated program, logistics and training documentation to reflect configuration changes, and test results. Prepared plans to modify fielded systems, as required.	1540	0	0
JSTDS-SS - FY 07 - Completed Multi service Operational Test and Evaluation (MOT&E) to support full rate production decision.	3130	0	0
JSTDS-SS - FY 07 - Provided strategic, tactical planning, government system engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	638	0	0
Total	**6517**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	74	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	74	0
Total	**0**	**74**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
JD0055 JOINT SERVICE PERSONNEL/SKIN DECONTAMINATION SYSTEM (JSPDS)	11542	18487	0	0	0	0	0	0	30029
JD0056 JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)	7176	22275	22299	30212	29788	29755	4957	Cont	Cont
JD0058 JOINT PORTABLE DECONTAMINATION SYSTEM (JPDS)	0	0	0	0	3967	4970	4285	Cont	Cont
JD0060 JOINT PLATFORM INTERIOR DECONTAMINATION (JPID)	0	0	0	0	0	14970	31166	Cont	Cont
JD0061 JOINT SERVICE SENSITIVE EQUIPMENT DECON (JSSED)	0	0	0	8761	8378	19740	22798	Cont	Cont
JD0062 HUMAN REMAINS DECON SYSTEM	0	0	0	992	3428	3083	4957	Cont	Cont

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**DE5**

D. Acquisition Strategy:

HRDS	The HRDS program consists of a commercial acquisition effort for the Contaminated Human Remains Pouch (CHRP) , the Remains Decontamination System (RDS) and a developmental effort for the Transportation Case. The CHRP and RDS are composed of components that are type classified in the military system or commercially available. These components will be procured thru existing supply channels or commercial item contracts. The Transportation Case will require developmental efforts. A competitive contract strategy will be used for integration of all three efforts.
JPID	The Joint Platform Interior Decontamination (JPID) and the Joint Service Sensitive Equipment Decontamination (JSSED) programs will be acquired as part of the overarching Joint Material Decontamination System (JMDS) evolutionary acquisition strategy that covers both the JPID and the Joint Service Sensitive Equipment Decontamination programs. This strategy will use a single technology to meet the individual sensitive equipment and platform requirements through incremental development. The JPID and JSSED contracting strategies is under the JMDS contracting strategy that will award one single base System Development and Demonstration contract (Cost Plus Incentive Fee) with Low Rate Initial Production and Full Rate Production options (Fixed Price Successive Target) in open competition for both JSSED and JPID.
JSPDS	The Joint Service Personnel/Skin Decon System (JSPDS) is a Food and Drug Admin (FDA) approved individually carried skin decontamination kit. The JSPDS provides the warfighter the ability to decontaminate the skin, after exposure to CB warfare agents, in support of immediate and thorough personnel decontamination operations. The M291 SDK provides immediate decontamination capability for skin, field protective masks, mask hoods, chemical protective gloves, and small scale weapons (under 50 cal). Reactive Skin Decontamination Lotion (RSDL) provides improved capabilities over the M291 SDK to immediately reduce CBRN hazards on skin.
JSSED	See JPID.
JSTDS LS	JSTDS LS will utilize an evolutionary acquisition strategy using an incremental approach. Increment 1 will focus largely upon fielding hardware systems, replacing the M12 Decontamination Apparatus.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
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PROJECT
DE5

JSTDS SS

The JSTDS SS program implements an evolutionary acquisition strategy using incremental development. Increment I will focus largely upon fielding hardware systems that improve upon the capability of the M17 Lightweight Decontamination System.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
HW C - Contaminated Human Remains Pouch (CHRP)	C/FPI	TBD	C	0	0	NONE	0	NONE	40	3Q FY09	100	140	0
HW C - Remains Decontamination System (RDS) Components	MIPR	TBD	U	0	0	NONE	0	NONE	340	1Q FY09	0	340	0
JPID													
HW C - Develop system capability	MIPR	TBD	U	0	0	NONE	0	NONE	2130	2Q FY09	0	2130	0
JSSED													
HW S - SDD Contract	C/CPIF	Teledyne Brown Engineering	C	0	1382	4Q FY07	4264	2Q FY08	1000	1Q FY09	0	6646	0
JSTDS LS													
HW S - Systems Design Review	MIPR	Various	U	0	0	NONE	0	NONE	766	2Q FY09	0	766	0
Subtotal I. Product Development:					1382		4264		4276		100	10022	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
ILS S - HRDS Logistics Planning	C/FFP	TBD	C	0	0	NONE	0	NONE	300	1Q FY09	150	450	0
ILS S - HRDS Logistics Planning	MIPR	TBD	U	0	0	NONE	0	NONE	222	1Q FY09	100	322	0
JSTDS LS													
ES S - Engineering Support	C/FPI	TBD	C	0	0	NONE	0	NONE	1082	2Q FY09	0	1082	0
JSTDS SS													
TD/D S - JSTDS-SS - Update technical documentation	MIPR	Various	U	555	932	1Q FY07	0	NONE	0	NONE	0	1487	0
Subtotal II. Support Costs:					932		0		1604		250	3341	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
DTE S - HRDS Developmental Test Planning	C/FFP	TBD	C	0	0	NONE	0	NONE	160	1Q FY09	160	320	0
OTE S - HRDS Operational Test Planning	MIPR	Army Test and Evaluation Command, Alexandria, VA	U	0	0	NONE	0	NONE	199	1Q FY09	300	499	0
DTE C - RDS Developmental Testing	MIPR	TBD	U	0	0	NONE	0	NONE	200	1Q FY09	0	200	0
DTE C - CHRP Developmental Test	MIPR	TBD	U	0	0	NONE	0	NONE	150	1Q FY09	0	150	0
DTE S - HRDS Systems Level Testing	MIPR	TBD	U	0	0	NONE	0	NONE	450	2Q FY09	0	450	0
JPID													
JPID/JMDS Development Testing	MIPR	ATEC, Aberdeen Proving Ground, MD	U	0	0	NONE	0	NONE	1100	1Q FY09	0	1100	0
JSPDS													
DTE S - JSPDS Cyclic temperature testing	C/CPFF	Battelle, Columbus, OH	C	0	550	2Q FY07	0	NONE	0	NONE	0	550	0
JSSED													
DTE S - JSSED/JMDS developmental test planning/execution	MIPR	ATEC, Aberdeen, MD	U	200	551	2Q FY07	200	2Q FY08	2207	1Q FY09	0	3158	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JSTDS SS													
OTE S - JSTDS-SS Initial Operational Test and Evaluation	MIPR	Various	U	2294	3130	3Q FY07	0	NONE	0	NONE	0	5424	0
DTE S - JSTDS-SS Decontaminant Shelf life extension testing	C/CPFF	Battelle, Columbus, OH	C	200	200	2Q FY07	0	NONE	0	NONE	0	400	0
DTE S - JSTDS-SS Decontaminant testing of objective capabilities	MIPR	Various	U	0	509	2Q FY07	0	NONE	0	NONE	0	509	0
DTE S - JSTDS-SS Decontaminant testing of objective capabilities	C/CPFF	Battelle, Columbus, OH	C	0	500	1Q FY07	0	NONE	0	NONE	0	500	0
Subtotal III. Test and Evaluation:					5440		200		4466		460	13260	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HRDS													
PM/MS S - HRDS Program Office Support	C/FFP	TBD	C	0	0	NONE	0	NONE	267	2Q FY09	280	547	0
PM/MS S - HRDS Program Office Staff/Management	MIPR	TBD	U	0	0	NONE	0	NONE	220	1Q FY09	220	440	0
JSPDS													
PM/MS S - JSPDS Programmatic Support	MIPR	NSWC, Dahlgren, VA	C	174	395	1Q FY07	0	NONE	0	NONE	0	569	0
JSSED													
PM/MS S - JSSED/JMDS Service Integrated Product Team Support	MIPR	Various	U	488	683	2Q FY07	1442	2Q FY08	1235	2Q FY09	0	3848	0
JSTDS LS													
PM/MS C - JSTDS-LS Perform market research & RFI development.	MIPR	NSWC, Dahlgren, VA	U	0	746	4Q FY07	0	NONE	0	NONE	0	746	0
PM/MS S - Program Management Support	MIPR	Various	U	0	0	NONE	0	NONE	1097	1Q FY09	0	1097	0
JSTDS SS													
PM/MS S - JSTDS-SS Programmatic Support	C/CPFF	Battelle, Columbus, OH	C	500	108	3Q FY07	0	NONE	0	NONE	0	608	0
PM/MS S - JSTDS-SS Programmatic Support	MIPR	Various	U	500	500	3Q FY07	0	NONE	0	NONE	0	1000	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PM/MS S - Systems Engineering, Program Management/Financial and Technical Support	MIPR	Various	C	0	638	3Q FY07	0	NONE	0	NONE	0	638	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	74	NONE	0	NONE	0	74	0
Subtotal IV. Management Services:					3070		1516		2819		500	9567	

Remarks:

TOTAL PROJECT COST:		10824		5980		13165		1310	36190	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
HRDS																												
Market Survey					1Q																							
Milestone B								4Q																				
Developmental Testing									1Q	—	—	4Q																
MS C Low Rate Initial Production													1Q															
HRDS Initial Operational Test														2Q	3Q													
Full Rate Production												4Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
JPID																												
JPID/JMDS Systems Design and Development				4Q	—	—	—	—	—	2Q																		
JPID/JMDS Developmental Test									2Q	—	—	—	—	2Q														
JPID/JMDS Milestone C LRIP													2Q	—	—	—	—	—	—	4Q								
JPID/JMDS MOT&E																	2Q	—	—	4Q								
JPID/JMDS Full Rate Production																					1Q	—	—	—	—	—	—	4Q
JSPDS																												
MS C (Full Rate Production)		2Q																										
Follow-on cyclic temperature testing	1Q	—	—	4Q																								
JSSED																												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSSED (Cont)																												
JSSED/JMDS System Development				4Q					2Q																			
JSSED/JMDS Developmental Test									2Q				2Q															
JSSED/JMDS MS C & LRIP													2Q							4Q								
JSSED/JMDS MOT&E																		2Q		4Q								
JSSED/JMDS MS C & FRP																					1Q							4Q
JSTDS LS																												
JSTDS-LS Market Survey and RFI		2Q				2Q																						
JSTDS-LS RFP Release						2Q																						
JSTDS-LS Paper Down-selection							3Q																					
JSTDS-LS MS B								4Q																				
JSTDS-LS Down-selection Testing (DT I)									2Q				2Q															
JSTDS-LS MS C LRIP																4Q												
JSTDS-LS DT II																	1Q	2Q										
JSTDS-LS IOT&E																		2Q	3Q									
JSTDS-LS Full Rate Production																						2Q						
JSTDS SS																												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **DE5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSTDS SS (Cont)																												
Live Agent Testing	1Q	—	—	4Q																								
IOT&E				4Q	1Q																							
Full Rate Production							3Q																					

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
IP5	INDIVIDUAL PROTECTION (SDD)	13845	12798	20950	0	0	0	0	0	47593

A. Mission Description and Budget Item Justification:

Project IP5 INDIVIDUAL PROTECTION (SDD): This project funds System Demonstration and Development (SDD) of individual protection equipment, such as the Joint Service Lightweight Integrated Suit Technology (JSLIST) ensemble, aimed at increasing individual protection levels while reducing physiological and logistical burdens. The goal is to provide equipment that allows the individual soldier, sailor, airman, or marine to operate in a contaminated Nuclear, Biological and Chemical (NBC) environment with little or no degradation of his/her performance.

Efforts funded in this program include:

(1) The Joint Service Aircrew Mask (JSAM) is an incrementally developed Acquisition Category (ACAT) III program being conducted in two or more increments. The first increment addresses the majority of the Department of Defense's (DoD's) rotary wing aircraft (Type I) and the Integrated Helmet and Display Sight System (IHADSS) system (Type IA). The second increment addresses fixed wing aircraft (Type II) and unique Helmet Mounted Display (HMD) variants, such as the Top Owl (Type IB). The goal of JSAM is to develop, manufacture, field and sustain an aircrew respirator system that, in conjunction with a below-the-neck (BTN) clothing ensemble, will provide the capability for all aircrew to fly throughout their full operating envelope in an actual or perceived Chemical and Biological (CB) warfare environment.

JSAM will be a lightweight CB protective mask that will be worn as CB protection for all Army, Air Force, Navy and Marine rotary and fixed-wing aircrew members. It will be the first and only CB protective mask in the DoD inventory that can provide anti-G protection, up to 9 times the vertical force (Gz), for aircrew in high performance aircraft. JSAM will be compatible with all below-the-neck CB ensembles and existing aircrew life support equipment. It will include a protective hood assembly, CB filter, blower assembly, and an intercom for ground communication. It will provide flame and thermal protection, provide hypoxia protection to 60,000 feet, demist/emergency demist and anti-drown features. Some variants will be capable of being donned in flight.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: IP5

(2) JSLIST Performance Enhancement (JPE) improves upon the JSLIST in use by U.S. ground and shipboard forces. The goal is to eliminate 1) the capability gaps for JSLIST identified by the Joint Requirement Office, 2) the commonly known vulnerabilities for JSLIST, and 3) to use JSLIST Operation Iraq Freedom (OIF) lessons learned to improve upon CB suit capabilities. The effort will include design improvements to reduce weight, bulk, and heat stress. A single camouflage pattern for the suit is advocated in order to increase inventory efficiency and to reduce operational risk.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JS AIRCREW MASK (JSAM)	12548	12640	20950
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSAM - FY 07 - Continued Development Test Requirements Review (DTRR) for JSAM Rotor Wing (RW) Type IA and Type I. Continued initial designs and prototyping for JSAM RW Type IA and Type I. FY 08 - Complete design for down-select for JSAM RW Type IA and Type I prototypes. Start and complete Development Test (DT) for JSAM Type IA and Type I. FY 09 - Start and complete Operational Test (OT) for JSAM Type IA. Start OT for JSAM Type I.	7140	2190	12702
JSAM - FY 07 - Continued DT for JSAM Type II. FY 08 - Continue and complete DT for JSAM Type II and start OT. FY 09 - Continue OT for JSAM Type II.	5408	9790	8248
JSGPM - FY 08 - Technology Transition Initiative (TTI) of End-of-Service Life Indicator (ESLI) to JSGPM.	0	660	0
Total	**12548**	**12640**	**20950**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: IP5

	FY 2007	FY 2008	FY 2009
PROTECTIVE CLOTHING (JSLIST)	1297	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JSLIST - FY 07 - Conducted JPE design field testing.	397	0	0
JSLIST - FY 07 - Conducted mission DT and Field User Evaluations (FUE) for JPE with service personnel performing specific job specialties while wearing production representative suits.	800	0	0
JSLIST - FY 07 - Purchased production representative JPE necessary for all FUE.	100	0	0
Total	**1297**	**0**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	158	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	158	0
Total	**0**	**158**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	0	2222	4396	4792	5329	4163	Cont	Cont
JI0002 JT SVC AIRCREW MASK (JSAM)	1790	21591	0	15716	0	0	0	0	39097
JI0003 JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)	35423	45533	42615	41732	42399	44134	49175	Cont	Cont
JI0015 JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)	6250	10952	0	0	0	0	0	0	17202
JSM001 JOINT SERVICE MASK LEAKAGE TESTER (JSMLT)	14434	9854	0	0	0	0	0	0	24288
MA0400 PROTECTIVE CLOTHING	31277	38745	37596	27214	17982	18323	9498	Cont	Cont

D. Acquisition Strategy:

JSAM

The JSAM Acquisition Program Baseline Agreement (APBA) identifies Increment 1 as the Rotary Wing (RW) and Integrated Helmet and Display Sighting System (IHADSS or Apache) variant, developed and produced by AVOX. RW/IHADSS will be fielded first. Appropriate production options will be exercised.

Increment 2 is the Fixed Wing (FW) variant; Increment 3 is the Top Owl (TO) variant. The FW/TO development contract (with production options) was awarded 13 April 2006 to GENTEX Respiratory Products.

PROT CLTH

The JSLIST acquisition strategy employs an evolutionary approach, any deficiencies found in the JSLIST ensemble will be addressed to support the warfighters' mission and capabilities requirements using competitive material search.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JSAM													
HW S - Contractor Development Types I/IA	C/CPAF	AVOX, Lancaster, NY	C	21048	347	2Q FY07	5034	1Q FY08	5808	2Q FY09	0	32237	7209
SW SB - Contractor Development Type II/Top Owl	C/FPI	Gentex, Rancho Cucamonga, CA	C	2183	583	2Q FY07	3807	1Q FY08	3485	1Q FY09	0	10058	0
Subtotal I. Product Development:					930		8841		9293		0	42295	

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JSAM													
TD/D SB - JSAM Logistics, Training, and Data	C/CPAF	AVOX, Lancaster, NY	C	1651	1104	2Q FY07	0	NONE	0	NONE	10	2765	188
TD/D SB - TD/D SB - JSAM Logistics, Training, and Data	C/FPI	Gentex, Rancho Cucamonga, CA	C	215	1063	2Q FY07	0	NONE	0	NONE	0	1278	0
Subtotal II. Support Costs:					2167		0		0		10	4043	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JSAM													
OTHT SB - Govt Dev Test	MIPR	Various	U	8290	2785	2Q FY07	2799	2Q FY08	10466	1Q FY09	7174	31514	92
OTE S - Govt Operational Test	MIPR	Various	U	3375	1678	2Q FY07	0	NONE	0	NONE	4046	9099	404
OTHT SB - Contractor Test and Integration Type I/IA	PO	AVOX, Lancaster, NY	C	2555	519	2Q FY07	0	NONE	0	NONE	0	3074	185
OTHT SB - Contractor Test & Integration Type II/Top Owl	PO	Gentex, Rancho Cucamonga, CA	C	214	389	2Q FY07	0	NONE	0	NONE	0	603	0
PROT CLTH													
OTHT SB - Ensemble component DT/OT	MIPR	Various	U	10052	1297	2Q FY07	0	NONE	0	NONE	0	11349	0
Subtotal III. Test and Evaluation:					6668		2799		10466		11220	55639	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JSAM													
PM/MS C - Program Management/Management Support	MIPR	Various	U	9705	2747	2Q FY07	340	2Q FY08	1191	1Q FY09	0	13983	2420
PM/MS S - Contractor Program Management	C/CPAF	AVOX, Lancaster, NY	C	4113	944	2Q FY07	0	NONE	0	NONE	0	5057	1163
PM/MS S - Contractor Program Management	C/FPI	Gentex, Rancho Cucamonga, CA	C	648	389	2Q FY07	0	NONE	0	NONE	179	1216	0
PM/MS C - ESLI	MIPR	Various	U	0	0	NONE	660	1Q FY08	0	NONE	0	660	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	158	NONE	0	NONE	0	158	0
Subtotal IV. Management Services:					4080		1158		1191		179	21074	

Remarks:

TOTAL PROJECT COST:		13845		12798		20950		11409	123051	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IP5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSAM																												
SDD	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	3Q													
Types I/IA Development Test Readiness Review (DTRR)	>>	—	—	—	—	—	—	—	—	—	3Q																	
MS C/FRP Decision Type 1A												4Q																
MS C/FRP Decision Type 1															3Q													
Fixed Wing (FW, Type II) DTRR				4Q	—	2Q																						
FW, Type II Milestone C (LRIP)								4Q																				
FW, Type II FRP Decision															3Q													
Top Owl (TO, Type IB) DTRR							3Q																					
Top Owl FRP Decision															3Q													
PROT CLTH																												
JSLIST - Block II Glove MS C		2Q																										
JSLIST - Milestone C IFS		2Q																										
JSLIST - Milestone C AFS		2Q																										
JSLIST - Performance Enhancement DT - Overgarment	1Q	—	3Q																									
JSLIST - Performance Enhancement FUE - Overgarment				4Q																								

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
IS5	INFORMATION SYSTEMS (SDD)	34971	47160	42440	27368	17489	14756	25060	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project IS5 INFORMATION SYSTEMS (SDD): This funding supports System Development and Demonstration and Low Rate Initial Production (SDD/LRIP).

Efforts funded in this project are: (1) Joint Effects Model (JEM), (2) Joint Operational Effects Federation (JOEF), (3) the Joint Warning and Reporting Network (JWARN), and (4) the JPEO-CBD Software Support Activity (SSA).

The JEM will be DoD's only accredited model for predicting hazards associated with the release of contaminants into the environment. JEM will be developed in separate increments and will be capable of modeling hazards in a variety of scenarios including: counterforce, passive defense, accident and/or incidents (Increment 1), high altitude releases, urban NBC environments (Increment 2), building interiors, and human performance degradation (Increment 3). Battle space commanders and first responders must have a CBRN hazard prediction capability in order to make decisions that will minimize risks of CBRN contamination and enable them to continue mission operations. JEM will operate in an integrated fashion with operational and tactical Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems, and in a standalone mode. JEM will interface and communicate with the other programs such as JWARN, JOEF, weather systems, intelligence systems, and various databases.

JOEF will be a near real-time course of action analysis tool developed in three increments using a detailed NBC hazard prediction model. Each increment supports Aerial Ports of Debarkation (APODs), Sea Ports of Debarkation (SPODs), mobile forces, medical and automated Tactics, Techniques and Procedures (TTPs) in various levels of fidelity. Increment 1 will support deliberate planning for operational and strategic users in a C4ISR common operating environment (COE); Command and Control Personal Computers (C2PC); and crisis planning for the operational users in a COE.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA5 - System Development and Demonstration (SDD)**	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**IS5**

The Joint Warning and Reporting Network (JWARN) will provide, in the first of two increments, joint forces with a comprehensive analysis and response capability to minimize the effects of hostile Chemical, Biological, Radiological, Nuclear (CBRN) attacks as well as accidents and incidents. It will provide the capability to employ NBC warning technology which will collect, analyze, identify, locate, report, and disseminate NBC warnings. JWARN will be compatible and integrated with Joint and Service Common Operating Environment (COE) based operational and non-COE based tactical Command and Control (C2) systems. JWARN is transitioning from COE standards to Net-Centric Enterprise Service (NCES). JWARN Increment 2 will provide an expansion of sensors that will connect to JWARN, increased automation of message handling, improved false alarm filtering, integration of route-planning calculator, and interoperability with additional C2 systems. JWARN will be located in Command and Control Centers at the appropriate level and will be employed by CBRN defense specialists and other designated personnel. This employment will transfer data automatically from existing sensors and to and from the future sensors to provide commanders with the capability to support operational decision making in a CBRN environment. JWARN will provide additional data processing to support the production of plans and reports, and access to specific CBRN information to improve the efficiency of limited CBRN personnel assets. JWARN will integrate existing sensors into a sensor network or host C2 system, but does not provide the sensors that will be employed in the operating environment.

The JPEO-CBD SSA is a JPEO-CBD user developmental support and service organization supporting all JPMs and JPEO-CBD Directorates, and providing enterprise-wide services and coordination to facilitate net-centric interoperability. The SSA provides the CBRN Warfighter with Joint service solutions for Information Assurance, Verification, Validation and Accreditation (VV&A), and Data Management; interoperable and integrated net-centric, service-oriented, composable solutions for CBD; and infusion of latest technologies into programs of record. CBRN user community and related communities of interest have need for CBRN "plug and play" capability to allow interoperability and re-configurability across the enterprise. The requirement for net-centric, composable solutions provides the near term foundation for the Warfighter's ability to communicate his CBRN solutions and interoperate with other service operational systems. It also supports a longer term ability to interoperate with related agencies and to reduce the Warfighter's CBRN footprint as technologies improve.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT EFFECTS MODEL (JEM)	6834	14379	14765
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JEM - FY 08/09 - Support operational demonstrations and exercises.	0	46	48
JEM - FY 07/08/09 - Conduct independent verification, validation, and accreditation of JEM software and models.	492	590	842
JEM - FY 07/08/09 - Complete System Engineering Tasks to include requirements analysis, architecture analysis, configuration management, human-system integration, security analysis, and DoD architecture artifact development.	1094	981	468
JEM - FY 07/08/09 - Continue JEM program financial management, scheduling, planning and reporting.	926	1856	1912
JEM - FY 07/08/09 - Perform software upgrades on existing JEM baseline. Provide JEM updates in parallel with evolving C4I host system upgrades. Continue development of additional capabilities and upgrades to models within JEM. Support requests for special configurations of JEM (North American Aerospace Defense Command (NORAD), US Northern Command (NORTHCOM), US Strategic Command (STRATCOM), etc).	3542	2172	2387
JEM - FY 08 - Conduct Multi-Service Operational Test & Evaluation (MOT&E) and Follow-on Test and Evaluation (FOT&E) (Standalone version tests completed Dec 07).	0	2213	0
JEM - FY 07/08 - Revalidate Increment 2 technology analysis from FY04 analysis, develop prototype options for down-select and prepare for Increment 2 Milestone B.	270	500	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
JEM - FY 08/09 - Science and Technology transition and development of JEM Increment 2 software. Analysis of existing and future software architecture. Migration of JEM software to next generation host platforms. Initiate and complete Increment 2 system development and demonstration, incorporating Urban Dispersion Modeling, Missile Intercept, Backtracking to Source, STRATCOM Support, and Human Effects.	0	4025	6180
JEM - FY 07/08/09 - Conduct Operational Assessments (OA) on target platforms with the Service Operational Test Agencies (OTAs). Prepare for independent operational test and evaluation.	310	1000	1030
JEM - FY 07/08/09 - Plan and perform DT. Confirm that JEM transitioned legacy S&T code and models correctly and conduct test in support of follow-on accreditation and operational test. Complete interoperability, network and system security certifications of multiple service C4I/host systems and three computer operating systems (Windows 2000, XP, and UNIX).	200	590	1345
JEM - FY 08/09 - Update Computer Based Training (CBT), instructor lead training and courseware. Update infrastructure and software support capability. Update deployment plan and other applicable supporting documentation for JEM.	0	406	553
Total	**6834**	**14379**	**14765**

	FY 2007	**FY 2008**	**FY 2009**
JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)	9897	4725	7995
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JOEF - FY 07/08/09 - Provide Program Management Support, including Systems Engineering, Warfighter, Test and Evaluation, and Integrated Logistics Support Integrated Project Teams (Increment 1).	2500	1090	2200
JOEF - FY 07/08/09 - Develop software for deliberate and crisis planning for Seaports of Debarkation (SPOD), Aerial Ports of Debarkation (APOD) and automated Tactics, Techniques and Procedures (TTP), including Common Operating Environment (COE), Command and Control Personal Computer (C2PC) interfaces and MCS/GCCS-J (Increment 1).	1601	787	1649
JOEF - FY 07/08/09 - Develop mobile force capability to meet Service requirements (Increment 1).	1725	742	900
JOEF - FY 07/08/09 - Develop and test interoperability of JOEF software with required systems (Increment 1).	1900	687	820
JOEF - FY 07/08/09 - Plan and conduct developmental and operational testing (DT/OT).	641	726	1166
JOEF - FY 07/08/09 - Plan and provide Integrated Logistics Support, including training, to the JOEF system (Increment 1).	400	183	550
JOEF - FY 07/08/09 - Plan and conduct software validation and verification (Increment 1).	200	177	410
JOEF - FY 07/08/09 - Continue the integration with JEM, JWARN and database management systems (Increment 1).	930	333	300
Total	**9897**	**4725**	**7995**

	FY 2007	FY 2008	FY 2009
JOINT WARNING & REPORTING NETWORK (JWARN)	17740	23471	16553
RDT&E Articles (Quantity)	150	150	5200

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JWARN - FY 08 - Conduct Increment 1 Multi-Service Operational Test & Evaluation (MOT&E) event planning.	0	750	0
JWARN - FY 07/08 - Conduct Increment 1 Developmental Test (DT).	1520	2100	0
JWARN - FY 07/08 - Generate Increment 1 comprehensive DT test results reports.	350	375	0
JWARN - FY 07/08/09 - Continue JWARN program management and oversight.	1972	2051	2310
JWARN - FY 07/08/09 - Design, develop, integrate, and update software and hardware for a Functional Operational Test (FOT) Simulator demonstration system.	190	175	160
JWARN - FY 07/08/09 - Complete Increment 1 development (FY 07/08) and Increment 2 planning and development (FY 08/09).	5095	7388	4500
JWARN - FY 07/08/09 - Conduct demonstrations and exercises.	1071	50	70
JWARN - FY 07/08/09 - Develop Network Centric Enterprise Services (NCES)/Net Ready (NR)/Key Performance Parameters (KPP) enhancements.	1400	1400	1000
JWARN - FY 07/08/09 - Develop the wireless JWARN Component Interface Device (JCID) as required by the services Urgent Needs Statement (UNS).	2950	1030	2603
JWARN - FY 08 - Conduct JCID First Article Test (FAT).	0	220	0
JWARN - FY 07/08 - Conduct Increment 1 Milestone C reviews.	250	700	0
JWARN - FY 07/08 - Coordinate JCID Low Rate Initial Production (LRIP).	204	660	0
JWARN - FY 07/08 - Conduct Increment 1 Operational Assessment (OA) 1 & 2.	1741	1400	0
JWARN - FY 07/08 - Generate comprehensive Increment 1 OA 1 & 2 reports.	527	500	0
JWARN - FY 07/08/09 - Conduct Increment 1 MOT&E.	250	4147	1094
JWARN - FY 08/09 - Generate Increment 1 MOT&E test results and reports.	0	525	470
JWARN - FY 07/09 - Conduct Increment 1 (FY 07) and Increment 2 (FY 09) Functional Qualification Tests (FQT).	200	0	2968
JWARN - FY 07/09 - Generate FQT test results and reports.	20	0	525
JWARN - FY 09 - Coordinate JCID Full Rate Production.	0	0	853

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Total	**17740**	**23471**	**16553**

	FY 2007	FY 2008	FY 2009
SOFTWARE SUPPORT ACTIVITY (SSA)	500	4003	3127
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SSA - FY 07 - Established SSA Charter, Management Plans, Processes and Procedures.	250	0	0
SSA - FY 07/08/09 - Provide Policies, Standards & Guidelines for IT Systems Development.	100	306	265
SSA - FY 08/09 - Develop and maintain a Validated Technical C4I Architecture for JPEO-CBD.	0	639	479
SSA - FY 07/08/09 - Provide Support Services for Architecture, Data, Help Desk, Integration & Test, and Standards and Policies.	100	593	375
SSA - FY 08/09 - Support Common Data Model Development for the CBRN Community.	0	389	385
SSA - FY 08/09 - Develop and maintain Enterprise IT Support Plan.	0	173	235
SSA - FY 08/09 - Establish and provide assistance services for developing JPEO-CBD programs.	0	614	464
SSA - FY 08/09 - Establish and maintain an Information Assurance System Certification Testing and Evaluation Program for the JPEO-CBD Enterprise.	0	467	306
SSA - FY 08/09 - Establish and maintain a repository for applicable Enterprise policies, standards, and guidelines.	0	50	77
SSA - FY 08/09 - Establish and provide Technology Transition Support Services.	0	230	196
SSA - FY 07/08/09 - Establish Enterprise VV&A guidelines and provide process assistance.	50	542	345
Total	**500**	**4003**	**3127**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	582	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	582	0
Total	**0**	**582**	**0**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
G47101 JOINT WARNING & REPORTING NETWORK (JWARN)	6517	6702	6888	6571	6939	8128	5630	Cont	Cont
JC0208 JOINT EFFECTS MODEL (JEM)	2050	3512	4359	0	0	0	0	0	9921
JC0209 JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)	0	3589	0	3493	0	0	0	0	7082

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**IS5**

D. Acquisition Strategy:

JEM

The Joint Effects Model (JEM) is following an evolutionary acquisition approach that will allow rapid fielding of existing technologies while further research and development (R&D) continues in order to mature the technologies required for subsequent versions of JEM. It will be fielded in increments of capabilities. Each increment will retain the functionality of the preceding increment. JEM is expected to develop three distinct increments of software. It will make full use of the JPM IS Initial Capability (JIC) to demonstrate and test the system. JEM will define and publish its web-services interface; the JEM interface will be the same on all systems, utilizing data definitions from the approved CBRN data model as appropriate. A cost plus award fee contract was awarded for the follow-on JEM contract for integration and development.

JOEF

JOEF is a planning tool to support deliberate and crisis planning. JOEF will be a near real-time course of action analysis tool developed in three increments. It will use a detailed CBRN hazard prediction model. Each block supports Aerial Ports of Debarkation (APODs), Sea Ports of Debarkation (SPODs), mobile forces, medical and automated Tactics, Techniques and Procedures (TTPs) in various levels of fidelity.

Increment 1 will support deliberate planning for operational and strategic users in a Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) common operating environment (COE)/Networked environment, Command and Control Personal Computers (C2PC), and crisis planning for the operational users in a COE/Networked environment.

Increment 2 will support deliberate and crisis planning for the tactical users in COE/Networked, and Non-Networked environments; deliberate planning for operational and strategic users in a Non-Networked environment; and crisis planning for the operational users in a COE Networked and Non-Networked environments. Increment 2 also supports planning for consequence management and development of consequence management for military capabilities.

Increment 3 will extend consequence management capabilities to include hot/allied nation military operations and civilian facilities.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: IS5

JWARN

The Joint Warning and Reporting Network (JWARN) revised Acquisition Strategy (AS) is based on the contract awarded on July 15, 2003 to Northrop Grumman - Information Technology and updates key program milestones and events accordingly. The revised AS accelerated the development effort to provide a JWARN Initial Capability (JIC) providing a limited, end-to-end JWARN capability to the warfighter in 1QFY05. This acceleration was accomplished by leveraging the technology of an extant end-to-end JIC. Usage of this initial integrated capability by the warfighter generated operational feedback to the JWARN developer and provided a venue to validate and refine Measures of Performance (MOPs) and Measures of Effectiveness (MOEs). Further, it provided an opportunity to refine Service Concepts of Operations (CONOPS) and Tactics, Techniques, and Procedures (TTPs) for the system. The revised strategy further accelerates the delivery of the full system by developing the system in a single Block with two increments vice development in three separate Phases. This acceleration is achieved through the concurrent integration of sensor connectivity initially planned for the Pre-planned Product Improvement Phase. The revised strategy eliminates the Block 2 Phase 2 Milestone Decision process as well as the required Development Testing/Operational Assessment (DT/OA). This is expected to hasten the delivery schedule for the full capability of JWARN by approximately 12 months.

SSA

The JPEO-CBD Software Support Activity (SSA) is a JPEO-CBD user support organization spanning and supporting all Joint Project Managers (JPMs) and JPEO-CBD Directorates. The SSA provides enterprise-wide services and coordination across all JPEO-CBD Programs of Record (PORs) that contain data or software, or are capable of linking to the Global Information Grid (GIG). The SSA facilitates interoperability, integration, and supportability of existing and developing IT and National Security Systems (NSS) across the JPEO and all JPMs.

Phase 1a identifies JPEO-CBD JPMs and programs that deal with data or software, and have an IT component. This will be followed by coordination with the JPMs and programs to facilitate the concepts of interoperability, integration and supportability of enterprise-wide services. Next follows work with user communities to develop and demonstrate enterprise-wide common architectures, products and services. [BA5 - System Development and Demonstration] .

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**IS5**

Phase 1b established management and control measures for tracking and reporting progress of the various elements described in Phases 1 and 2. This includes establishing, tracking, and performing configuration management of inventories and databases of IT systems and their states of interoperability and information assurance compliance. [BA6 - RDT&E Management Support].

Phase 2 will support the application of the enterprise-wide architectures, products and services into the programs, with verification of compliance with the defined products and services. [BA7 - Operational Systems Development].

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JEM													
SW SB - JEM Hazard Prediction Model Development and Integration	C/CPAF	Northrop Grumman, San Diego, CA	C	6815	3772	2Q FY07	6197	2Q FY08	8567	2Q FY09	0	25351	0
JOEF													
SW S - Engineering Builds - Development, Design, Coding	C/CPIF	Cubic Applications, Lacy, WA	C	9701	5613	2Q FY07	2136	2Q FY08	2802	2Q FY09	0	20252	0
SW S - Integration & Interoperability	MIPR	Various	U	3742	1268	2Q FY07	333	2Q FY08	866	2Q FY09	0	6209	0
JWARN													
SW S - JWARN System Development and Demonstration	C/FPI	Northrop Grumman, Winterpark, FL	C	29505	5908	2Q FY07	0	NONE	0	NONE	0	35413	0
SW S - JWARN System Development and Demonstration	C/CPIF	TBD	C	0	0	NONE	4000	2Q FY08	3417	2Q FY09	0	7417	0
HW S - JWARN Wireless JCID	SS/CPFF	Northrop Grumman, Winterpark, FL	C	0	2950	4Q FY07	0	NONE	0	NONE	0	2950	0
SSA													
Product Development	MIPR	SPAWAR Systems Center, San Diego, CA	U	1231	0	NONE	1304	1Q FY08	1054	1Q FY09	0	3589	0
Subtotal I. Product Development:					19511		13970		16706		0	101181	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JEM													
ES S - IPT - System Engineering, Logistics and Program Support	MIPR	Various	U	11665	1134	2Q FY07	1933	2Q FY08	1069	2Q FY09	0	15801	0
JOEF													
TD/D SB - System Engineering, Warfighter IPTs	MIPR	Various	U	2229	698	2Q FY07	237	2Q FY08	209	2Q FY09	0	3373	0
ILS S - ILS Planning and Oversight	MIPR	Various	U	456	152	1Q FY07	99	1Q FY08	1159	1Q FY09	0	1866	0
ILS S - JOEF ILS including Training	MIPR	Various	U	105	55	1Q FY07	86	1Q FY08	998	1Q FY09	0	1244	0
SSA													
Support Costs	MIPR	SPAWAR Systems Center, San Diego, CA	U	1452	100	1Q FY07	1211	1Q FY08	956	1Q FY09	0	3719	0
Subtotal II. Support Costs:					2139		3566		4391		0	26003	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JEM													
OTHT SB - Hazard Prediction Model Developmental Test	MIPR	Various	U	4194	200	4Q FY07	590	1Q FY08	1345	1Q FY09	0	6329	0
OTE S - Hazard Prediction Model Developmental Test	MIPR	Various	U	1147	310	1Q FY08	3213	2Q FY08	1030	2Q FY09	0	5700	0
OTHT SB - Hazard Prediction Model - IV&V	MIPR	Various	U	1221	492	2Q FY07	590	2Q FY08	842	2Q FY09	0	3145	0
JOEF													
DTE S - Developmental Test Planning	MIPR	Various	U	2378	722	2Q FY07	452	2Q FY08	150	2Q FY09	0	3702	0
OTHT S - JOEF Independent Verification and Validation	MIPR	Various	U	338	93	2Q FY07	176	2Q FY08	100	2Q FY09	0	707	0
OTE S - Operational Test Planning	MIPR	Various	U	0	31	1Q FY07	272	1Q FY08	947	1Q FY09	0	1250	0
JWARN													
OTHT SB - JWARN Block II Development Test	MIPR	Various	U	9387	5695	2Q FY07	10051	2Q FY08	6275	2Q FY09	0	31408	0
SSA													
Test and Evaluation	MIPR	SPAWAR Systems Center, San Diego, CA	U	895	0	NONE	1009	1Q FY08	651	1Q FY09	0	2555	0
Subtotal III. Test and Evaluation:					7543		16353		11340		0	54796	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JEM													
PM/MS S - Program Office - Planning and Programming	MIPR	SPAWAR Systems Command, San Diego, CA	U	1818	926	1Q FY07	1856	1Q FY08	1912	1Q FY09	0	6512	0
JOEF													
PM/MS S - Program Office - Planning and Programming	MIPR	Various	U	4910	1265	1Q FY07	934	1Q FY08	764	1Q FY09	0	7873	0
JWARN													
PM/MS S - JWARN Management Support	MIPR	Various	U	6133	3187	2Q FY07	9420	2Q FY08	6861	2Q FY09	0	25601	0
SSA													
Management Services	MIPR	SPAWAR Systems Center, San Diego, CA	U	801	400	1Q FY07	479	1Q FY08	466	1Q FY09	0	2146	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	582	NONE	0	NONE	0	582	0
Subtotal IV. Management Services:					5778		13271		10003		0	42714	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE
February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA5 - System Development and Demonstration (SDD)**	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**IS5**

TOTAL PROJECT COST:		34971		47160		42440		0	224694		

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: IS5

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JEM																												
Increment 1 - Software Development	>>			3Q																								
Increment 1 - Developmental Test (DT) (Contr)	>>				1Q																							
Increment 1 - DT (Government)	>>				1Q																							
Increment 1 - Software Maintenance	>>						3Q																					
Increment 1 - M/S C				4Q																								
Increment 1 - Production and Deployment				4Q							3Q																	
Increment 1 - Limited Deployment Phase				4Q		2Q																						
Increment 1 - Multiservice Operational Test and Eval (MOTE) I					1Q																							
Increment 1 - Initial Operational Capability (IOC)						2Q		4Q																				
Increment 1 - Full Rate Production						2Q		4Q																				
Increment 1 - Follow-on Test and Evaluation							3Q		2Q																			
Increment 1 - Multiservice Operational Test and Eval (MOTE) II								4Q																				

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JEM (Cont)																												
Increment 2 - Software Development					1Q	—	—	—	—	—	—	—	—	—	—	2Q												
Increment 2 - DT (Cont)							3Q	—	—	—	—	—	—	—	—	2Q												
Increment 2 - DT (Government)							3Q	—	—	—	—	—	—	—	—	2Q												
JOEF																												
Increment 1 - Software Development	>>	—	—	3Q																								
Increment 1 - Tech Reviews	>>	—	—	—	1Q																							
Increment 1 - DT Build 1	1Q																											
Increment 1 - Operational Assessment						2Q																						
Increment 1 - DT Build 2					1Q																							
Increment 1 - Multi-Service Operational Test & Evaluation (MOTE)								4Q																				
Increment 1 - Milestone C (Limited Deployment)								4Q																				
Increment 1 - Initial Operational Capability (IOC)								4Q																				
Increment 1 - Full Operational Capability (FOC)												4Q																
JWARN																												

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: IS5

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JWARN (Cont)																												
JWARN Inc 1 - Development Test 3					1Q	2Q																						
JWARN Inc 1 - Operational Assessment 3						2Q																						
JWARN Inc 1 - Milestone C							3Q																					
JWARN Inc 1 - JCID Low Rate Initial Production (LRIP) Contract Award							3Q	4Q																				
JWARN Inc 1 - First Article Test							3Q																					
JWARN Inc 1 - Multiservice Operational Test & Evaluation								4Q	1Q																			
JWARN Inc 1 - Initial Operational Capability									1Q																			
JWARN Inc 1 - Full Rate Production Milestone Decision										2Q																		
JWARN Inc 1 - Full Rate Production										2Q	—	—	—	—	—	—	—	—	—	—	—	2Q						
JWARN Inc 1 - Full Operational Capability														2Q														
SSA																												

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)																												
Begin support services for Architecture, Data, Help Desk, Integration & Test, and Standards and Policies	>>	2Q																										
Establish CM Services for the Enterprise JCBRND Products	>>	—	—	—	3Q																							
Provide Data Model Implementation Guidance					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish an Information Assurance Support Capability	>>	2Q																										
Provide Enterprise Architecture Products and Services			3Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Demonstrate Technology Transition Capabilities					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Provide Information Assurance Site Compliance Testing	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Provide Integration and Test, M&S, VV&A Certification and Accreditation		2Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish Technology Transition Support Services	>>	2Q																										

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **IS5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)																												
Provide CM Services for Common User Products and Services		2Q	—																									4Q
Establish Net-Centric Assessment and Policy Guidance		2Q	—	4Q																								
Provide Net-Centric Assessment and assist program with implementation of policy				4Q	—																							4Q
Establish Common Services Management Guidance					1Q	—	3Q																					

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MB5	MEDICAL BIOLOGICAL DEFENSE (SDD)	56304	73789	89674	57052	159391	142096	141174	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MB5 MEDICAL BIOLOGICAL DEFENSE (SDD): This project funds the System Development and Demonstration (SDD) phase of vaccines, drugs, and diagnostic medical devices that are directed against validated biological warfare (BW) agents to include bacteria, viruses, and toxins of biological origin. Efforts for medical biological defense product development involve production scale-up studies, consistency manufacturing, and expanded human safety studies. The results of these efforts, and those conducted during the SDD phase, will be used to submit a Biologic License Application (BLA) to the Food and Drug Administration (FDA) for product licensure. Upon FDA licensure, the product will transition to full-scale licensed production. Products to be developed under this program include Recombinant Botulinum and Plague vaccines.

The Critical Reagents Program (CRP) integrates and consolidates all Department of Defense (DoD) reagents/antibodies/select biological threat agent and genomic reference materials, and DNA biological detection requirements from Technology Development through Production. The CRP ensures the availability of standardized high-quality reagents throughout the life-cycle of all biological warfare (BW) detection/identification systems. The CRP supports all aspects of manufacturing "scale-up" of developmental protocols for CRP developed products, including maintenance of repositories and validation laboratories. Supported systems include the Biological Integrated Detection System (BIDS), Joint Biological Agent and Identification Diagnostic System (JBAIDS), and the Joint Biological Point Detection System (JBPDS). This program also supports the development and manufacture of individual handheld immunochromatographic assays (HHA), electrochemiluminescence (ECL) immunoassays, polymerase chain reaction (PCR) genomic assays, and DoD biological sampling kits. This program results in improved identification performance and ensures comparable results across disparate systems.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: MB5

The Joint Biological Agent Identification and Diagnostic System (JBAIDS) is a reusable, portable, modifiable biological agent identification and diagnostic system. JBAIDS will enhance force protection by providing commanders and medical personnel with the capability to determine appropriate treatment, effective preventive measures, and prophylaxis, in response to the presence of biological and toxin agents. JBAIDS will be configured to support reliable, fast, and specific identification of biological and toxin agents from a variety of clinical and environmental sources.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
CRITICAL REAGENTS PROGRAM	3663	10041	7544
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
CRP - FY 07 - Initiated and completed optimization and development of nucleic acid assays for F. tularensis.	550	0	0
CRP - FY 07/08/09 - Continue expansion of select biological threat agent reference materials.	1419	1598	2217
CRP - FY 07/08/09 - Continue development of electrochemiluminescence (ECL) immunoassays and polymerase chain reaction (PCR) genomic assays.	921	2545	1127
CRP - FY 07/08/09 - Continue expansion of a formal Quality Assurance/Quality Control (QA/QC) medical and non-medical, systems engineering, validation, Developmental Testing (DT), and Operational Testing (OT) program to encompass the transition and fielding of biological detection assays.	425	5441	3777
CRP - FY 07/08/09 - Initiated, continue and complete International Organization for Standardization (ISO) guidelines into select biological threat agent reference materials.	348	457	423
Total	**3663**	**10041**	**7544**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: MB5

	FY 2007	FY 2008	FY 2009
JOINT BIOLOGICAL AGENT IDENT AND DIAG SYSTEM (JBAIDS)	5626	3162	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JBAIDS Increment 1 - FY 07 - Initiated and completed process control development.	2845	0	0
JBAIDS Increment 1 - FY 07 - Conducted follow-on test and evaluation.	1444	0	0
Congressional Interest Item - FY 07 - Rapid Identification of Biological Warfare Agents.	1337	0	0
JBAIDS #2 - Congressional Interest Item - FY 08 - Rapid Identification of Biological Warfare Agents	0	1581	0
JBAIDS #3 - Congressional Interest Item - FY 08 - Joint Biological Agent Identification and Diagnostic System	0	1581	0
Total	**5626**	**3162**	**0**

	FY 2007	FY 2008	FY 2009
BOTULINUM VACCINE	1000	18400	23707
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JVAP - Recombinant Botulinum Vaccine - FY 08/09 - Continue non-clinical testing.	0	1900	5900
JVAP - Recombinant Botulinum Vaccine - FY 08/09 - Continue manufacturing process validation and validation of formulation, fill and finish process for serotypes A and B.	0	6200	11307

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
JVAP - Recombinant Botulinum Vaccine - FY 08 - Complete execution of Phase 1b clinical trial.	0	3300	0
JVAP - Recombinant Botulinum Vaccine - FY 08 - Conduct Milestone B review and enter into Systems Development and Demonstration acquisition phase.	0	100	0
JVAP - Recombinant Botulinum Vaccine - FY 08/09 - Initiate and continue execution of Phase 2 clinical trial.	0	6900	6500
JVAP - Recombinant Botulinum Vaccine - FY 07 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	1000	0	0
Total	**1000**	**18400**	**23707**

	FY 2007	**FY 2008**	**FY 2009**
PLAGUE VACCINE	44381	39299	58423
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
JVAP - Plague Vaccine - FY 07 - Completed Phase 1 clinical trial.	1000	0	0
JVAP - Plague Vaccine - FY 07/08/09 - Continue non-clinical studies, to include additional FDA required passive transfer studies.	5680	7150	10150
JVAP - Plague Vaccine - FY 07/08/09 - Continue and complete large scale manufacturing process development.	17144	9000	5000
JVAP - Plague Vaccine - FY 07/08/09 - Continue Phase 2 clinical trial.	11486	8100	8000
JVAP - Plague Vaccine - FY 07/08/09 - Initiate and continue large scale manufacturing process validation.	9071	13049	30273
JVAP - Plague Vaccine - FY 08 - Conduct resource allocation decision to single candidate.	0	2000	0
JVAP - Plague Vaccine - FY 09 - Implement new Biosurety Regulations.	0	0	5000
Total	**44381**	**39299**	**58423**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

	FY 2007	FY 2008	FY 2009
BIOLOGICAL VACCINES	1634	1976	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
TT Bio - Congressional Interest Item - FY 07 - ParalellaVax Rapid Vaccine Testing Technology.	1634	0	0
TT Bio - Congressional Interest Item - FY 08 - ParalellaVax Rapid Vaccine Testing Technology	0	1976	0
Total	**1634**	**1976**	**0**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	911	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	911	0
Total	**0**	**911**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: MB5

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
JM0001 JOINT BIO AGENT IDENTIFICATION AND DIAGNOSTIC SYS (JBAIDS)	13082	4902	480	0	0	0	0	0	18464
JX0005 DOD BIOLOGICAL VACCINE PROCUREMENT	30517	48298	38222	54375	54160	59964	60495	Cont	Cont
JX0210 CRITICAL REAGENTS PROGRAM (CRP)	3325	2413	0	0	0	0	0	0	5738

D. Acquisition Strategy:

CRP — The Critical Reagents Program's (CRP) strategy establishes a core research and development capability to develop biological threat agent, genomic reference materials (antigens, nucleic acids, and antibodies) and detection and diagnostic assays for biothreat agent detection that shall be horizontally inserted across multiple detection and diagnostic platforms. In addition, this strategy will implement a formal, validated advanced development process to transition new assays into production and integration with the appropriate detection/diagnostic platform.

JBAIDS — JBAIDS is an evolutionary development program. Increment 1 will be a rapid development and fielding effort to deliver a critical capability to identify bacteria and viral agents to the field in the shortest time. Increment 1 development effort focuses on militarizing and hardening of critical identification technologies based on a Commercial off-the-shelf (COTS) item and on obtaining FDA clearance for the assays and hardware. Process controls were developed and tested during FY07 as a product enhancement. The JBAIDS FOT&E for shipboard applications were executed in 3QFY07.

VAC BOT — A prime systems contractor will function as the "responsible head" and license holder and will perform all ancillary, regulatory, quality assurance, and data management as required by the FDA. The current budget supports development thru FDA licensure of a recombinant bivalent (A and B) botulinum vaccine. Other serotypes will be developed thru an evolutionary approach, as funding becomes available.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

The management lead for the program shifted to JVAP at MS A. The technology development stage includes the manufacture of candidate current Good Manufacturing Practices (cGMP) lots, animal safety testing, and initial clinical trials. During this phase, the vaccine is evaluated for safety and immunogenicity in a small human trial (Phase 1).

During the System Development and Demonstration phase (SDD), the JVAP prime systems contract (PSC) will stabilize the vaccine formulation, validate the manufacturing processes and testing protocols, optimize the delivery systems and manufacture consistency lots. Phase 2 clinical trials are performed during this phase to provide additional safety data and determine dose and schedule. The Phase 3 clinical trial is also conducted during this phase to demonstrate safety in an expanded volunteer population. To evaluate efficacy, pivotal animal studies will be conducted concurrently with the Phase 3 clinical trial to satisfy FDA requirements for the "Animal Rule." The Milestone C, also the Low Rate Initial Production (LRIP) decision, will be conducted after the manufacturing process has been validated, consistency lots have been produced, and interim safety data is available from the Phase 3 clinical trial. At the Milestone C, approval is granted to produce the Initial Operational Capability (IOC) of vaccine material. A Biologics Licensure Application is submitted to the FDA with all clinical, nonclinical, and manufacturing data. The FDA grants licensure to products that are determined to be safe and efficacious.

VAC PLG

Chemical Biological Medical Systems (CBMS) is mitigating technical program risk in the Plague Vaccine Program by temporarily supporting development of both a US vaccine candidate and a United Kingdom (UK) vaccine candidate. The US candidate is managed by JVAP's prime systems contractor and the UK candidate is managed thru a Project Arrangement (PA) with Canada and the UK. Both vaccines will be developed thru an event-driven down-select decision which is after a Phase 2-like clinical trial (Phase 1b for the UK - funded thru a contract with the National Institute of Allergy and Infectious Diseases (NIAID) - and Phase 2a for the US). The information from this trial and other supporting non-clinical information will be used to determine if the vaccines can meet the Capabilities Development Document (CDD) threshold duration of protective immunity - one year after completion of primary series. Following down-select in 2008, the US will fund a single plague vaccine candidate thru FDA licensure. The dates listed in the "SCHEDULE" are primarily for the US candidate, as only the manufacturing scale up and validation efforts for the UK candidate have been funded thru the Project Arrangement.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT
MB5

The management lead for the program shifted to JVAP at MS A. The technology development stage included the manufacture of candidate current Good Manufacturing Practices (cGMP) lots, animal safety testing, and initial clinical trials. During this phase, the vaccine was evaluated for safety and immunogenicity in a small human trial (Phase 1).

During the System Development and Demonstration phase (SDD), the vaccine developer will stabilize the vaccine formulation, validate the manufacturing processes and testing protocols, optimize the delivery systems, and manufacture consistency lots. Phase 2 clinical trials are performed during this phase to provide additional safety data and determine dose and schedule. The Phase 3 clinical trial is also conducted during this phase to demonstrate safety in an expanded volunteer population. To evaluate efficacy, pivotal animal studies will be conducted concurrently with the Phase 3 clinical trial to satisfy the requirements of the FDA's "Animal Rule." The Milestone C, also the Low Rate Initial Production (LRIP) decision, will be conducted after the manufacturing process has been validated, consistency lots have been produced, and interim safety data is available from the Phase 3 clinical trial. At the Milestone C, approval is granted to produce the Initial Operational Capability (IOC) of vaccine material. A Biologics Licensure Application is submitted to the FDA with all clinical, nonclinical, and manufacturing data. The FDA grants licensure to products that are determined to be safe and efficacious.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CRP													
CRP - Scale-up of Select Biological Threat Agent Reference Materials	MIPR	USAMRIID, Fort Detrick, MD & Dugway Proving Ground, DPG, UT	U	3979	1571	1Q FY07	1300	2Q FY08	1376	2Q FY09	0	8226	0
CRP - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	RDECOM, Edgewood, MD, NMRC, Silver Spring, MD	U	678	75	1Q FY07	335	2Q FY08	450	2Q FY09	0	1538	0
JBAIDS													
SW SB - JBAIDS Block I - Assay and Kit Prototype Development	C/FFP	Idaho Technology, Inc., Salt Lake City, UT	C	13207	2411	2Q FY07	0	NONE	0	NONE	0	15618	0
HW S - JBAIDS Block I - Congressional Interest Item	C/FPI	University of Nebraska	C	0	1337	4Q FY07	0	NONE	0	NONE	0	1337	0
HW S - JBAIDS #2 Congressional Interest Item	SS/FP	TBD	C	0	0	NONE	1581	4Q FY08	0	NONE	0	1581	0
HW S - JBAIDS #3 Congressional Interest Item	SS/FP	TBD	C	0	0	NONE	1581	4Q FY08	0	NONE	0	1581	0
VAC BOT													
HW S - Vaccine Development - Includes Consistency Lot, Pilot Lot, and Scale-Up Production	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	0	0	NONE	7148	2Q FY08	9368	2Q FY09	0	16516	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC PLG													
HW S - Includes validation and consistency lot production	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	11373	17757	1Q FY07	15267	1Q FY08	23087	1Q FY09	0	67484	0
VACCINES													
TT Bio - ParalellaVax Rapid Vaccine Testing	SS/CPFF	Maxygen, Inc. Redwood City, CA	C	0	1634	4Q FY07	1976	4Q FY08	0	NONE	0	3610	0
Subtotal I. Product Development:					24785		29188		34281		0	117491	

Remarks: CRP - AFIP - Armed Forces Institute of Pathology
DPG - Dugway Proving Ground
DTIC - Defense Technical Information Center
NMRC - Naval Medical Research Center
RDECOM - Research, Development & Engineering Command
USAMRIID - US Army Medical Research Institute of Infectious Diseases

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CRP													
CRP - Select Biological Threat Agent Reference Material Regulatory Support	MIPR	DTIC, Edgewood, MD	U	206	0	NONE	200	2Q FY08	267	2Q FY09	0	673	0
CRP - Optimization & Development of Nucleic Assays	MIPR	RDECOM, Edgewood, MD; AFIP, Washington DC; NMRC, Silver Sprg, MD	U	0	550	2Q FY07	0	NONE	0	NONE	0	550	0
CRP - Select Biological Threat Agent Reference Material Development	MIPR	USAMRIID, Fort Detrick, MD; RDECOM, Edgewood, MD	U	1127	25	1Q FY07	650	2Q FY08	467	2Q FY09	0	2269	0
CRP - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Dugway Proving Ground, Dugway, UT	U	438	225	2Q FY07	290	2Q FY08	138	2Q FY09	0	1091	0
JBAIDS													
TD/D SB - JBAIDS Block I - Joint Services Training	MIPR	AMEDD, Fort Sam Houston, TX	U	1095	10	2Q FY07	0	NONE	0	NONE	0	1105	0
TD/D SB - JBAIDS Block I - Government Labs Support	MIPR	AFIOH, AFIP, NSWC, and DPG	U	2339	240	2Q FY07	0	NONE	0	NONE	0	2579	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

II. Support Costs - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC BOT													
TD/D S - Includes Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	0	0	NONE	938	2Q FY08	1195	2Q FY09	0	2133	0
VAC PLG													
TD/D S - Vaccine Development - Includes Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	4670	2003	1Q FY07	2003	1Q FY08	2945	1Q FY09	0	11621	0
Subtotal II. Support Costs:					3053		4081		5012		0	22021	

Remarks: CRP - AFIP - Armed Forces Institute of Pathology
DPG - Dugway Proving Ground
DTIC - Defense Technical Information Center
NMRC - Naval Medical Research Center
RDECOM - Research, Development & Engineering Command
USAMRIID - US Army Medical Research Institute of Infectious Diseases

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CRP													
CRP - Conformance Testing of Select Biological Threat Agent Reference Materials and Assays	MIPR	Naval Medical Research Center, Silver Spring, MD	U	1528	0	NONE	514	2Q FY08	389	2Q FY09	0	2431	0
CRP - Test & Evaluation of Select Biological Threat Agent Reference Materials and Assays	MIPR	USAMRIID, Frederick, MD	U	1160	879	1Q FY07	705	2Q FY08	729	2Q FY09	0	3473	0
CRP - Validation Program	C/CPFF	TBD	C	0	0	NONE	3989	3Q FY08	1918	3Q FY09	0	5907	0
JBAIDS													
OTHT SB - JBAIDS Block I - Conduct DT, FOT&E	MIPR	AMEDDC&S, Brooks City-Base, TX; Norfolk, VA	U	2295	115	3Q FY07	0	NONE	0	NONE	0	2410	0
DTE SB - JBAIDS Block I - Conduct OA & OT	MIPR	AFOTEC, Kirtland AFB, NM	U	2995	756	1Q FY07	0	NONE	0	NONE	0	3751	0
DTE SB - JBAIDS Block I - Assay and Protocol Testing	MIPR	Dugway Proving Ground, UT	U	1236	25	3Q FY07	0	NONE	0	NONE	0	1261	0
DTE SB - JBAIDS Block I - DT, Limited User Testing	MIPR	TBD	U	0	100	3Q FY07	0	NONE	0	NONE	0	100	0
VAC BOT													
OTHT S - Testing, evaluation and clinical trials	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	0	0	NONE	7501	2Q FY08	9559	2Q FY09	0	17060	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
VAC PLG													
OTHT S - Vaccine Development - Includes Testing, Evaluation, and Clinical Trials	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	9340	17990	1Q FY07	16022	1Q FY08	23558	1Q FY09	0	66910	0
Subtotal III. Test and Evaluation:					19865		28731		36153		0	103303	

Remarks: CRP - AFIP - Armed Forces Institute of Pathology
DPG - Dugway Proving Ground
DTIC - Defense Technical Information Center
NMRC - Naval Medical Research Center
RDECOM - Research, Development & Engineering Command
USAMRIID - US Army Medical Research Institute of Infectious Diseases

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CRP													
Product Management Support	Allot	CBMS, Frederick, MD	U	0	60	3Q FY07	270	1Q FY08	278	1Q FY09	0	608	0
Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	769	100	1Q FY07	620	1Q FY08	651	1Q FY09	0	2140	0
Chem Bio Medical Systems Office	Allot	CBMS, Frederick, MD	U	548	156	4Q FY07	1125	4Q FY08	456	4Q FY09	0	2285	0
Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	327	0	NONE	0	NONE	380	4Q FY09	0	707	0
IT and Security Support	MIPR	RDECOM, Edgewood, MD	U	39	22	2Q FY07	43	2Q FY08	45	2Q FY09	0	149	0
JBAIDS													
PM/MS S - Chem Bio Medical Systems Office	Allot	CBMS, Frederick, MD	U	586	468	4Q FY07	0	NONE	0	NONE	0	1054	0
PM/MS S - Program Management Support	C/FFP	Goldbelt Raven, LLC, Frederick, MD	C	582	164	1Q FY07	0	NONE	0	NONE	0	746	0
VAC BOT													
PM/MS S - Vaccine Development - Program Management/Program Manager Support	Allot	JPEO, Falls Church, VA	U	0	1000	4Q FY07	422	4Q FY08	538	4Q FY09	0	1960	0
PM/MS S - Vaccine Development - Joint Vaccine Acquisition Program Management Office	Allot	CBMS, Frederick, MD	U	0	0	NONE	563	4Q FY08	717	4Q FY09	0	1280	0
PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	563	1Q FY08	717	1Q FY09	0	1280	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PM/MS S - Award Fee (Maximum 10.5%)	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	0	0	NONE	1265	1Q FY08	1613	1Q FY09	0	2878	0
VAC PLG													
PM/MS S - Vaccine Development - Program Management/Program Manager Support	Allot	JPEO, Falls Church, VA	U	705	1036	4Q FY07	901	4Q FY08	1325	4Q FY09	0	3967	0
PM/MS S - Vaccine Development - Joint Vaccine Acquisition Program Management Office	Allot	CBMS, Frederick, MD	U	940	1317	4Q FY07	1201	4Q FY08	1767	4Q FY09	0	5225	0
PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	940	1317	1Q FY07	1201	1Q FY08	1767	1Q FY09	0	5225	0
PM/MS S - Award Fee (Maximum 10.5%)	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	2115	2961	1Q FY07	2704	1Q FY08	3974	1Q FY09	0	11754	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	911	NONE	0	NONE	0	911	0
Subtotal IV. Management Services:					8601		11789		14228		0	42169	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA5 - System Development and Demonstration (SDD)**	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**MB5**

TOTAL PROJECT COST:		56304		73789		89674		0	284984		

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CRP																												
CRP - Expand Select Biological Threat Agent Reference Materials	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q
CRP - Development of ECL Immunoassays & PCR Genomic Assays	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q
CRP - Development and Implementation of Quality Initiatives, Validation Program, and Systems Engineering	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2Q
CRP - Optimization and Development of Nucleic Acid Assays		2Q	—	—	—	4Q																						
CRP - Implementation of ISO Guidelines into Select Biological Threat Agent Reference Materials			3Q	—	—	—	—	—	—	—	—	—	—	—	—	3Q												
JBAIDS																												
JBAIDS Inc 1 - DT, Limited User Testing & Follow-On Test and Evaluation of Qiagen Flow Kit and process controls	>>	—	—	—	—	4Q																						
JBAIDS Inc 1 - Process control development.	1Q	—	—	—	—	4Q																						

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MB5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
VAC BOT	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Non-Clinical Testing	>>																								1Q			
Process Validation - Large Scale	>>																		2Q									
Phase 1b Clinical Trial	1Q							4Q																				
BOT Milestone B							3Q																					
Phase 2 Clinical Trial (A/B)								4Q											1Q									
Consistency Lot Production																		2Q					2Q					
VAC PLG																												
Phase 1 Clinical Trial	>>			3Q																								
Non-Clinical Studies	>>																							3Q				
Process Development - Large Scale	>>										3Q																	
Phase 2 Clinical Trial	>>												1Q															
Process Validation - Large Scale				4Q													1Q											
Resource Allocation Decision to Single Candidate							3Q																					

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MC5	MEDICAL CHEMICAL DEFENSE (SDD)	4832	21209	22128	16163	18722	17576	12060	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MC5 MEDICAL CHEMICAL DEFENSE (SDD): This project funds the development of medical materiel and other medical equipment items necessary to provide an effective capability for medical defense against chemical agent threats facing U.S. forces in the field. This project supports efforts in the System Development and Demonstration (SDD) phase of the acquisition strategy for prophylactic and therapeutic drugs, diagnostic equipment, and other life support equipment for protection against and management of chemical warfare agents. Project funds research and development of safety studies, manufacturing scale-up, process validation, drug interaction, performance test, and submission of the Food and Drug Administration (FDA) drug licensure application(s). This program currently funds: (1) Advanced Anticonvulsant System (AAS), which will be used as a treatment for seizures from exposure to nerve agents, (2) Bioscavenger Increment 2 (BSCAV Increment 2), which will be used as a prophylaxis against nerve agents, and (3) Improved Nerve Agent Treatment System (INATS), which will be used as a treatment for nerve agent intoxication to include new indications for Pyridostigmine Bromide (PB) that will be integrated with current therapeutic regimens.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
ADVANCED ANTICONVULSANT SYSTEM	4832	15149	10660
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
AAS - FY 07 - Achieved Milestone B and initiated Phase 2 clinical safety studies. FY 08/09 - Continue Phase 2 clinical safety studies.	207	4749	2855
AAS - FY 07/08/09 - Continued process development and current Good Manufacturing Practices (cGMP) requirements.	2682	4498	4550

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
AAS - FY 07/08/09 - Initiated, continue and complete Good Laboratory Practices (GLP) animal efficacy studies.	1373	853	1161
AAS - FY 07/08/09 - Initiated, continue and complete formulation and toxicology studies.	570	611	774
AAS - FY 08/09 - Initiate and continue Developmental Testing/Operational Testing (DT/OT) of packaging.	0	267	273
AAS - FY 09 - Initiate New Drug Application (NDA).	0	0	1047
AAS - FY 08 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	0	4171	0
Total	**4832**	**15149**	**10660**

	FY 2007	**FY 2008**	**FY 2009**
BIOSCAVENGER	0	0	4859
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
BSCAV Increment 2 - FY 09 - Continue large scale manufacturing, process qualification, and validation. Achieve Milestone B.	0	0	2670
BSCAV Increment 2 - FY 09 - Initiate Good Laboratory Practices (GLP) animal efficacy studies.	0	0	823
BSCAV Increment 2 - FY 09 - Initiate Phase 2 clinical safety studies.	0	0	1366
Total	**0**	**0**	**4859**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: MC5

	FY 2007	FY 2008	FY 2009
IMPROVED NERVE AGENT TREATMENT SYSTEM	0	5798	6609
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
INATS - FY 08 - Complete Good Laboratory Practices (GLP) pre-clinical safety studies.	0	628	0
INATS - FY 08 - Complete and submit Investigational New Drug (IND) application.	0	358	0
INATS - FY 08/09 - Continue and complete Phase 1 clinical safety studies. FY 09 - Achieve Milestone B.	0	673	276
INATS - FY 08/09 - Continue process development and Current Good Manufacturing Practice (cGMP) manufacturing requirements.	0	1739	3065
INATS - FY 08/09 - Initiate and continue formulation, compatibility, and stability studies with autoinjector.	0	2400	314
INATS - FY 09 - Initiate Phase 2 clinical safety studies.	0	0	2138
INATS - FY 09 - Initiate GLP definitive animal efficacy studies.	0	0	816
Total	**0**	**5798**	**6609**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	262	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	262	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	MC5

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Total	0	262	0

C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

BSCAV

The Bioscavenger acquisition strategy consists of a developmental program with three distinct increments.

Increment 1 is butyrylcholinesterase purified from human plasma, i.e., plasma-derived Bioscavenger or pBioscavenger. The Medical Identification and Treatment Systems (MITS) Joint Product Management Office exercises management oversight, and a commercial partner serves as the system integrator during the Technology Development Phase, which includes small scale manufacturing, pre-clinical animal studies, Investigational New Drug (IND) application, and Phase 1 human clinical safety studies.

The Bioscavenger Increment 2 strategy includes a proof-of-concept study followed by an initial down-selection between two different technologies: Recombinant human butyrylcholinesterase (rHuBChE) and small synthetic molecule, awarded to two different contractors. The chosen technology, rHuBChE, will continue to a formal down-selection with the plasma-derived Bioscavenger at Milestone B prior to transition to the Systems Development and Demonstration (SDD) phase. Following Milestone B into SDD, MITS will continue to exercise management oversight with system integration support of a commercial partner to ensure manufacturing of the product is in accordance with Food and Drug Administration (FDA) regulations and guidelines. Prior to FDA licensure, the commercial partner will perform a Phase 2 human clinical safety study, definitive animal efficacy studies, and toxicology studies. The SDD phase will culminate in obtaining FDA licensure of the Bioscavenger. During the Production and Deployment phase, the MITS JPMO, in conjunction with a commercial partner, will pursue full rate and stockpile production and conduct any FDA-mandated post-marketing surveillance.

Bioscavenger Increment 3 will include products that degrade nerve agents while retaining their own identity (catalytic Bioscavenger).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**MC5**

INATS

Medical Identification and Treatment Systems (MITS) Joint Product Management Office will serve as the system integrator during the Technology Development Phase that includes pre-clinical animal studies and Phase 1 human clinical safety studies. After Milestone B, during the System Development and Demonstration Phase, MITS and/or a commercial partner (product dependent) will serve as the system integrator to ensure that products are manufactured in accordance with Food and Drug Administration (FDA) regulations and guidelines, appropriate Phase 2 human clinical safety and definitive animal efficacy studies are conducted, and required toxicology studies are performed. During the Production and Deployment Phase, FDA approval will be obtained and full rate and stockpile production will be pursued. Any FDA mandated post-marketing surveillance will be conducted.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AAS													
AAS - cGMP Manufacturing Requirements	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	0	1493	3Q FY07	4498	2Q FY08	4298	2Q FY09	0	10289	0
BSCAV													
BSCAV Inc 2 - cGMP Manufacturing	C/CPIF	TBD	C	0	0	NONE	0	NONE	1959	2Q FY09	0	1959	0
INATS													
INATS - cGMP Manufacturing	C/CPIF	TBD	C	0	0	NONE	1739	2Q FY08	2644	2Q FY09	0	4383	0
Subtotal I. Product Development:					1493		6237		8901		0	16631	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AAS													
AAS - Regulatory Integration and NDA Support Efforts	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	0	373	3Q FY07	1690	2Q FY08	1612	2Q FY09	0	3675	0
BSCAV													
BSCAV Inc 2 - Regulatory Integration & Biologics License Application (BLA) Support Efforts	C/CPIF	TBD	C	0	0	NONE	0	NONE	734	2Q FY09	0	734	0
INATS													
INATS - Regulatory Integration and NDA Support Efforts	C/CPIF	TBD	C	0	0	NONE	870	2Q FY08	967	2Q FY09	0	1837	0
Subtotal II. Support Costs:					373		2560		3313		0	6246	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AAS													
AAS - GLP Animal Efficacy Studies	C/CPFF	Battelle Memorial Institute, Columbus, OH	C	0	1273	3Q FY07	373	2Q FY08	854	2Q FY09	0	2500	0
AAS - Phase 2 Clinical Safety Study	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	0	174	3Q FY07	2780	2Q FY08	1878	2Q FY09	0	4832	0
AAS - Formulation and Toxicology Studies	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	0	273	3Q FY07	510	2Q FY08	492	2Q FY09	0	1275	0
BSCAV													
BSCAV Inc 2 - Phase 2 Clinical Safety and GLP Animal Efficacy Studies	C/CPIF	TBD	C	0	0	NONE	0	NONE	1430	2Q FY09	0	1430	0
INATS													
INATS - GLP Pre-clinical and Phase 1 Studies	C/CPFF	Battelle Memorial Institute, Columbus, OH	C	0	0	NONE	1276	2Q FY08	198	2Q FY09	0	1474	0
INATS - Formulation, Compatibility, Stability Studies with Autoinjector	C/CPIF	Southwest Research Institute, San Antonio, TX	C	0	0	NONE	905	2Q FY08	272	2Q FY09	0	1177	0
INATS - GLP Animal Efficacy & Phase 2 Clinical Safety Studies	C/CPIF	TBD	C	0	0	NONE	0	NONE	1529	2Q FY09	0	1529	0
Subtotal III. Test and Evaluation:					1720		5844		6653		0	14217	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AAS													
AAS - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	0	262	1Q FY07	273	1Q FY08	281	1Q FY09	0	816	0
AAS - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	673	1Q FY07	178	1Q FY08	149	1Q FY09	0	1000	0
AAS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	4171	4Q FY08	451	4Q FY09	0	4622	0
AAS - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	311	4Q FY07	676	4Q FY08	645	4Q FY09	0	1632	0
BSCAV													
BSCAV Inc 2 - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	0	NONE	493	1Q FY09	0	493	0
BSCAV Inc 2 - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	0	NONE	0	NONE	146	4Q FY09	0	146	0
BSCAV Inc 2 - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	0	NONE	97	4Q FY09	0	97	0
INATS													
INATS - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	268	1Q FY08	127	1Q FY09	0	395	0
INATS - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	0	0	NONE	135	1Q FY09	139	1Q FY09	0	274	0
INATS - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	0	NONE	605	4Q FY08	400	4Q FY09	0	1005	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
INATS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	0	NONE	333	4Q FY09	0	333	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	262	NONE	0	NONE	0	262	0
Subtotal IV. Management Services:					1246		6568		3261		0	11075	

Remarks:

TOTAL PROJECT COST:		4832		21209		22128		0	48169	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AAS																												
AAS - Process development and cGMP Manufacturing Requirements	>>																1Q											
AAS - Milestone B		2Q	3Q																									
AAS - Formulation and Toxicology Studies			3Q						2Q																			
AAS - GLP Animal Efficacy Studies				4Q								4Q																
AAS - Phase 2 Clinical Safety Studies			3Q										2Q															
AAS - DT/OT for Packaging								4Q					1Q															
AAS - New Drug Application (NDA) Preparation and Submittal											3Q								3Q									
AAS - MS C																												1Q
BSCAV																												
BSCAV Inc. 2 - Large Scale Manufacturing, Process Development & Assay Validation					1Q																			4Q				
BSCAV Inc. 2 - Milestone B												4Q																
BSCAV Inc. 2 - Conduct GLP Animal Efficacy Studies												4Q								4Q								

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MC5**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BSCAV (Cont)																												
BSCAV Inc. 2 - Conduct Phase 2 Clinical Safety Studies												4Q									1Q							
BSCAV Inc. 2 - BLA Preparation and Submittal																	1Q						3Q					
INATS																												
INATS - GLP Pre-Clinical Safety Studies	>>						3Q																					
INATS - Process Development and cGMP Manufacturing Requirements	>>																						2Q					
INATS - IND Application	>>						4Q																					
INATS - Phase 1 Clinical Safety Studies	>>								2Q																			
INATS - Formulation, Compatibility, & Stability Studies with Autoinjector					1Q								3Q															
INATS - Milestone B									2Q																			
INATS - Phase 2 Clinical Safety Studies											3Q										1Q							
INATS - GLP Animal Efficacy Studies											3Q										1Q							
INATS - NDA Preparation and Submittal																	2Q				2Q							
INATS - Milestone C																											3Q	

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MR5**

COST (In Thousands)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MR5 MEDICAL RADIOLOGICAL DEFENSE	0	0	2944	5962	9372	5036	2382	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MR5 MEDICAL RADIOLOGICAL DEFENSE: This project funds the advanced development of candidate therapeutic medical countermeasures to mitigate the consequences of exposure to ionizing radiation due to nuclear or radiological attacks. Exposure to ionizing radiation causes damage to blood-forming cells (hematopoietic system) and gastrointestinal system, leading to Acute Radiation Syndrome (ARS). Medical countermeasures must be approved by the Food and Drug Administration (FDA) for human use prior to fielding. Testing the efficacy of candidate drugs against normally lethal radiation exposure cannot be conducted in humans; therefore, surrogate animal models must be used to obtain FDA approval. This project allows the joint force to operate safely, over the long term, and at near normal levels of effectiveness while in a contaminated environment.

Medical Radiation Countermeasures (MRADC) efforts include multiple countermeasures required to restore casualties to pre-exposure health and to protect U.S. Forces against injury caused by exposure to radiation. MRADC shall reverse or limit radiation injury resulting in increase survival, decreased incapacity, and sustained operational effectiveness. In addition, MRADC shall be effective against a broad range of radiation sources and types, and shall be useable in the battle space, including evacuation.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
MEDICAL RADIOLOGICAL COUNTERMEASURES	0	0	2944
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: MR5

Accomplishments/Planned Program	FY2007	FY2008	FY2009
MRADC - FY 09 - Initiate large scale manufacturing.	0	0	1335
MRADC - FY 09 - Initiate Phase 2 clinical safety studies.	0	0	1609
Total	**0**	**0**	**2944**

C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

MRADC

Medical Identification and Treatment Systems (MITS) Joint Product Management Office will manage the development of Medical Radiation Countermeasures (MRADC) for the DoD. A contractor will serve as the product integrator throughout development and shall be responsible for conducting activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA). The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses. The Technology Development phase includes pre-clinical studies and Phase 1 human clinical safety studies. During the System Development and Demonstration (SDD) phase, large scale manufacturing, Phase 2 human clinical safety studies and definitive animal efficacy studies will be conducted. FDA approval of the countermeasure is an exit criterion for the SDD phase. During the Production and Deployment Phase, sufficient quantities of product to meet Initial Operational Capability will be purchased. Subsequent purchases will be made by the Defense Logistics Agency. Any post-marketing surveillance requested by the FDA will be conducted.

MRADC will be developed using a system-of-systems approach to address the multiple organ systems affected by radiation exposure. Individual countermeasure solutions will be developed using a single step to a full capability (FDA approval). The DoD is working very closely with the Department of Health and Human Services (DHHS), which also has an anti-radiation program. The establishment of an interagency working group provides oversight and guidance to both agency programs to ensure that their efforts are non-duplicative.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MR5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - cGMP Manufacturing	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	0	NONE	0	NONE	1178	4Q FY09	0	1178	0
Subtotal I. Product Development:					0		0		1178		0	1178	

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Regulatory Integration and NDA Support Efforts	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	0	NONE	0	NONE	438	2Q FY09	0	438	0
Subtotal II. Support Costs:					0		0		438		0	438	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MR5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Phase 2 Clinical Safety Studies	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	0	0	NONE	0	NONE	883	4Q FY09	0	883	0
Subtotal III. Test and Evaluation:					0		0		883		0	883	

Remarks:

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MRADC													
MRADC - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	0	NONE	119	1Q FY09	0	119	0
MRADC - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	0	NONE	0	NONE	178	4Q FY09	0	178	0
MRADC - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	0	NONE	148	4Q FY09	0	148	0
Subtotal IV. Management Services:					0		0		445		0	445	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ **BA5 - System Development and Demonstration (SDD)**	**0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**	**MR5**

TOTAL PROJECT COST:		0		0		2944		0	2944	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/**
BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **MR5**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MRADC																												
MRADC - Milestone B												4Q																
MRADC - Phase 2 Clinical Safety Studies												4Q								4Q								
MRADC - Large Scale Manufacturing												4Q									1Q							
MRADC - Definitive Animal Efficacy Studies													1Q							4Q								
MRADC - NDA Submission																					2Q			4Q				
MRADC - FDA Approval																										2Q		
MRADC - Milestone C																											3Q	

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TE5	TEST & EVALUATION (SDD)	17631	45302	42141	37270	15341	14868	4799	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TE5 TEST & EVALUATION (SDD): This funding supports the Joint Project Manager Nuclear, Biological, Contamination Avoidance Product Director, Test Equipment, Strategy, and Support (PD TESS) efforts. PD TESS provides test infrastructure products for testing and evaluating chemical and biological defense systems throughout the life cycle acquisition process in support of the Milestone Decision Authority, Joint Project Managers, and the Test and Evaluation (T&E) community. PD TESS test infrastructure products are aligned in five groups to include: (1) Chemical Laboratory (Sense), (2) Biological Laboratory (Sense), (3) Field Simulant (Sense), (4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain), and (5) Modeling and Simulation (Shape).

(1) Chemical Laboratory (Sense): Products for this area include a Non-Traditional Agent (NTA) Test Facility, Dynamic Test Chamber (DTC) for chemical point sensors and the renovation of a Chemical Surety Laboratory. The NTA Facility provides a new capability at the Edgewood Chemical Biological Center (ECBC) to conduct emerging, highly toxic threat materials testing. The NTA facility supports testing of decontamination, collective protection, individual protection, and contamination avoidance products. The Dynamic Test Chamber provides a new capability for testing chemical point detection systems against chemical warfare agents in various environmental conditions. The final effort provides for the upgrade of the chemical surety laboratory located at Dugway Proving Ground (DPG). This upgrade provides multiple chemical surety chambers and laboratories to house PD TESS infrastructure products. Major CBDP acquisition programs supported are: the Joint Chemical Agent Detector (JCAD); the Automatic Chemical Agent Detector Alarm (ACADA); the Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Service General Purpose Mask (JSGPM); the Joint Service Lightweight Integrated Suit Technology (JSLIST); Joint Expeditionary Collective Protection (JECP); Joint Collective Protection Equipment (JCPE); Joint Service Tactical Decontamination System (JSTDS); Joint Service Sensitive Equipment Decontamination (JSSED); Joint Warning and Reporting Network (JWARN) hardware components; the Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); the Joint Protective Air Crew Ensemble (JPACE); the JSLIST Combat Vehicle Crewman Coverall (JC3); the Joint Service Aircrew Mask (JSAM); the Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: TE5

(2) Sense Laboratory (Biological): Products for this area include a Whole System Live Agent Test (WSLAT) "Strung Out" Chamber, Whole System Live Agent Test "Full System" Chamber, and a Live Agent Biological Standoff System Chamber. The Whole System Live Agent Test "Strung Out" Chamber supports Joint Biological Point Detection component testing in biological live agent environments. The Whole System Live Agent Test "Full System" Chamber supports testing of all biological detection systems in production configuration in biological live agent environments. The final effort provides a Live Agent Biological Standoff Test chamber for biological standoff detection systems. Major CBDP acquisition programs supported are: Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Biological Point Detection System (JBPDS)/JBPDS Block II; the Joint Biological Tactical Detection System (JBTDS); and the Joint Biological Standoff Detection System (JBSDS).

(3) Field Simulant (Sense): Products for this area include a fully instrumented Simulant Test Grid and characterization of the existing Joint Ambient Breeze Tunnel (JABT) and Active Standoff Chamber (ASC) Facilities. The Test Grid Effort provides a fully instrumented 20 km by 40 km field simulant test capability that integrates cloud tracking equipment, meteorological equipment, Test Data Network, C4ISR network, and operations center. The JABT/ASC effort provides simulant cloud characterization and validates system performance. Major acquisition programs supported are: Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); the Joint Chemical Agent Detector (JCAD); the Automatic Chemical Agent Detector Alarm (ACADA) Variants; the Joint NBC Reconnaissance System (JNBCRS); the Joint Warning and Reporting Network (JWARN); the Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); the Joint Biological Standoff Detection System (JBSDS); the Joint Biological Point Detection System (JBPDS); the Joint Biological Tactical Detection System (JBTDS); the Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV) Stryker; the Joint Effects Model (JEM); the Joint Operational Effects Federation (JOEF); and Joint Expeditionary Collective Protection (JECP).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: TE5

(4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain): Products for this area include a Decontamination Chamber, Individual Protection Ensemble (IPE) Test Mannequin, Man-in-Simulant Test (MIST) instrumentation, Individual Protection Equipment (IPE) Grid, Chemical, Biological Agent Resistance Test (CBART) Equipment and Collective Protection (ColPro) Instrumentation and Chamber. The Decontamination chamber provides an enhanced ability to conduct decontamination and residual agent off-gassing testing. The IPE Test Mannequin provides an articulated robotic mannequin that simulates warfighters activities and includes under ensemble agent sensing capability for evaluating IPE against chemical warfare agents. The Man-in-Simulant Test instrumentation provides a near real time simulant sensor system to monitor penetration of simulant during testing.. The Individual Protection Equipment (IPE) Grid provides test procedures to establish commonality measurements for IPE performance tests. Chemical, Biological Agent Resistance Test (CBART) equipment provides a near real time testing capability under a range of environmental conditions for individual and collective protection materials. Collective Protection instrumentation upgrades provide improved test capabilities at Dugway Proving Ground, Eglin Air Force Base, Dahlgren Naval Surface Warfare Center, and the Edgewood Chemical Biological Center for the evaluation of entire ColPro systems, subsystems and individual components. Acquisition Programs supported are: Joint Platform Interior Decontamination/Joint Material Decontamination System (JPID/JMDS); Joint Service Transportable Decontamination System (JSTDS); Joint Expeditionary Collective Protection (JECP); Joint Collective Protection Equipment (JCPE); Joint Service Lightweight Integrated Suit Technology (JSLIST); Joint Protective Air Crew Ensemble (JPACE); JSLIST Combat Vehicle Crewman Coverall (JC3); Joint Service General Purpose Mask (JSGPM); Joint Service Aircrew Mask (JSAM); Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

(5) Modeling and Simulation (Shape): Product for this area is a Synthetic Test Environment (Backgrounds & Interferents) library of real world environmental and interferent physical characteristics for Chemical/Biological systems. The environmental signatures will be integrated into models to generate synthetic environments to assess material performance under various conditions. All CBDP Acquisition Programs except medical are supported by this effort.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
TEST EQUIPMENT, STRATEGY & SUPPORT	17631	44738	42141
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: TE5

Accomplishments/Planned Program	FY2007	FY2008	FY2009
PD TESS - Individual Protection Ensemble (IPE) Mannequin - FY 08 - Design IPE Mannequin system. FY 09 - Fabricate, install and validate system.	0	3940	6166
PD TESS - Chem Bio Agent Resistance Test (CBART) - FY 08 - Complete design, fabricate, installation and performance validation of initial CBART capability at DPG. FY 09 - Design, fabricate, install and verify expanded CBART capabilities at DPG.	0	709	1500
PD TESS - IPE Man-in-Simulant Test (MIST) Upgrade - FY 08 - Procure, verify and validate real-time MIST sensors.	0	659	0
PD TESS - Upgrade DPG Joint Ambient Breeze Tunnel/Active Standoff Chamber (JABT/ASC) - FY 08 - Conduct ASC simulant characterization and validation tests.	0	458	0
PD TESS - Test Grid Instrumentation Network & Design - FY 07 - Completed design of test grid referee instrumentation, data network and C4ISR system. FY 08 - Complete Test Grid Power Distribution Design. Procure instrumentation and conduct characterization and qualification testing. FY 09 - Complete data fusion software design. Initiate installation of network and C4ISR system.	4369	9752	10772
PD TESS - Whole System Live Agent Test (WSLAT) - FY 07 - Initiated WSLAT strung out record test. Initiated WSLAT full system chamber design. FY 08 - Complete WSLAT strung out record tests. Complete WSLAT full system chamber design. FY 09 - Fabricate, install and validate WSLAT full system chamber.	4895	9509	19500
PD TESS - Dynamic Test Chamber (DTC) - FY 07 - Initiated DTC design. FY 08 - Complete DTC design. Fabricate and initiate installation of DTC. FY 09 - Conduct performance validation test.	800	7282	1000
PD TESS - Backgrounds and Interferents - FY 07 - Completed design and build of Data/Metadata management system. Procured signature collection instrumentation. FY 08 - Perform background/interferent signature collection and integrate into signature database.	2236	4168	0
PD TESS - NTA Facility - FY 08 - Develop NTA test system performance validation test plan and operating procedures. Initiate performance validation testing and NTA Test System installation quality assurance. FY 09 - Continue performance validation testing/quality assurance.	0	4046	1000

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
PD TESS - ColPro Facility Upgrade - FY 07 - Initiated Advanced Air Purification Test Fixture upgrade at DPG. Completed Mechanical Filtration Test Facility at APG. Initiated build of Dynamic Entry and Exit Test Chamber at Eglin AFB. FY 08 - Complete the Advanced Air Purification Test Fixture. Complete Dynamic Entry and Exit Test Chamber.	1779	286	0
PD TESS - Decon Facility Upgrade - FY 07 - Initiated design of small item decontamination test fixture. FY 08 - Complete design, build and validate small item decontamination test system.	157	435	0
PD TESS - FY 07 - Provided systems engineering support to integrate and execute System Development and Demonstration T&E capability development efforts. FY 08/09 - Continue system engineering support.	3395	3494	2203
Total	**17631**	**44738**	**42141**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	564	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	564	0
Total	**0**	**564**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

C. Other Program Funding Summary:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
TE7 TEST & EVALUATION (OP SYS DEV)	0	6973	7142	6860	8018	8157	8158	Cont	Cont

D. Acquisition Strategy:

PD TESS

The PD TESS program provides for the development and acquisition of new and enhanced test infrastructure to support the sense, shield, shape, and sustain mission areas for the Joint Service Chemical and Biological Defense Program (CBDP). The efforts are supported through competitive contract actions, National Academies of Science studies, academia, and other Government agencies. Infrastructure solutions will leverage commercially available systems to provide state-of-the-art capabilities that address current and future CBDP test and evaluation needs.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
HW S - IPE Mannequin System Design/Fabricate/Install	C/FFP	TBD	C	0	0	NONE	3940	3Q FY08	4666	2Q FY09	0	8606	0
HW S - CBART - System Design/Fabricate/Install	MIPR	Dugway Proving Grounds, DPG, UT	U	420	0	NONE	609	2Q FY08	1100	1Q FY09	0	2129	0
SW SB - IPE MIST Instrumentation	Reqn	TBD	C	500	0	NONE	400	2Q FY08	0	NONE	0	900	0
HW S - WSLAT Chambers	C/FFP	Lockheed Martin Integrated Systems, Wall, NJ	C	0	3002	3Q FY07	0	NONE	0	NONE	0	3002	0
HW S - WSLAT Baker Lab Design	C/FFP	TBD	C	0	0	NONE	7755	2Q FY08	0	NONE	0	7755	0
HW S - WSLAT Baker Lab Fabrication/Installation	C/FFP	TBD	C	0	0	NONE	0	NONE	18000	1Q FY09	0	18000	0
SW SB - Test Grid Referee Instrumentation, Data Network and C4ISR	C/FFP	Lockheed Martin Integrated Systems, Wall, NJ	C	0	4369	2Q FY07	8536	2Q FY08	10772	2Q FY09	0	23677	0
HW S - Dynamic Test Chamber Design	MIPR	NAVSEA (JHU-APL), Washington, DC	U	500	800	2Q FY07	2100	1Q FY08	0	NONE	0	3400	0
HW S - Dynamic Test Chamber Fabrication/Installation	MIPR	TBD	U	0	0	NONE	5182	2Q FY08	700	2Q FY09	0	5882	0
HW S - ColPro Facility Test Fixture Upgrades	MIPR	Various	U	0	1779	4Q FY07	286	2Q FY08	0	NONE	0	2065	0

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HW S - Decon Facility Upgrades Small Item Decon	MIPR	Various	U	0	157	4Q FY07	250	2Q FY08	0	NONE	0	407	0
HW S - Backgrounds/Interferents Data and Metadata Management System	C/FFP	Lockheed Martin Integrated Systems, Wall, NJ	C	0	2236	3Q FY07	4168	2Q FY08	0	NONE	0	6404	0
Subtotal I. Product Development:					12343		33226		35238		0	82227	

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
ES S - WSLAT Optimization and Engineering Support	C/CPFF	Booz-Allen Hamilton, Belcamp, MD	C	180	91	2Q FY07	90	1Q FY08	0	NONE	0	361	0
ES S - Test Grid Data Network Engineering Support	MIPR	Various	U	0	0	NONE	1216	1Q FY08	0	NONE	0	1216	0
Subtotal II. Support Costs:					91		1306		0		0	1577	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
OTHT S - WSLAT M&S, Methodology Development, Validation Testing	MIPR	Various	U	1010	1802	1Q FY07	1664	1Q FY08	1500	1Q FY09	0	5976	0
OTHT S - Dynamic Test Chamber Validation	MIPR	Various	U	0	0	NONE	0	NONE	300	2Q FY09	0	300	0
OTHT S - ASC/JABT Modeling Studies and Validation	MIPR	Dugway Proving Grounds, DPG, UT	U	1190	0	NONE	458	2Q FY08	0	NONE	0	1648	0
OTHT S - NTA Chamber Validation	C/FFP	ARINC Engineering, Annapolis, MD	C	0	0	NONE	4046	2Q FY08	0	NONE	0	4046	0
OTHT S - NTA Chamber Validation	MIPR	Various	U	0	0	NONE	0	NONE	1000	2Q FY09	0	1000	0
OTHT S - Decon Facility Upgrades Validation	MIPR	Dugway Proving Grunds, DPG, UT	U	0	0	NONE	185	3Q FY08	0	NONE	0	185	0
OTHT S - IPE MIST Validation	MIPR	Various	U	0	0	NONE	259	3Q FY08	0	NONE	0	259	0
OTHT S - IPE Mannequin System Validation	MIPR	Various	U	0	0	NONE	0	NONE	1500	1Q FY09	0	1500	0
OTHT SB - CBART Configuration Management / Validation	MIPR	Various	U	0	0	NONE	100	1Q FY08	400	1Q FY09	0	500	0
Subtotal III. Test and Evaluation:					1802		6712		4700		0	15414	

Remarks: PD TESS - Test efforts are for the validation of capabilities.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)**

PE NUMBER AND TITLE: **0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)**

PROJECT: **TE5**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PD TESS													
PM/MS S - Program Management/Systems Engineering Support	MIPR	JPM NBCCA, APG, MD	U	0	3395	1Q FY07	3494	1Q FY08	2203	1Q FY09	0	9092	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	564	NONE	0	NONE	0	564	0
Subtotal IV. Management Services:					3395		4058		2203		0	9656	

Remarks:

TOTAL PROJECT COST:		17631		45302		42141		0	108874	

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)

PROJECT: TE5

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PD TESS																												
CBART Design/Fabrication/Installation/Validation	>>											4Q																
MIST Upgrades	>>						3Q																					
Upgrade ColPro Facilities	>>							4Q																				
JABT/ASC Upgrade	>>									2Q																		
Test Grid Design/Fabrication/Installation/Validation	>>																											4Q
WSLAT Chamber Design/Fabrication	>>											4Q																
Background/Interferent Signature Collection	>>											4Q																
Dynamic Test Chamber Design/Fabrication/Installation/Validation	>>											4Q																
IPE Mannequin Design/Fabrication/Installation/Validation	>>																	2Q										
NTA Test System Design/Fabrication/Installation/Validation	>>													2Q														
Upgrade Decon Facility	>>							4Q																				

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BUDGET ACTIVITY 6
RDT&E MGT SUPPORT

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
Total Budget Activity (BA) Cost		101249	98423	100082	113153	114927	119803	122033	Continuing	Continuing
0605384BP	CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)	91720	98423	100082	113153	114927	119803	122033	Continuing	Continuing
0605502BP	SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	9529	0	0	0	0	0	0	0	9529

A. Mission Description and Budget Activity Justification: This Budget Activity includes research, development, testing and evaluation management support for the Department of Defense (DoD) Chemical and Biological Defense Program (CBDP) and includes the CBDP Small Business Innovative Research (SBIR) program.

Program Element 0605384BP supports joint doctrine and training (Project DT6), sustains the technical test capability at Dugway Proving Ground (DPG) (Project DW6); supports the Software Support Activity (SSA) (Project IS6), sustains the core DOD S&T laboratory infrastructure (Project LS6), and provides for program management and financial management support (Project MS6). Additionally, this Program Element supports the Joint Concept Development and Experimentation program (Project O49).

Joint Training and Doctrine Support (DT6) funds development of Joint Doctrine and Tactics, Techniques, and Procedures for developing CB defense systems. The training and doctrine efforts also fund CB modeling and simulation to support the warfighter.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

The Major Range and Test Facility Base (MRTFB) is a set of test installations, facilities, and ranges which are regarded as "national assets." These assets are sized, operated, and maintained primarily for DoD test and evaluation missions. However, the MRTFB facilities and ranges are also available to commercial and other users on a reimbursable basis. DW6 program funding provides for CB defense testing of DoD materiel, equipment, and systems from concept thru production, to include a fully instrumented outdoor range capability for testing with simulants that can be precisely correlated to the laboratory testing with live agents at MRTFBs. It finances a portion of the required institutional test operating costs. Institutional test operating costs include institutional civilian and contractor labor; repair and maintenance of test instrumentation, equipment, and facilities; and replacement of test equipment.

The Software Support Activity (IS6) funds support for the CBRN Warfighter with Joint service solutions for Information Assurance, Verification, Validation and Accreditation, and data management.

Laboratory Support (LS6) funds laboratory infrastructure to maintain and enhance DoD infrastructure capabilities to counter an expanding threat space, exploit advances in technology and develop and transition CB defense equipment and countermeasures to the warfighter.

The management support program (MS6) provides management support for the DoD CBDP to allow program overview and integration of overall medical and non-medical programs by the Assistant to the Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ATSD(NCB)), thru the Special Assistant, Chemical Biological Defense and Chemical Demilitarization Programs (SA(CBD&CDP)); execution management by the Defense Threat Reduction Agency (DTRA); integration of Joint requirements, management of training and doctrine by the Joint Requirements Office (JRO); Joint RDA planning, input to the Annual Report to Congress and Program Objective Memorandum (POM) development by the Program Analysis and Integration Office (PA&IO); review of joint plans and the consolidated CB Defense POM Strategy by Army in its Executive Agent role.

The management support program also funds the Joint Test Infrastructure Working Group (JTIWG) program to provide a mechanism to address test infrastructure and technologies needed to support Developmental Testing (DT) and Operational Testing (OT) of Department of Defense (DoD) CB defense systems and components throughout the systems' acquisition life cycle, as required in the RDA Plan. The JTIWG program funds a series of methodology, instrumentation, and associated validation programs to provide test infrastructure and technologies for testing RDA systems needed to support all services.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

The Joint Concept Development and Experimentation Program (O49) funds provide planning, conducting, evaluating, and reporting on joint tests (for other than developmental hardware) and accomplishment of operational research assessments in response to requirements received from the Services and the Combatant Commanders for already fielded equipment and systems.

This Budget Activity also funds Program Element 0605502BP, which supports the Small Business Innovative Research (SBIR) program. The overall objective of the Chemical and Biological Defense (CBD) SBIR program is to improve the transition or transfer of innovative CBD technologies between DoD components and the private sector for mutual benefit. The CBD program includes those technology efforts that maximize a strong defensive posture in a CB environment using passive and active means as deterrents. These technologies include CB detection; information assessment (identification, modeling, and intelligence); contamination avoidance; and protection of both individual soldiers and equipment.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	91720	98423	100082	113153	114927	119803	122033	Continuing	Continuing
DT6	JOINT DOCTRINE AND TRAINING SUPPORT (RDT&E MGT SUPPORT)	2549	5338	5452	5438	5377	5598	5784	Continuing	Continuing
DW6	MAJOR RANGE AND TEST FACILITY BASE (MRTFB)	53954	53653	54484	52111	53419	56811	58129	Continuing	Continuing
IS6	INFORMATION SYSTEMS (RDT&E MGT SUPPORT)	1512	0	0	0	0	0	0	0	1512
LS6	LABORATORY SUPPORT	0	5466	5456	20319	20310	20309	20309	Continuing	Continuing
MS6	RDT&E MGT SUPPORT	30862	29730	30263	30678	31050	32062	32694	Continuing	Continuing
O49	JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM (RDT&E	2843	4236	4427	4607	4771	5023	5117	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element provides research, development, testing and evaluation management support to the DoD CB defense program.

This effort includes joint doctrine and training support; sustainment of technical test capability at Dugway Proving Ground (DPG); Software Support Activity (SSA) support; sustainment of core DOD S&T laboratories, financial/program management support; and the Joint Concept Development and Experimentation program , which provides a response to Combatant Commanders and Services regarding joint tests and research assessments.

Joint Training and Doctrine Support (DT6) funds development of Joint Doctrine and Tactics, Techniques, and Procedures for developing CB defense systems. The training and doctrine efforts also fund CB modeling and simulation to support the warfighter.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2008

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)

Dugway Proving Ground (DW6), a Major Range and Test Facility Base (MRTFB), funding provides for CB defense testing of DoD materiel, equipment, and systems from concept thru production; to include a fully instrumented outdoor range capability for testing with simulants that can be precisely correlated to the laboratory testing with live agents. It finances a portion of the required institutional test operating costs. Institutional test operational costs include institutional civilian and contractor labor; repair and maintenance of test instrumentation, equipment, and facilities; and replacement of test equipment.

The Software Support Activity (IS6) funds support for the CBRN Warfighter with Joint service solutions for Information Assurance, Verification, Validation and Accreditation, and data management.

Laboratory support (LS6) sustains core DoD S&T laboratory infrastructure and ensures that the necessary surety operations can be conducted effectively and safely.

The management support program (MS6) provides management support for the DoD CB defense program to allow program overview and integration of overall medical and non-medical programs by the ATSD(NCB) thru the SA(CBD&CDP); execution management by the DTRA; integration of Joint requirements, management of training and doctrine by the JRO; Joint RDA planning, input to the Annual Report to Congress and POM development by the PA&IO; review of joint plans and the consolidated CB defense POM Strategy by the Army in its Executive Agent role.

The management support program also funds the Joint Test Infrastructure Working Group (JTIWG) program that provides a mechanism to address test infrastructure and technologies needed to support Developmental Testing (DT) and Operational Testing (OT) of DoD CBD systems and components throughout the systems' acquisition life cycle, as required in the RDA Plan. JTIWG program funds a series of methodology, instrumentation, and associated validation programs to provide test infrastructure and technologies for testing RDA systems needed to support all services.

The Joint Concept Development and Experimentation Program (O49) provides funding for the planning, conduct, evaluation, and reporting on joint tests (for other than developmental hardware) and accomplishment of operational research assessments in response to requirements received from the Services and the Combatant Commanders for already fielded equipment and systems.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)

B. Program Change Summary:		**FY 2007**	**FY 2008**	**FY 2009**
Previous President's Budget (FY 2008 PB)		82521	99053	100889
FY09 Budget Estimate Submission		91720	99053	100889
Total Adjustments		9199	0	0
a. Congressional General Reductions		0	0	0
b. Congressional Increases		0	0	0
c. Reprogrammings		10000	0	0
d. SBIR/STTR Transfer		-801	0	0
e. Other Adjustments		0	0	0

Change Summary Explanation:

Funding: N/A - Adjustments less than 10% of total program.

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DT6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
DT6	JOINT DOCTRINE AND TRAINING SUPPORT (RDT&E MGT SUPPORT)	2549	5338	5452	5438	5377	5598	5784	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project DT6 JOINT DOCTRINE AND TRAINING SUPPORT (RDT&E MGT SUPPORT): The activities of this project directly support the Joint Service CB defense program; in particular, the development of Joint Chemical, Biological, Radiological, and Nuclear (CBRN) defense capability requirements and the improvement of CBRN defense related doctrine, education, training, and awareness at the Joint and Service levels. This effort provides for (1) development, coordination, and integration of Joint CBRN defense capability requirements; (2) development/revision of medical and non-medical CBRN defense Multi-Service Tactics, Techniques, and Procedures (MTTP), Joint Doctrine and Tactics, Techniques, and Procedures (JTTP); (3) the United States Army Chemical School Joint Senior Leader Course (USACMLS JSLC); (4) assistance in correcting training and doctrine deficiencies covered in DODIG and GAO reports; (5) support of current and planned CBRN defense studies, analysis, training, exercises, and wargames; determine overlaps, duplication, and shortfalls; and build and execute programs to correct shortfalls in all aspects of CBRN defense also all DoD mission areas.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT REQUIREMENTS OFFICE DOCTRINE AND TRAINING	2549	5272	5452

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DT6

Accomplishments/Planned Program	FY2007	FY2008	FY2009
DT - FY 07/08/09 - Provide assistance in the development and enhancement of CBRN defense curriculum and wargaming at intermediate and senior level Joint and Service Colleges and Senior Service Non-Commissioned Officer Academies. Assistance and support for providing CBRN defense related improvements to the four phases of the Joint Training System at Combatant Commands. Provide assistance in the implementation of required solutions for appropriate representation of CBRN defense in Combatant Command's modeling and simulation tools. Provide CBRN defense related training support to Combatant Command staffs, services and the USCG. FY 08/09 - Supported additional joint participation in the JSLC. FY 08/09 - Supported the revision and development of CBRN defense medical and physical sciences MTTPs. Supported the integration of CBRN defense considerations during the revision and development of selected joint doctrine and JTTPs.	2124	5272	5452
DT - FY 07 - Supported additional joint participation in the JSLC.	75	0	0
DT - FY 07 - Supported the revision and development of CBRN defense medical and physical sciences MTTPs. Supported the integration of CBRN defense considerations during the revision and development of selected joint doctrine and JTTPs.	350	0	0
Total	**2549**	**5272**	**5452**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	66	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	66	0
Total	**0**	**66**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DW6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
DW6	MAJOR RANGE AND TEST FACILITY BASE (MRTFB)	53954	53653	54484	52111	53419	56811	58129	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project DW6 MAJOR RANGE AND TEST FACILITY BASE (MRTFB): Project provides the technical capability for testing Department of Defense (DoD) Chemical and Biological (CB) defense materiel, equipment, and systems from concept through production at Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB). Funding reflects compliance with National Defense Authorization Act (NDAA) for FY 2003 (Public Law 107-314 - December 2002), Sec 232, requiring Major Range and Test Facility Bases to be fully funded and that DoD test customers be charged for direct costs only.

DPG, a MRTFB, is the reliance center for all DoD CB defense testing and provides the United States' only combined range, chamber, toxic chemical lab, and bio-safety level three test facility. Total institutional test operating costs are to be provided by the service component IAW DoD 3200.11.

DPG uses state-of-the-art chemical and life sciences test facilities and test chambers to perform CB defense testing of protective gear, decontamination systems, detectors, and equipment while totally containing chemical agents and biological pathogens. DPG also provides a fully instrumented outdoor range capability for testing with simulants that can be correlated to the laboratory testing with live agents.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DW6

Projects programmed for testing at DPG include: Chemical Biological Protective Shelter (CBPS); Joint Nuclear Biological Chemical Reconnaissance System (JNBCRS); Joint Service Lightweight Integrated Suit Technology (JSLIST) Additional Sources Qualification 2 (JASQ 2); JSLIST Block II Glove Upgrade and Alternate Foot Solution (AFS); Joint Biological Point Detection System (JBPDS); Joint Chemical Agent Detector (JCAD); Technical Readiness Evaluation for Biological Stand-off Detection Systems; Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); JNBCRS Increment II (JNBCRS II); Personal Hydration System (PHS); Joint Warning and Reporting Network (JWARN); Analytical Laboratory System (ALS); Joint Expeditionary collective Protection (JECP); Joint Warning and Reporting System (JWARN) Block II Phase 2; Chemical, Biological, Radiological, and Nuclear (CBRN) Unmanned Ground Reconnaissance (CUGR); Joint Protective Aircrew Ensemble (JPACE); Joint Biological Stand-off Detection System (JBSDS); Joint Chemical, Biological and Radiological Agent Water Monitor (JCBRAWM); Joint Service Aircrew Mask (JSAM); Joint Multipurpose Decontamination System (JMDS); Joint Effects Model (JEM); Joint Operations Effects Federation (JOEF); and Unified Command Suite (UCS).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
DUGWAY PROVING GROUND (DPG)	53954	52991	54484

Accomplishments/Planned Program	FY2007	FY2008	FY2009
DPG, MRTFB - FY 07/08/09 - Supports Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB), CB test mission to include institutional civilian labor costs for Army PBG authorizations. These civilian personnel include safety, security, resource management, surety operations, range control, environmental oversight, and workload management. This represents the civilian labor required to support the test mission, but cannot be directly tied to a single test and therefore, cannot be charged to that test. The test customer pays all direct costs that are directly attributable to the use of a test facility or resource for testing of a particular program.	37325	38245	38830

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DW6

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
DPG, MRTFB - FY 07/08/09 - Provides for postponed and ongoing sustainment of existing instrumentation and equipment at DPG in support of their CB test mission. Supports annual service contracts for equipment operation, diagnostics, and calibration, as well as routine life-cycle and use-related replacement of existing field, administrative, and analytical instrumentation components and systems.	6603	6060	6500
DPG, MRTFB - FY 07/08/09 - Provides DPG with a dedicated and specially trained, 24-hour, support staff who operate and maintain all critical control systems, such as critically clean steam, highly complex HVAC system, and decontamination systems within DPG's Materiel Test Facility, Combined Chemical Test Facility, and the Life Science Test Facility complex.	1756	1806	1914
DPG, MRTFB - FY 07/08/09 - Supports DPG test mission for contractor labor overhead costs. This is the institutional cost of providing contractual effort to this MRTFB including chemical analysis, field support, planning, and report documentation.	8270	6880	7240
Total	**53954**	**52991**	**54484**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	662	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	662	0
Total	**0**	**662**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) IS6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
IS6	INFORMATION SYSTEMS (RDT&E MGT SUPPORT)	1512	0	0	0	0	0	0	0	1512

A. Mission Description and Budget Item Justification:

Project IS6 INFORMATION SYSTEMS (RDT&E MGT SUPPORT): The JPEO-CBD SSA is a JPEO-CBD user developmental support and service organization supporting all JPMs and JPEO-CBD Directorates, and providing enterprise-wide services and coordination to facilitate net-centric interoperability. The SSA provides the CBRN Warfighter with Joint service solutions for Information Assurance, Verification, Validation and Accreditation (VV&A), and Data Management; interoperable and integrated net-centric, service-oriented, composable solutions for CBD; and infusion of latest technologies into programs of record. CBRN user community and related communities of interest have need for CBRN "plug and play" capability to allow interoperability and re-configurability across the enterprise. The requirement for net-centric architectures to support composable solutions provides the near term foundation for the Warfighter's ability to communicate his CBRN solutions and interoperate with other service operational systems. It also supports a longer term ability to interoperate with related agencies and to reduce the Warfighter's CBRN footprint as technologies improve. Project transitions to Budget Activity 7, Project IS7, in FY08.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
SOFTWARE SUPPORT ACTIVITY (SSA)	1512	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SSA - FY 07 - Managed and revised charter, plans, processes and procedures.	122	0	0
SSA - FY 07 - Established tracking and reporting of IT Systems (IT Inventory).	386	0	0
SSA - FY 07 - Established configuration management plans and related CM support for the CBRN Data Model.	278	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) IS6**

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
SSA - FY 07 - Tracked and reported IT Help Desk metrics for JPEO-CBD programs of record.	74	0	0
SSA - FY 07 - Provided and managed a Federal Information System Management Act (FISMA) database for tracking a variety of IT capabilities, such as J6 Interoperability Certification, Information Assurance (IA) components, Interim Authority to Operate/Authority to Operate (IATO/ATO), and Joint Capability Integration Documents (JCIDs) for enterprise programs.	342	0	0
SSA - FY 07 - Established, tracked and reported performance indicator metrics to achieve net-centric interoperability.	310	0	0
Total	**1512**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) LS6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
LS6	LABORATORY SUPPORT	0	5466	5456	20319	20310	20309	20309	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project LS6 LABORATORY SUPPORT: This project provides for the maintenance and enhancement of the DoD laboratory infrastructure capabilities to counter an expanding threat space, exploit advances in technology and develop and transition CB defense equipment and countermeasures to the warfighter. This laboratory infrastructure program upgrades key systems to the current state-of-the-art capabilities. Key systems include; gas filters, controls, emergency, mechanical/electrical, and structural systems. The program will ensure that the necessary surety operations can be conducted effectively and safely in support of CBDP RDTE programs. The program will result in more robust capabilities, and ensure continuity of operations and environmental compliance.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
LABORATORY INFRASTRUCTURE	0	5399	5456

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Gas Filters - FY 08/09 - Modernize existing gas filters to include developing new filter designs with the capability of protecting against emerging threat agents.	0	1229	1240
Control Systems - FY 08/09 - Modernize mechanical and pneumatic control systems to full digital controls.	0	980	991
Emergency Systems - FY 08/09 - Modernize emergency systems to increase reliability and safety.	0	980	992
Mechanical/Electrical Systems - FY 08/09 - Provide redundancy in key systems to ensure worker safety, environmental compliance, and continuity of operations. Upgrades include low-flow hood alarms, redundant exhaust fans and HVAC controllers.	0	1230	1241

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) LS6

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
Structural Systems (Waste Collection and Decon/Neutralization) - FY 08/09 - Modernize to provide new methods of decontaminating and cleaning existing large scale agent dissemination test chambers. Upgrading these systems will ensure compatibility with the newer decontaminants and threat agents. Upgrading floors, foundations, and building structures will enhance the ability to store, package, and ship chemical surety material.	0	980	992
Total	**0**	**5399**	**5456**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	67	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	67	0
Total	**0**	**67**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
MS6	RDT&E MGT SUPPORT	30862	29730	30263	30678	31050	32062	32694	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MS6 RDT&E MGT SUPPORT: This project provides management support for the DoD CBDP. It includes program oversight and integration of overall medical and non-medical programs by the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)) defense programs thru the Special Assistant, Chemical Biological Defense and Chemical Demilitarization Programs (SA(CBD&CDP)), and the Director, Defense Threat Reduction Agency (DTRA). Funds execution management is provided by DTRA.

The project also provides for the development, coordination and integration of joint Chemical, Biological, Radiological and Nuclear (CBRN) defense capability requirements, including assistance and support to the Combatant Commanders and Services to improve CBRN defense related doctrine, education, training, and awareness by the Joint Requirements Office (JRO) Joint CBRN defense Research, Development, and Acquisition (RDA) planning, input to the CBD Annual Report to Congress, and program guidance development by the Program Analysis and Integration Office (PA&IO).

The project includes programming support for the Joint Service CB Information System (JSCBIS) which serves as a budgetary and informational database for the DoD CBDP.

This project also supports the Test and Evaluation (T&E) Executive, who is responsible for identifying, developing, and managing test infrastructure and technology requirements to support Developmental Testing (DT) and Operational Testing (OT) of DoD CBD systems, as outlined in the RDA Plan. The T&E Executive guides JPEO planning and coordination with the Operational Test Activities to develop a series of methodology, instrumentation, and associated validation efforts that provide test infrastructure and technologies for testing RDA systems needed to support all services, and to ensure the adequacy of testing for RDA systems in alignment with acquisition schedules and associated decision points.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6**

This project also provides for the development of Test Operating Procedures (TOPs) to standardize and document new test procedures and to update existing test procedures. All test infrastructure and technology programs will be centrally managed and coordinated with the Joint Service community to ensure that all Services' test and acquisition program needs are met.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT REQUIREMENTS OFFICE (JRO) MANAGEMENT	4535	7795	8124

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JRO MGT - FY 07/08/09 - Represent the Services and Combatant Commanders in the development, coordination, and integration of CBRN defense operational capabilities across all DoD mission areas. Plan, coordinate and execute the development and review of: Joint CBRN defense capability requirements; DoD CBDP program guidance; Joint CBRN Defense Modernization Plan; Integrated medical and physical sciences CBRN Defense JPL; CBRN Defense Joint Future Operational Capabilities, and the CBD Annual Report to Congress.	4535	7795	8124
Total	**4535**	**7795**	**8124**

	FY 2007	FY 2008	FY 2009
JOINT TEST INFRASTRUCTURE WORKING GROUP (JTIWG)	4885	4908	4975

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6

Accomplishments/Planned Program	FY2007	FY2008	FY2009
Joint Test Integration Working Group (JTIWG) - Continue Test and Evaluation (T&E) Executive mission support to ensure credible testing of Chemical Biological Defense Program (CBDP) systems and support to the Director for Operation Test and Evaluation (DOT&E) for OSD T&E Oversight. Continue direct support to Joint Program Executive Office for Chemical Biological Defense (JPEO-CBD) and the Joint Requirements Office (JRO) Integrated Process Teams (IPTs) and Integrated Concept Teams (ICTs) providing technical assistance to structure acquisition programs and test scopes. Continue early involvement of the Operational Test Agencies (OTAs) and other T&E organizations in T&E infrastructure planning. Continue development of threat test support documentation to support developmental and operational tests in which an operational threat must be presented, including Joint Warning and Reporting Network (JWARN), Joint Chemical Agent Detector (JCAD), Joint Biological Agent Identification and Diagnostic System (JBAIDS), Joint Biological Point Detection System (JBPDS), Joint Biological Standoff Detection System (JBSDS), Joint Service Lightweight Nuclear, Biological, Chemical Reconnaissance System (JSLNBCRS), and Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS). Continue support to JPEO-CBD and Joint Science and Technology Office (JSTO)-CB regarding specific test methodology and test technology needs, to include updates to the Technology Transition documents, participation in scientific review panels, and review of technology/methodology development plans. Continue to provide guidance to improve the Test and Evaluation Master Plan (TEMP) and threat support documentation development process and to expedite Lead OTA assignment and overall coordination. Continue to lead International T&E methodology development and standardization efforts to support the Canadian UK US Memorandum of Understanding (MOU), now with Australia added. Provide T&E infrastructure input to the Program Objective Memorandum (POM) process and supported JRO, Program Analysis and Integration Office (PAIO), and SA(CBD & CDP) in development and defense of the FY 2009 mini POM and the FY 2010 - 2015 budget.	4885	4908	4975
Total	**4885**	**4908**	**4975**

	FY 2007	FY 2008	FY 2009
OFFICE SECRETARY OF DEFENSE MGMT	15971	11703	12046

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6

Accomplishments/Planned Program	FY2007	FY2008	FY2009
OSD MGT - Perform program reviews/assessments, provide programmatic PPBE oversight/analysis, provide congressional issue analysis and support. Supports financial management services provided by the Defense Threat Reduction Agency (DTRA) such as funding distribution and execution reporting.	15971	11703	12046
Total	**15971**	**11703**	**12046**

	FY 2007	FY 2008	FY 2009
PROGRAM ANALYSIS AND INTEGRATION OFFICE (PA&IO) MGT	5471	4956	5118

Accomplishments/Planned Program	FY2007	FY2008	FY2009
PA&IO MGT- Develop assessments to support RDA Planning. Provide analytic programmatic support for development of program guidance, the Program, Budget and Execution Reviews, and the PB submissions. Respond to specialized evaluation studies throughout the PPBE process. Provide JSCBIS database management.	5471	4956	5118
Total	**5471**	**4956**	**5118**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	368	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	368	0
Total	**0**	**368**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) O49**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
O49	JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM (RDT&E	2843	4236	4427	4607	4771	5023	5117	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project O49 JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM (RDT&E: The objectives of the Joint Concept Development and Experimentation (JCDE) program are to plan, conduct, evaluate, and report on joint tests and experiments (for other than developmental hardware) and accomplish operational research assessments in response to requirements received from the Combatant Commanders and the Services. This program will provide ongoing input to the Combatant Commanders and Services for development of doctrine, policy, training procedures, and feedback into the Research, Development, Testing & Evaluation (RDT&E) cycle.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM	2843	4183	4427

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCDE - FY 07/08/09 - Support the JCD for CBRND in conducting work shops, studies, war games and limited objective experiments to explore, refine, and validate potential solutions and alternatives that will update and improve the Joint CBRND concept.	2843	4183	4427
Total	**2843**	**4183**	**4427**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) O49**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	53	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	53	0
Total	**0**	**53**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	9529	0	0	0	0	0	0	0	9529
SB6	SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	9529	0	0	0	0	0	0	0	9529

A. Mission Description and Budget Item Justification: The overall objective of the CBD SBIR program is to improve the transition or transfer of innovative CBD technologies between DoD components and the private sector for mutual benefit. The CBD program includes those technology efforts that maximize a strong defensive posture in a biological or chemical environment using passive and active means as deterrents. These technologies include chemical and biological detection; information assessment, which includes identification, modeling, and intelligence; contamination avoidance; and protection of both individual soldiers and equipment.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA6 - RDT&E Mgt Support

0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)

B. Program Change Summary:		**FY 2007**	**FY 2008**	**FY 2009**
Previous President's Budget (FY 2008 PB)		0	0	0
FY09 Budget Estimate Submission		9529	0	0
Total Adjustments		9529	0	0
a. Congressional General Reductions		0	0	0
b. Congressional Increases		0	0	0
c. Reprogrammings		0	0	0
d. SBIR/STTR Transfer		9529	0	0
e. Other Adjustments		0	0	0

Change Summary Explanation:

Funding: FY07 - Funding transferred and applied to SBIR program (+$9,529K).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) SB6**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
SB6	SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	9529	0	0	0	0	0	0	0	9529

A. Mission Description and Budget Item Justification:

Project SB6 SMALL BUSINESS INNOVATIVE RESEARCH (SBIR): The SBIR Program is a Congressionally mandated program established to increase the participation of small business in federal research and development (R&D). Currently, each participating government agency must reserve 2.5% of its extramural R&D for SBIR awards to competing small businesses. The goal of the SBIR Program is to invest in the innovative capabilities of the small business community to help meet government R&D objectives while allowing small companies to develop technologies and products which they can then commercialize thru sales back to the government or in the private sector.

The Small Business Technology Transfer (STTR) Program like SBIR, is a government-wide program, mandated by the Small Business Research and Development Enhancement Act of 1992, PL 102-564. STTR was established in FY94 as a three-year pilot program. In early 1996, the General Accounting Office conducted a comprehensive review of the Government-wide STTR Program to determine the effectiveness of the pilot program. Upon review of the GAO report, Congress voted to reauthorize the STTR Program to the year 2000, consistent with the authorization period for the SBIR Program.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support

PROJECT: 0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) SB6

STTR was established as a companion program to the SBIR Program and is executed in essentially the same manner; however there are several distinct differences. The STTR Program provides a mechanism for participation by university, federally-funded research and development centers (FFRDCs), and other non-profit research institutions. Specifically, the STTR Program is designed to provide an incentive for small companies and research at academic institutions and non-profit research and development institutions to work together to move emerging technical ideas from the laboratory to the marketplace to foster high-tech economic development and to advance U.S. economic competitiveness. Each STTR proposal must be submitted by a team which includes a small business (as the prime contractor for contracting purposes) and at least one research institution, which have entered into a Cooperative Research and Development Agreement for the purposes of the STTR effort. Furthermore, the project must be divided up such that the small business performs at least 40% of the work and the research institution(s) performs at least 30% of the work. The remainder of the work may be performed by either party or a third party. The budget is separate from the SBIR budget and is significantly smaller (0.15% of the extramural R&D budget vs. 2.5% for the SBIR Program).

The DoD has consolidated management and oversight of the CBDP into a single office within the OSD. The Army was designated as the Executive Agent for coordination and integration of the Chemical and Biological Defense (CBD) program. The executive agent for the SBIR/STTR portion of the program is the Army Research Office-Washington.

The overall objective of the CBD SBIR/STTR program is to improve the transition or transfer of innovative CBD technologies between DoD components and the private sector for mutual benefit. The CBD program includes those technology efforts that maximize a strong defensive posture in a biological or chemical environment using passive and active means as deterrents. These technologies include chemical and biological detection; information assessment, which includes identification, modeling, and intelligence; contamination avoidance; and protection of both individual soldiers and equipment.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
SBIR/STTR	9529	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support**

PROJECT: **0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) SB6**

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 07 - Small Business Innovative Research (SBIR)	9529	0	0
Total	**9529**	**0**	**0**

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BUDGET ACTIVITY 7
OPERATIONAL SYSTEMS DEVELOPMENT

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA7 - Operational Systems Development

PE NUMBER AND TITLE
0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	6940	7667	10274	12592	14701	15230	13917	Continuing	Continuing
CA7	CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	6940	0	0	0	0	0	0	0	6940
IP7	INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	0	2222	4396	4792	5329	4163	Continuing	Continuing
IS7	INFORMATION SYSTEMS (OP SYS DEV)	0	694	910	1336	1891	1744	1596	Continuing	Continuing
TE7	TEST & EVALUATION (OP SYS DEV)	0	6973	7142	6860	8018	8157	8158	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element provides development efforts to upgrade systems in the Department of Defense (DoD) Chemical Biological Defense Program that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Efforts in this program element support the upgrade of fielded detectors against emerging chemical threat agents and toxic industrial chemicals.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY
RDT&E DEFENSE-WIDE/
BA7 - Operational Systems Development

PE NUMBER AND TITLE
0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

B. Program Change Summary:		FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)		7008	7716	10359
FY09 President's Budget (FY 2009 PB)		6940	7667	10274
Total Adjustments		-68	-49	-85
a. Congressional General Reductions		0	-49	0
b. Congressional Increases		0	0	0
c. Reprogrammings		0	0	0
d. SBIR/STTR Transfer		-68	0	0
e. Other Adjustments		0	0	-85

Change Summary Explanation:

Funding: N/A - Adjustments less than 10% of total program.

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **CA7**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
CA7	CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	6940	0	0	0	0	0	0	0	6940

A. Mission Description and Budget Item Justification:

Project CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV: This project provides revitalization and technology upgrade of existing instrumentation and equipment at Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB) in support of their Chemical Biological test mission. Program transitions to Project TE7 in FY08.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
T&E RANGE INSTRUMENTATION/TECHNOLOGY UPGRADE	6940	0	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
DPG, MRTFB - FY 07 - Provided for upgrade of the Life Sciences Test Facility instrumentation and equipment at Dugway Proving Ground DPG), in support of their CB test mission. This is the only U.S. facility equipped to test with aerosolized Biosafety Level 3 (BSL-3) agents. Upgrades and technology enhancements in FY 07 included: - Replacement of old Scanning Electron Microscopes, light microscopes, and old Aerodynamic Particle Sizers with newer Fluorescent Aerodynamic Particle Sizers. These items will be replaced using a phased approach over several years. - Beginning development of biological decontamination sampling methods. - Beginning full characterization of biological aerosols in various conditions inside the test chambers.	1804	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development

PE NUMBER AND TITLE: 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

PROJECT: CA7

Bullet Text (cont)	FY2007	FY2008	FY2009
- An automated aerosol dissemination system that will vary the concentration of the aerosol cloud . - New methods of sampling biologics using mimetics. - Development of a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems. - Upgrade of control software and safety equipment for the Containment Aerosol Chamber (CAC) with capability to create environmental conditions with varying combinations of air temperature and relative humidity. - Partial procurement of microbiological laboratory capability for rapid antibody production to support biosensor testing for use in new BioSafety Level 3 laboratories. - Upgrade of agent-storage freezers for biological agents. Outsourcing of genetic sequencing was accomplished because of the advantages in cost and timeliness provided by commercial facilities.	1804	0	0
DPG, MRTFB - FY 07 - Provided for revitalization and upgrade of existing instrumentation and equipment at the Combined Chemical Test Facility at Dugway Proving Ground (DPG), in support of their CB test mission. The Combined Chemical Test Facility tests the capability of detectors, decontaminants, and protective systems to defend against toxic chemical agents. This project upgrades analytical and field instrumentation with current technology and continues many of the efforts that were begun in FY 06. Planned upgrades to an articulated headform for testing of masks and a second generation glove fixture incorporating operational movements had to be deferred as costs were greater than anticipated. Projects in FY 07 included: - Software upgrades for Miniature Chemical Agent Monitors (MINICAMS) to comply with lower level of Airborne Exposure limits adopted by the US Army in June 2004. - Development of a dynamic dissemination method for chemical vapors varying concentration over time for the testing of detectors. - Development of a versatile, multi-configurable test chamber for the testing of single small items. - Characterization of new and upgraded test fixtures. - Upgraded control systems for small chambers. - Requirements development of a laboratory information-management system.	1997	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	CA7

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
DPG, MRTFB - FY 07 - Enhanced existing instrumentation and equipment at the Target S, Downwind, and Tower CB Test Grids at DPG, in support of their CB test mission. The CB Test Grids are critical for all Developmental Test/Operation Test of CB defense systems. Modernization projects in FY 07 included: - Continued development of a realistic CB threat generation system where challenges for detectors will be done with explosives and dissemination devices that will be present in battlefield situations. - Continued modernization of the Aerosol Simulant Exposure Chamber for new simulants. - Low-range and high-range vertical wind profilers, high resolution video-scoring capability for test grids, LIDAR referee systems for real-time simulant cloud characterization, and distributed-test capabilities. - Real-time data fusion systems for field testing will be tested, implemented, and integrated with new weather-characterization and wind-profiling capabilities. - Telemetric data-transfer capabilities will be instituted to support field tests.	1237	0	0
DPG, MRTFB - FY 07 - Provided for modernization of existing instrumentation and equipment in the major test chambers at DPG, in support of the CB test mission. These consist of the (1) the Materiel Test Facility which is a unique test chamber where real-world decontamination operations can be tested: (2) the Defensive Test Chamber which is a large chamber, currently the site of the Man-in-Simulant Test (MIST) for the testing of chemical protective ensembles; and (3) Bldg 3445, which houses two large chambers where testing of large panel decontaminants, filter systems, and Individual Protection Equipment (IPE) in a chemical environment is conducted. Modernization in the chambers during FY 07 included: - Development of a chemical aerosol generation and sampling capability. - Initiation of work on the real-time sampling system for use under protective suits in the MIST chamber. - Upgraded supervisory control and data acquisition systems for controlling testing conditions in chemical test fixture and chambers. - Construction of articulated testing fixtures. The National Science Foundation was asked for characterization of requirements for articulated testing fixtures.	1902	0	0
Total	**6940**	**0**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**CA7**

C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

T&E UPGRAD — T&E Range Instrumentation/Technology Upgrades is a continuing project. It provides for technical upgrades to DPG capabilities for testing DoD Chemical and Biological (CB) materiel, weapons, and weapons systems from concept thru production.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **CA7**

I. Product Development: Not applicable

II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E UPGRAD													
Dugway Proving Ground Upgrade	C/FP	TBD	U	7781	6940	2Q FY07	0	NONE	0	NONE	0	14721	0
Subtotal III. Test and Evaluation:					6940		0		0		0	14721	

Remarks:

IV. Management Services: Not applicable

TOTAL PROJECT COST:		6940		0		0		0	14721	

Exhibit R-4a, Schedule Profile

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development

PE NUMBER AND TITLE: 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

PROJECT: CA7

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
T&E UPGRAD																												
LSTF Instrumentation & Equip Upgrades, DPG					2Q	—	—	—	—	—	—	—	2Q															
Modernization of Major Test Chambers, DPG					2Q	—	—	—	—	—	—	—	2Q															
Enhance Instrumentation & Equip at Target S, Downwind, & Tower CB Test Grids, DPG					2Q	—	—	—	—	—	—	—	2Q															
Revitalize & Upgrade Instrumentation & Equip at Combined Chemical Test Facility, DPG					2Q	—	—	—	—	—	—	—	2Q															

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**IP7**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
IP7	INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	0	2222	4396	4792	5329	4163	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV: Project supports the Joint Chemical Ensemble (JCE) - A Family of Systems (FOS) that will provide integrated CB protection to the warfighter. JCE will provide enhanced protection against Non-Traditional Agents. The goal of JCE is to incorporate CB protection into the battle dress uniform, gloves, and footwear. JCE will be the CB protection capability in the Soldier as a System concept.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
JOINT CHEMICAL ENSEMBLE (JCE)	0	0	2222

Accomplishments/Planned Program	FY2007	FY2008	FY2009
JCE - FY 09 - Initiate IPT to explore integration concepts.	0	0	1672
JCE - FY 09 - Conduct critical design review for End-of-Service Life Indicator (ESLI), and fabricate final prototype. Start Test and Evaluation.	0	0	550
Total	**0**	**0**	**2222**

C. Other Program Funding Summary: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE February 2008
BUDGET ACTIVITY **RDT&E DEFENSE-WIDE/** **BA7 - Operational Systems Development**	PE NUMBER AND TITLE **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**
PROJECT **IP7**	

D. Acquisition Strategy:

JCE

The JCE program strategy employs an evolutionary approach to provide a system that protects against emerging chemical, biological agent, toxic industrial chemical and toxic industrial materials across all mission areas and profiles. The JCE acquisition strategy supporting the chemical and biological requirements of major defense acquisition programs will use full and open competition.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IP7**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCE													
Initiate IPT	MIPR	Various	U	0	0	NONE	0	NONE	1672	1Q FY09	0	1672	0
Fabricate ESLI Prototype	MIPR	Various	U	0	0	NONE	0	NONE	450	1Q FY09	0	450	0
Subtotal I. Product Development:					0		0		2122		0	2122	

Remarks:

II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JCE													
OTE C - ESLI	MIPR	Various	U	0	0	NONE	0	NONE	100	2Q FY09	0	100	0
Subtotal III. Test and Evaluation:					0		0		100		0	100	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**IP7**

IV. Management Services: Not applicable

TOTAL PROJECT COST:		0		0		2222		0	2222	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IP7**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JCE																												
Initiate IPT									1Q	—	—	4Q																
Fabricate ESLI Prototype										2Q	3Q																	
ESLI Test & Evaluation										2Q	—	—	1Q															

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**IS7**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
IS7	INFORMATION SYSTEMS (OP SYS DEV)	0	694	910	1336	1891	1744	1596	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project IS7 INFORMATION SYSTEMS (OP SYS DEV): The project supports the JPEO-CBD Software Support Activity (SSA). The JPEO-CBD SSA is a JPEO-CBD user developmental support and service organization supporting all JPMs and JPEO-CBD Directorates, and providing enterprise-wide services and coordination to facilitate net-centric interoperability. The SSA provides the CBRN Warfighter with Joint service solutions for Information Assurance, Verification, Validation and Accreditation (VV&A), and Data Management; interoperable and integrated net-centric, service-oriented, composable solutions for CBD; and infusion of latest technologies into programs of record. CBRN user community and related communities of interest have need for CBRN "plug and play" capability to allow interoperability and re-configurability across the enterprise. The requirement for net-centric, composable solutions provides the near term foundation for the Warfighter's ability to communicate his CBRN solutions and interoperate with other service operational systems. It also supports a longer term ability to interoperate with related agencies and to reduce the Warfighter's CBRN footprint as technologies improve.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
SOFTWARE SUPPORT ACTIVITY (SSA)	0	685	910

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SSA - FY 08/09 - Implement the Enterprise technical C4I architecture.	0	131	158
SSA - FY 08/09 - Analyze requirements and assist programs with implementation of the CBRN data model.	0	51	128
SSA - FY 08/09 - Support CBRN data model updates.	0	47	54

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**IS7**

Accomplishments/Planned Program (Cont):	**FY2007**	**FY2008**	**FY2009**
SSA - FY 08/09 - Provide Information Assurance compliance testing for JPEO-CBD programs.	0	56	58
SSA - FY 08/09 - Provide Enterprise Modeling & Simulation (M&S), Verification, Validation, & Accreditation (V, V & A) Support.	0	151	160
SSA - FY 08/09 - Provide ISP Development Support for JPEO-CBD programs.	0	58	116
SSA - FY 08/09 - Provide developmental Help Desk support for JPEO-CBD programs and users until they transition to sustainment funding.	0	191	236
Total	**0**	**685**	**910**

	FY 2007	**FY 2008**	**FY 2009**
SBIR/STTR	0	9	0

Accomplishments/Planned Program	**FY2007**	**FY2008**	**FY2009**
SBIR - FY 08 - Small Business Innovative Research.	0	9	0
Total	**0**	**9**	**0**

C. Other Program Funding Summary: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE February 2008
BUDGET ACTIVITY **RDT&E DEFENSE-WIDE/** **BA7 - Operational Systems Development**	PE NUMBER AND TITLE **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**
PROJECT **IS7**	

D. Acquisition Strategy:

SSA

The JPEO-CBD Software Support Activity (SSA) is a JPEO-CBD user support organization spanning and supporting all Joint Project Managers (JPMs) and JPEO-CBD Directorates. The SSA provides enterprise-wide services and coordination across all JPEO-CBD Programs of Record (PORs) that contain data or software, or are capable of linking to the Global Information Grid (GIG). The SSA facilitates interoperability, integration, and supportability of existing and developing IT and National Security Systems (NSS) across the JPEO and all JPMs.

Phase 1a identifies JPEO-CBD JPMs and programs that deal with data or software, and have an IT component. This will be followed by coordination with the JPMs and programs to facilitate the concepts of interoperability, integration and supportability of enterprise-wide services. Next follows work with user communities to develop and demonstrate enterprise-wide common architectures, products and services. [BA5 - System Development and Demonstration] .

Phase 1b established management and control measures for tracking and reporting progress of the various elements described in Phases 1 and 2. This includes establishing, tracking, and performing configuration management of inventories and databases of IT systems and their states of interoperability and information assurance compliance. [BA6 - RDT&E Management Support].

Phase 2 will support the application of the enterprise-wide architectures, products and services into the programs, with verification of compliance with the defined products and services. [BA7 - Operational Systems Development].

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IS7**

I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SSA													
Development Services	MIPR	SPAWAR System Center, San Diego, CA	U	0	0	NONE	243	1Q FY08	365	1Q FY09	0	608	0
Subtotal I. Product Development:					0		243		365		0	608	

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SSA													
Develop Support Activities	MIPR	SPAWAR Systems Center, San Diego, CA	U	0	0	NONE	236	1Q FY08	327	1Q FY09	0	563	0
Subtotal II. Support Costs:					0		236		327		0	563	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IS7**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SSA													
Integration Verification and Valuation (IV&V)	MIPR	SPAWAR Systems Center, San Diego, CA	U	0	0	NONE	206	1Q FY08	218	1Q FY09	0	424	0
Subtotal III. Test and Evaluation:					0		206		218		0	424	

Remarks:

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	9	NONE	0	NONE	0	9	0
Subtotal IV. Management Services:					0		9		0		0	9	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**IS7**

TOTAL PROJECT COST:		0		694		910		0	1604		

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IS7**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SSA																												
Begin support services for Architecture, Data, Help Desk, Integration & Test, and Standards and Policies	>>	2Q																										
Establish CM Services for the Enterprise JCBRND Products	>>	—	—	—	3Q																							
Provide Data Model Implementation Guidance					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish an Information Assurance Support Capability	>>	2Q																										
Provide Enterprise Architecture Products and Services			3Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Demonstrate Technology Transition Capabilities					1Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Provide Information Assurance Site Compliance Testing	>>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Provide Integration and Test, M&S, VV&A Certification and Accreditation		2Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish Technology Transition Support Services	>>	2Q																										

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **IS7**

D. Schedule Profile (cont):

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)																												
Provide CM Services for Common User Products and Services		2Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish Net-Centric Assessment and Policy Guidance		2Q	—	4Q																								
Provide Net-Centric Assessment and assist program with implementation of policy				4Q	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4Q
Establish Common Services Management Guidance					1Q	—	3Q																					

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**TE7**

COST (In Thousands)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TE7	TEST & EVALUATION (OP SYS DEV)	0	6973	7142	6860	8018	8157	8158	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project TE7 TEST & EVALUATION (OP SYS DEV): This project provides revitalization and technology upgrades of existing instrumentation and equipment at Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB), in support of their Chemical Biological test mission. Project was funded in Project CA7 in FY06/07.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
T&E RANGE INSTRUMENTATION/TECHNOLOGY UPGRADE	0	6887	7142

Accomplishments/Planned Program	FY2007	FY2008	FY2009
DPG, MRTFB - FY 08/09 - Provides for upgrade of the Life Sciences Test Facility instrumentation and equipment at Dugway Proving Ground DPG), in support of their CB test mission. This is the only U.S. facility equipped to test with aerosolized Biosafety Level 3 (BSL-3) agents. Upgrades and technology enhancements during this period continuing efforts initiated in FY06/07 to include: - Replacement of old Scanning Electron Microscopes, light microscopes, and old Aerodynamic Particle Sizers with newer Fluorescent Aerodynamic Particle Sizers. These items will be replaced using a phased approach over several years. - Development of biological decontamination sampling methods. - Full characterization of biological aerosols in various conditions inside the test chambers. - An automated aerosol dissemination system that will vary the concentration of the aerosol cloud.	0	1770	1790

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development

PE NUMBER AND TITLE: 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

PROJECT: TE7

Bullet Text (cont)	FY2007	FY2008	FY2009
- New methods of sampling biologics using mimetics. - Development of a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems. - Continued upgrades/improvements to the Containment Aerosol Chamber (CAC) with capability to create environmental conditions with varying combinations of air temperature and relative humidity. - Continued procurement of microbiological laboratory equipment needed to utilize new BioSafety Level 3 laboratories.	0	1770	1790
DPG, MRTFB - FY 08/09 - Provides for modernization of existing instrumentation and equipment in the major test chambers at DPG, in support of the CB test mission. These consist of the (1) the Materiel Test Facility which is a unique test chamber where real-world decontamination operations can be tested: (2) the Defensive Test Chamber which is a large chamber, currently the site of the Man-in-Simulant Test (MIST) for the testing of chemical protective ensembles; and (3) Bldg 3445, which houses two large chambers where testing of large panel decontaminants, filter systems, and Individual Protection Equipment (IPE) in a chemical environment is conducted. Modernization in the chambers continues efforts initiated in FY06/07 to include: - Continued development of a chemical aerosol generation and sampling capability. - Continued development on the real-time sampling system for use under protective suits in the MIST chamber. - Characterization of improved and/or articulated testing fixtures.	0	1960	1980
DPG, MRTFB - FY 08/09 - Enhances existing instrumentation and equipment at the Target S, Downwind, and Tower CB Test Grids at DPG, in support of their CB test mission. The CB Test Grids are critical for all Developmental Test/Operation Test of CB defense systems. Many of the modernization efforts initiated in FY06/07 will continue to include: - Continued development of a realistic CB threat generation system where challenges for detectors will be done with explosives and dissemination devices that will be present in battlefield situations. - Continued modernization of the Aerosol Simulant Exposure Chamber for new simulants. - Implementation and integration of real-time data fusion systems for field testing with new weather-characterization and wind-profiling capabilities. - Initiation of telemetric data-transfer capabilities to support field tests.	0	1215	1227

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: February 2008

BUDGET ACTIVITY: RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development

PE NUMBER AND TITLE: 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)

PROJECT: TE7

Accomplishments/Planned Program (Cont):	FY2007	FY2008	FY2009
DPG, MRTFB - FY 08/09 - Provides for revitalization and upgrade of existing instrumentation and equipment at the Combined Chemical Test Facility at Dugway Proving Ground (DPG), in support of their CB test mission. The Combined Chemical Test Facility tests the capability of detectors, decontaminants, and protective systems to defend against toxic chemical agents. This project upgrades analytical and field instrumentation with current technology and continues many of the development projects initiated in FY06/07 to include: - Development of a dynamic dissemination method for chemical vapors varying concentration over time for the testing of detectors. - Development and characterization of a versatile, multi-configurable test chamber for the testing of single small items. - Characterization of new and upgraded test fixtures. - Upgraded control systems for small chambers. - Initial deployment of a laboratory information-management system. - Development of vapor and aerosol simulant dissemination and sampling systems for testing protective fabrics.	0	1942	2145
Total	**0**	**6887**	**7142**

	FY 2007	FY 2008	FY 2009
SBIR/STTR	0	86	0

Accomplishments/Planned Program	FY2007	FY2008	FY2009
SBIR - FY 08 - Small Business Innovative Research.	0	86	0
Total	**0**	**86**	**0**

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**	**TE7**

C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

T&E UPGRAD	T&E Range Instrumentation/Technology Upgrades is a continuing project. It provides for technical upgrades to DPG capabilities for testing DoD Chemical and Biological (CB) materiel, weapons, and weapons systems from concept thru production.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **TE7**

I. Product Development: Not applicable

II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E UPGRAD													
Technology Upgrades - DPG, UT	C/FP	Dugway Proving Grounds, DPG, UT	C	0	0	NONE	6887	2Q FY08	7142	2Q FY09	0	14029	0
Subtotal III. Test and Evaluation:					0		6887		7142		0	14029	

Remarks:

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **TE7**

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2007 Cost	FY2007 Award Date	FY2008 Cost	FY2008 Award Date	FY2009 Cost	FY2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	0	NONE	86	NONE	0	NONE	0	86	0
Subtotal IV. Management Services:					0		86		0		0	86	

Remarks:

TOTAL PROJECT COST:		0		6973		7142		0	14115	

Exhibit R-4a, Schedule Profile

DATE: **February 2008**

BUDGET ACTIVITY: **RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development**

PE NUMBER AND TITLE: **0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)**

PROJECT: **TE7**

D. Schedule Profile:

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
T&E UPGRAD																												
LSTF Instrumentation & Equip Upgrades, DPG					2Q	—	—	—	—	—	—	—	2Q															
Modernization of Major Test Chambers, DPG					2Q	—	—	—	—	—	—	—	2Q															
Enhance Instrumentation & Equip at Target S, Downwind, & Tower CB Test Grids, DPG					2Q	—	—	—	—	—	—	—	2Q															
Revitalize & Upgrade Instrumentation & Equip at Combined Chemical Test Facility, DPG					2Q	—	—	—	—	—	—	—	2Q															

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